Appendix A

**Aggregate Resource Evaluation and Goal 5 Significance Determination Cadman Expansion Properties – Canby Phase 4** Tax Lots 500, 600, 1002, 1003, 1004, and portions of Tax Lots 700, 800, 801 Map 4S-1E-7, Clackamas County, Oregon

> **Prepared for:** Cadman Materials, Inc. Attn: Mr. Noel Barnett 8705 N.E. 117<sup>th</sup> Avenue Vancouver, Washington 98662

August 12, 2019



Project #Y184200



Project #Y184200

August 12, 2019

- To: Cadman Materials, Inc. Attn: Mr. Noel Barnett 8705 N.E. 117<sup>th</sup> Avenue Vancouver, Washington 98662
- Subject: Aggregate Resource Evaluation and Goal 5 Significance Determination Cadman Expansion Properties – Canby Phase 4 Tax Lots 500, 600, 1002, 1003, 1004, and portions of Tax Lots 700, 800, 801 Map 4S-1E-7, Clackamas County, Oregon

#### Dear Mr. Barnett:

The accompanying report presents the results of our aggregate resource evaluation and Goal 5 significance determination related to the proposed sand and gravel mine on the Cadman Expansion Properties - Canby Phase 4 site in Clackamas County, Oregon. The site meets the location, quality, and quantity criteria of the goal 5 significance test. There is approximately 8.1 million in place tons of ODOT base rock quality aggregate resource on the site.

After you have reviewed our report, we would be pleased to discuss it and to answer any questions you might have.

This opportunity to be of service is sincerely appreciated. If we can be of any further assistance, please contact us.

# H.G. SCHLICKER & ASSOCIATES, INC.

J. Douglas Gless, MSc, RG, CEG, LHG President/Principal Engineering Geologist

JDG:aml

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Project #Y184200

August 12, 2019

To:	Cadman Materials, Inc.
	Attn: Mr. Noel Barnett
	8705 N.E. 117 <sup>th</sup> Avenue
	Vancouver, Washington 98662
Subject:	Aggregate Resource Evaluation and
Ū.	Goal 5 Significance Determination
	Cadman Expansion Properties – Canby Phase 4
	Tax Lots 500, 600, 1002, 1003, 1004,
	and portions of Tax Lots 700, 800, 801
	Map 4S-1E-7, Clackamas County, Oregon

Dear Mr. Barnett:

#### **<u>1.0</u>** Introduction

At your request and authorization, H.G. Schlicker and Associates, Inc. (HGSA) has analyzed the location, quality, and quantity of aggregate resources related to the proposed mining of the Cadman Expansion Properties – Canby Phase 4 site (Figures 1 and 2; Appendix A). We note that this project is an expansion of the currently active Cadman operation, under the ownership of Cadman Materials, Inc. a subsidiary of Lehigh Hanson Materials Limited, which is located north and east of the subject site.

The purpose of this report is to provide an aggregate resource evaluation and Goal 5 significance determination in accordance with the requirements of Oregon Administrative Rule (OAR) Chapter 660, Division 23, Subsection 180(3) to determine whether the properties are a significant aggregate resource site.

### 1.1 OAR 660-23-180(3) Criteria

This report addresses the criteria for location, quality, and quantity of aggregate resources in the Oregon Administrative Rule (OAR) Chapter 660, Division 23, Subsection 180(3).

Under OAR 660-23-180(3), an aggregate resource site is considered significant if adequate information regarding location, quality, and quantity of the resource

demonstrates that the site meets any one of the criteria in OAR 660-23-180(3)(a), (b), or (c), subject to the exception provided in OAR 660-23-180(3)(d).

OAR 660-23-180(3) states:

"(3) An aggregate resource site shall be considered significant if adequate information regarding the quantity, quality, and location of the resource demonstrates that the site meets any one of the criteria in subsections (a) through (c) of this section, except as provided in subsection (d) of this section:

(a) A representative set of samples of aggregate material in the deposit on the site meets applicable Oregon Department of Transportation (ODOT) specifications for base rock for air degradation, abrasion, and soundness, and the estimated amount of material is more than 2,000,000 tons in the Willamette Valley, or more than 500,000 tons outside the Willamette Valley;

*(b)* The material meets local government standards establishing a lower threshold for significance than subsection (a) of this section; or

(c) The aggregate site was on an inventory of significant aggregate sites in an acknowledged plan on the applicable date of this rule.

(d) Notwithstanding subsections (a) and (b) of this section, except for an expansion area of an existing site if the operator of the existing site on March 1, 1996 had an enforceable property interest in the expansion area on that date, an aggregate site is not significant if the criteria in either paragraphs (A) or (B) of this subsection apply:

(A) More than 35 percent of the proposed mining area consists of soil classified as Class I on Natural Resource and Conservation Service (NRCS) maps on June 1, 2004; or

(B) More than 35 percent of the proposed mining area consists of soil classified as Class II, or of a combination of Class II and Class I or Unique soil on NRCS maps available on June 11, 2004, unless the average thickness of the aggregate layer within the mining area exceeds:

*(i)* 60 feet in Washington, Multnomah, Marion, Columbia, and Lane counties;

(ii) 25 feet in Polk, Yamhill, and Clackamas counties; or

(iii) 17 feet in Linn and Benton counties."

H.G. Schlicker & Associates, Inc.

### 1.2 Scope of Work

This report discusses the location, quality, and quantity of aggregate resources at the subject site. The scope of our work consisted of the following:

- Review of aerial photography, topographic maps, lidar, and a limited review of geologic literature.
- Review of HGSA's report (#Y083236) for Cadman Material's current mining operation at their Phase 3 (Paradis) site.
- Supervision of exploration borings and sampling.
- Review of available water well records from the Oregon Water Resources Department (OWRD).
- Review of soil survey data from Natural Resources Conservation Service (NRCS).
- Consultation and recommendations for sampling and laboratory programs.
- Compilation and analysis of information obtained during drilling and the laboratory test results, and preparation of geologic cross-sections for the site.
- Review of laboratory test results for aggregate quality of a representative set of samples.
- Estimation of resource/reserve quantities for the site based on field and laboratory data.
- Evaluation of aggregate resource against the applicable criteria in the "Goal 5" Oregon Administrative Rule (OAR) Chapter 660 Division 23, Subsection 180(3).
- Preparation of this Aggregate Resource Evaluation and Goal 5 Significance Determination Report.

### 1.3 Site Description

The proposed mine site is located southeast of Highway 99E and west of S. Barlow Road, approximately 0.75 miles south of Barlow, Oregon, and 1-mile northeast of Aurora, Oregon (Figure 1). The site consists of eight adjacent tax lots (Tax Lots 500, 600, 1002, 1003, 1004, and portions of 700, 800, 801, Map 4S-1E-7) of approximately 98.5 acres total, with approximately 93.6 acres proposed for mining; and measures up to approximately 3,250 feet east to west by approximately 1,570 feet north to south (Figure 2). The site is generally flat, with elevations of approximately 100 to 110 feet (NAVD88), and most of the existing surface is currently used for agriculture

The site is bounded to its north by Phase 3 (Paradis) of the current Cadman mining operation, to the west by Highway 99E, to its east by S. Barlow Road, and to its south by





adjacent residential and agricultural sites. The Molalla River is located approximately 0.7 miles to the east of the easternmost part of the site, and the Pudding River is located approximately 0.6 miles to the west of the westernmost part of the site. Based on the 2008 Flood Insurance Rate Map (FIRM, Panel #s 41005C0505D) the site lies in an area rated as Zone X which is defined as an area determined to be outside the 0.2% annual chance floodplain.

Native vegetation is largely absent from the site, existing only as sparse individual trees, shrubs and isolated strips along the property boundaries and on the southeastern part of the site. The site is primarily covered with agricultural crops and grasses for use as pasture.

A Bonneville Power Administration (BPA) transmission line (Pearl-Marion No. 1) corridor crosses the site, north to south, with a lattice tower (10/1) located in the southeastern portion of Tax Lot 1003.

#### 2.0 (OAR 660-23-180(3): Location, Quality, and Quantity of Aggregate Resource

#### 2.1 Location of Aggregate Resource

The proposed mine site is located southeast of Highway 99E and west of S. Barlow Road, approximately 0.75 miles south of Barlow, Oregon, and 1-mile northeast of Aurora, Oregon (Figure 1). Several active sand and gravel operations exist adjacent to and near the site. The proximity of active, high quality, aggregate mines to the proposed site provides further information that substantiates the location of the resources at the Cadman Phase 4 site.

#### 2.1.2 Geology

The site lies on a terrace formed by the Molalla, Pudding and Willamette Rivers. The site lies in an area mapped as Quaternary alluvium which consists of unconsolidated sand, gravel, and cobbles with interbedded silt and clay (Gannett and Caldwell, 1998; Schlicker and Finlayson, 1979; Hampton, 1963; Piper, 1942). The Quaternary alluvium is underlain by Pliocene Troutdale formation which consists of indurated beds and lenses of well-sorted sandstone and conglomerate with siltstone and claystone interbeds. Higher elevations to the south have been mapped as Pleistocene alluvium consisting of gravel, sand, and silt (Schlicker, unpublished; Piper, 1942).

A review of the United States Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) Web Soil Survey (<u>https://websoilsurvey.sc.egov.usda.gov</u>) indicates that the properties contain three mapped soil units. The current Web Soil Survey data is based on maps that were in



effect at the time of the adoption of the criteria discussed in Section 1.1 of this report. The mapped units consist of the Cove silty clay loam (25); Humaquepts, ponded (42); and Xerochrepts and Haploxerolls, very steep (92F) (Appendix B).

Nearly the entire area proposed to be mined consists of Cove silty clay loam, a Class 4 soil; with the remainder Humaquepts, ponded, a Class 3 soil.

#### 2.1.3 Subsurface Conditions

Subsurface conditions were evaluated by reviewing groundwater well reports for nearby properties, the NRCS soil survey, exploratory borings, sampling, and laboratory testing (Figures 2 through 6; Appendices A through D).

HGSA supervised 18 drilled borings using a Terra Sonic TSI 150 tracked drill rig at the site from October 16 to October 26, 2018. Nineteen borings were planned; however, only 18 borings were completed. The 18 borings were completed to maximum depths of 85 feet (borings CE-18-04 and CE-18-06/MW #4) in the eastern portion of the site, and approximately 45 to 50 feet (borings CE-18-10, CE-19-11/MW #5, and CE-18-14/MW #1) in the western portion of the site using the sonic (high frequency vibratory) drilling method which provided continuous sampling. Logs of the borings are provided in Appendices C and D, and stratigraphic cross-sections are shown on Figures 3 through 6.

The site is generally underlain by organic topsoil from the surface to a depth of approximately 1 to 4 feet; underlain by brown to gray silty-clay/clayey-silt to approximately 5 to 10 feet; underlain by interbedded sand and gravel with silty matrix to approximately 70 feet in the eastern portion of the site and 40 to 45 feet in the western portion of the site; underlain by dense, brown to blue-gray, silty clay (Figures 3, 4, 5, and 6; Appendices C and D).

Fluvial gravel and sand deposits have been located on this subject property. Therefore, based on the geological review and geological interpretation of the subsurface investigation by a certified engineering geologist, an aggregate resource has been identified and is located within the 98.5-acre property boundary, and within the 93.6-acres proposed for mining.

Conclusion: The aggregate at the Cadman Expansion Properties - Canby Phase 4 site meets the location criteria for a significant aggregate site, as required by OAR 660-23-180(3).



#### 2.2 Quality of Aggregate Resource

"A representative set of samples of aggregate material in the deposit on the site meets applicable Oregon Department of Transportation (ODOT) specifications for base rock for air degradation, abrasion, and soundness" OAR 660-23-180(3)(a)

Resource quality was determined by visual inspection of the boring materials, hammer testing, and laboratory testing (Appendix E). Samples tested met specifications for aggregate for use as base rock, subbase, asphaltic concrete, cement concrete, and topping when properly processed. The basaltic, rounded to subrounded gravels and cobbles were generally hard, durable and without substantial deleterious coatings although some cobbles were observed with a thin calcium carbonate coating. These materials appeared to be of the same source and quality as the other materials currently being mined and sold from the existing Cadman Phase 3 Pit.

#### 2.2.1 Laboratory Testing

Laboratory testing of representative (per Goal 5 criteria) samples was completed by the Oregon Department of Transportation Materials Laboratory. The tests were those typically used to assess aggregate quality for state and federal highway construction aggregate, and as required by OAR 660-23-180 for Goal 5 compliance for aggregate materials (Oregon Air Aggregate Degradation (ODOT TM 208), Los Angeles Abrasion (ODOT TM 211, AASHTO T 96), and Sodium Sulfate Soundness (AASHTO T 104)) as well as those useful in evaluation of material quality for the mine owner. Only Oregon Air Aggregate Degradation (ODOT TM 208) and Los Angeles Abrasion (ODOT TM 211, AASHTO T 96) for base rock aggregate are required to be met for identification of a Goal 5 aggregate resource site. There is no Sodium Sulfate Soundness (AASHTO T 104) standard for base rock, so materials from the site were tested against the more restrictive standards for paving rock for Cadman's use.

The abrasion test indicates how aggregate will withstand grinding actions (e.g., generated from heavy traffic). The aggregate is weighed, subjected to tumbling for a set time, screened, and reweighed. The statistic listed is the percentage lost during the testing.

The air degradation test measures the quantity and quality of the material produced by attrition (e.g., repeated traffic loading and unloading). The quantity is indicated by a weight percentage of fine material produced; the quantity is measured by a modified sand equivalent test. The fine material is made by using air jets to rub one particle against another in water. The test results are listed as a percentage of



original weight lost during testing and the height of the fine particles ("sediment") produced by degradation.

The "soundness" (sodium sulfate) test measures the quantity of material produced by repeated immersion in a corrosive solution of sodium sulfate. The results of this test are listed as a percentage loss by weight and a sediment column height. While ODOT has specific soundness criteria for asphaltic concrete aggregate, ODOT does not have soundness criteria for base aggregate. Therefore, this test cannot apply to base rock quality evaluations within Goal 5, because there is no applicable standard for the base rock to meet. This test is for paving rock and paving rock standards are more stringent than that of base rock.

The tested samples had Oregon Air Aggregate Degradation values of 9.8 to 20.0% passing the No. 20 sieve and 0.7 to 2.4-inches of sediment height, and Los Angeles Abrasion values of 16.0 to 19.8% loss, which is well within the acceptable limits set forth by ODOT for base rock aggregate. ODOT allows 30% maximum passing the No. 20 sieve, and a maximum sediment height of 3 inches for the Oregon Air Aggregate Degradation test (ODOT TM 208), and 35% maximum loss for the Los Angeles Abrasion test (ODOT TM 211, AASHTO T 96). The tested samples had Sodium Sulfate Soundness values of 5% to 14% loss. ODOT allows a maximum loss for the Sodium Sulfate soundness test (AASHTO T 104) of 12%; 3 of 17 samples were greater than this threshold. Again, this standard is for paving rock (as there is no applicable ODOT standard for base rock for Sodium Sulfate Soundness test), and paving rock standards are generally more restrictive than the standards for base rock. Laboratory test data and a summary table are provided in Appendix E.

The test results from samples collected at the proposed Phase 4 site are generally similar to the test results from samples collected and tested for our 2011 resource evaluation report (HGSA #Y083236) for the adjacent Phase 3 (Paradis) site. Aggregate resources located at the proposed Phase 4 site are contiguous with the aggregate resources at the adjacent Phase 3 site, and the proposed Phase 4 aggregate mine is an expansion of the Phase 3 mining operation in the same sand and gravel deposit.

The tested samples from the Phase 3 (Paradis) site had Oregon Air Degradation values of 6.6 to 24.1% passing the No. 20 sieve and 0.5 to 1.6-inches of sediment heights, Los Angeles Abrasion values of 15.9 to 21.1% loss, and Sodium Sulfate Soundness values of 1.1% to 7.4% loss. The summary table of test results from the adjacent Phase 3 (Paradis) site is provided in Appendix F.



Conclusion: Based on the information referenced above, the aggregate at the Cadman Expansion Properties - Canby Phase 4 site meets the quality criteria for a significant aggregate site, as required by OAR 660-23-180(3)(a).

#### 2.3 Quantity of Aggregate Resource (OAR 660-23-180(3)(a))

"A representative set of samples of aggregate material in the deposit on the site meets applicable Oregon Department of Transportation (ODOT) specifications for base rock...and the estimated amount of material is more than 2,000,000 tons in the Willamette Valley, or more than 500,000 tons outside the Willamette Valley." OAR 660-23-180(3)(a)

The estimates for resource volume (Appendix G) were based on:

- 1) 98.5-acre total permit area;
- 2) An average resource thickness of a minimum of 33 feet, with an average overburden thickness of approximately 10 feet;
- 3) Slopes of 1½H to 1V down to the water table (approximately 10 feet below ground surface average), 3H to 1V to 6 feet below the water table and 1½ H to 1V to an average depth of 43 feet with 33 feet of resource thickness (Figure 7); except adjacent to the BPA tower at the southwest corner of the site where setbacks will be 100 feet from the tower (120 feet radius), and slopes will be 2H to 1V.

Total aggregate resource volume was calculated to be 5,244,140cubic yards (8,075977 tons) in place based on a minimum average 33 feet thick aggregate resource layer with vertical slopes at the permit boundary lines. The overburden layer averages approximately 10 feet thick. Sand and gravel resource available to mine is estimated at 4,474,480 cubic yards (6,890,699 tons) using a conversion factor of 1.54 tons/yd<sup>3</sup> (Hunt, 1984)) in place, based upon the proposed property boundary and LNG easement setbacks of 30 feet, 100 feet setback for the BPA tower and the Mine Slopes Configuration as shown on Figure 7. Aggregate resource volume calculations are provided in Appendix G.

Conclusion: There is approximately 8.1 million tons of aggregate resource estimated to occur on the Cadman Expansion Properties – Canby Phase 4 site with an extractable resource of approximately 6.9 million tons. Therefore, the property exceeds the quantity criteria of 2 million tons required in OAR 660-23-180(a) for sites in the Willamette Valley.



#### 3.0 OAR 660-23-180(3)(b): Lower Threshold of Significance Criteria

"The material meets local government standards establishing a lower threshold for significance than subsection (a) of this section;" OAR 660-23-180(3)(b)

OAR 660-23-180(3)(b) does not apply to the Cadman Phase 4 site since Clackamas County has not established a lower threshold for significance.

#### 4.0 OAR 660-23-180(3)(c): Inventory of Significant Sites Criteria

"The aggregate site was on an inventory of significant aggregate sites in an acknowledged plan on the applicable date of this rule." OAR 660-23-180(3)(b)

OAR 660-23-180(3)(c) does not apply to the Cadman Phase 4 site because the site is not currently listed on an inventory of significant aggregate sites. However, this report provides the necessary information to justify the addition of the site to the Clackamas County inventory of significant aggregate sites.

#### 5.0 OAR 660-23-180(3)(d): Soils and Width of Aggregate Layers Criteria

"Notwithstanding subsections (a) and (b) of this section, except for an expansion area of an existing site if the operator of the existing site on March 1, 1996 had an enforceable property interest in the expansion area on that date, an aggregate site is not significant if the criteria in either paragraphs (A) or (B) of this subsection apply:

(A) More than 35 percent of the proposed mining area consists of soil classified as Class I on Natural Resource and Conservation Service (NRCS) maps on June 1, 2004; or

(B) More than 35 percent of the proposed mining area consists of soil classified as Class II, or of a combination of Class II and Class I or Unique soil on NRCS maps available on June 11, 2004, unless the average thickness of the aggregate layer within the mining area exceeds:

*(i)* 60 feet in Washington, Multnomah, Marion, Columbia, and Lane counties;

(ii) 25 feet in Polk, Yamhill, and Clackamas counties; or
(iii) 17 feet in Linn and Benton counties." OAR 660-23-180(3)(d)

NRCS mapping of the area (<u>https://websoilsurvey.sc.egov.usda.gov</u>) has no Class I or Class II soils within the proposed mining area. Since none of the proposed mining area is



mapped as Class I or Class II soils, OAR 660-23-180(3)(d)(A and B) do not apply to the Cadman Phase 4 site (Appendix B).

Conclusion: The Cadman Expansion Properties – Canby Phase 4 site to be mined does not contain Class I or Class II soils and therefore OAR 660-23-180(3)(d)(A and B) does not apply to the Phase 4 site. Furthermore, even if OAR 66-23-180(3)(d)(A and B) did apply, the criteria would be satisfied because the deposit averages 33 feet thick, which is more than the required 25 feet thickness.

#### 6.0 Conclusions

The proposed mine site meets the Goal 5 criteria for Significance. The site appears to have a minimum average 33 feet thick aggregate resource providing approximately 8.1 million tons of aggregate on the site. There is approximately 6.9 million tons of sand and gravel in place to depths of approximately 30 to 70 feet below the ground surface which is available for mining, based on the required setbacks from the property lines, LNG easement and the BPA tower, and the mine slope configuration shown on Figure 7. As much as 5 to 10% of this may be unsuitable clayey and silty interbeds. The quality of the material meets Goal 5 requirements, site proximity to the expanding Portland market is excellent, and the material is easily mined. The aggregate resource meets the Goal 5 criteria based on the subsurface exploration and laboratory test results for material from this site and its similarity to adjacent mine sites; and the long history of successful aggregate mining and the sale of sand, gravel, and crushed rock from this alluvial deposit.

#### 7.0 Limitations

Our investigation was based on geological and hydrogeologic reconnaissance, available published information and our subsurface exploration, testing, and analyses. The information presented in this report is believed to be representative of the site. This report pertains to the subject site only, and is not applicable to adjacent sites nor is it valid for types of development other than that to which it refers. Geologic conditions including materials, processes, and rates can change with time and therefore, a review of the site and/or this report may be necessary as time passes to assure its accuracy and adequacy.

The conclusions herein are professional opinions derived in accordance with current standards of professional practice, and no warranty is expressed or implied. This report is for the sole and exclusive use of the client. Any reuse or third-party use of this information requires the written authorization of H.G. Schlicker and Associates, Inc. This report may only be copied in its entirety.



#### 8.0 Disclosure

H.G. Schlicker & Associates, Inc. and the undersigned Certified Engineering Geologist have no financial interest in the subject site, the project or the Client's organization.

#### 9.0 References

- Gannett, M. W., and Caldwell, R. R., 1998, Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-A, maps.
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- Hunt, R. E., 1984, Geotechnical engineering investigation manual: McGraw-Hill, Inc., 983 p.
- Piper, A. M., 1942, Ground-water resources of the Willamette Valley, Oregon: USGS, Water-Supply Paper 890, 194 p., map.
- Schlicker, H. G., and Finlayson, C. T., 1979, Geology and geologic hazards of northwestern Clackamas County, Oregon: Oregon Department of Geology and Mineral Industries Bulletin 99, 79 p., maps.



It has been our pleasure to serve you. If you have any questions concerning this report or the site, please contact us.

Respectfully submitted,

# H.G. SCHLICKER AND ASSOCIATES, INC.

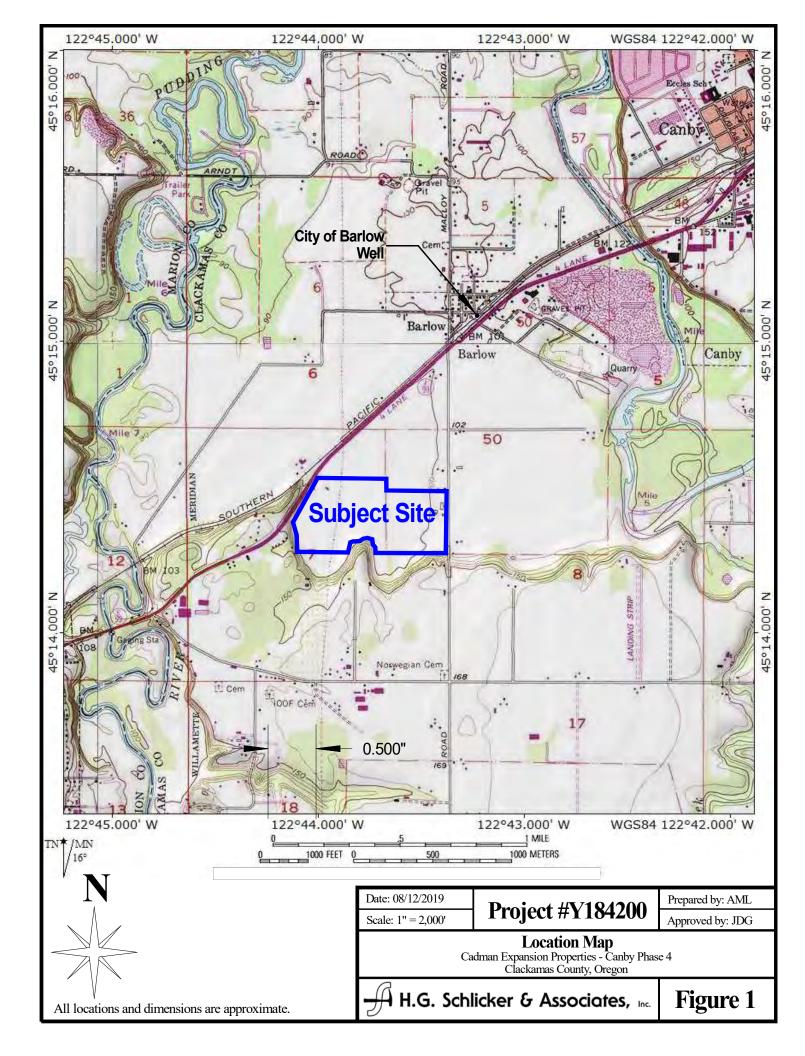


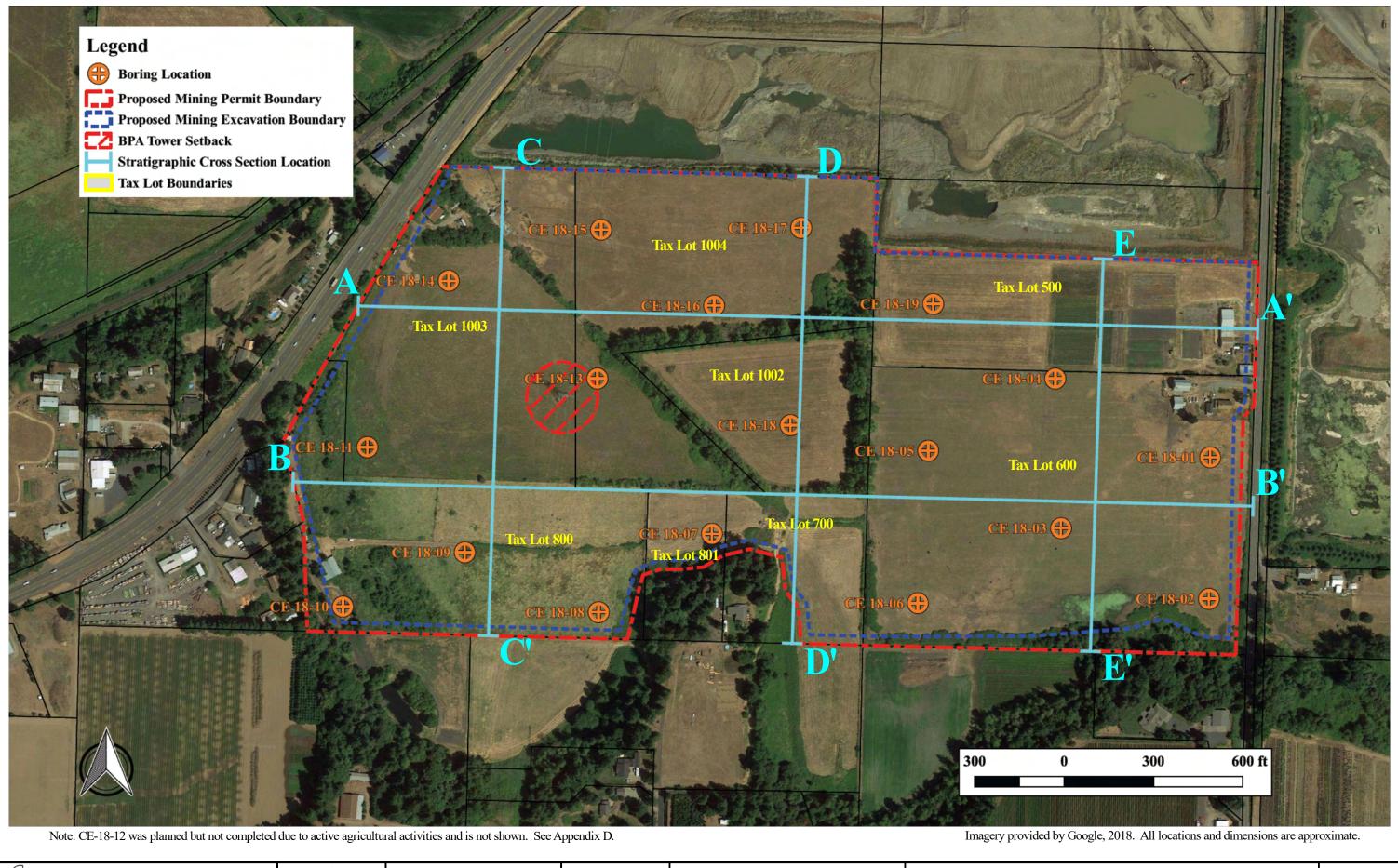
EXPIRES: 10/31/2019 J. Douglas Gless, MSc, RG, CEG, LHG President/Principal Engineering Geologist

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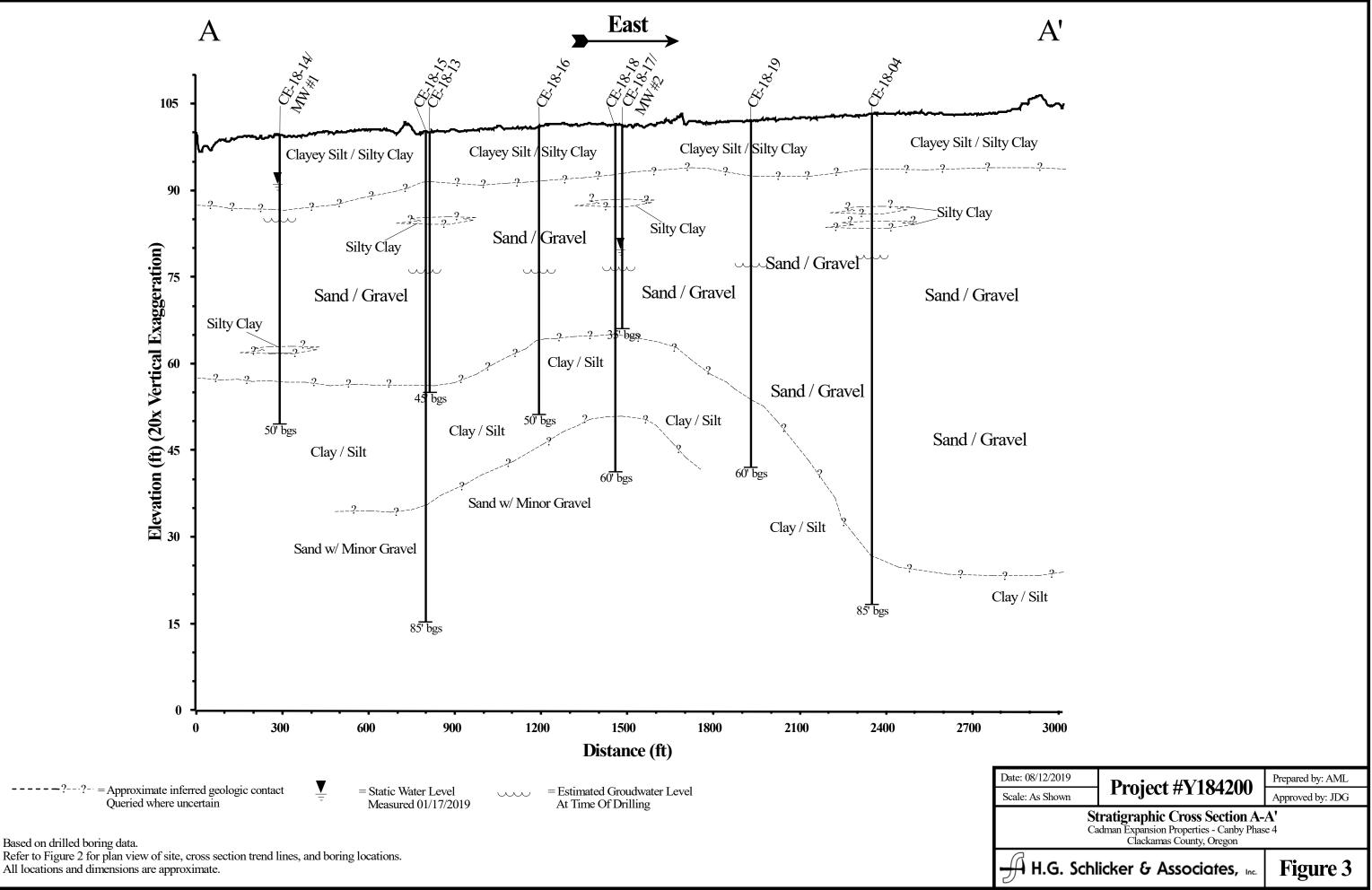




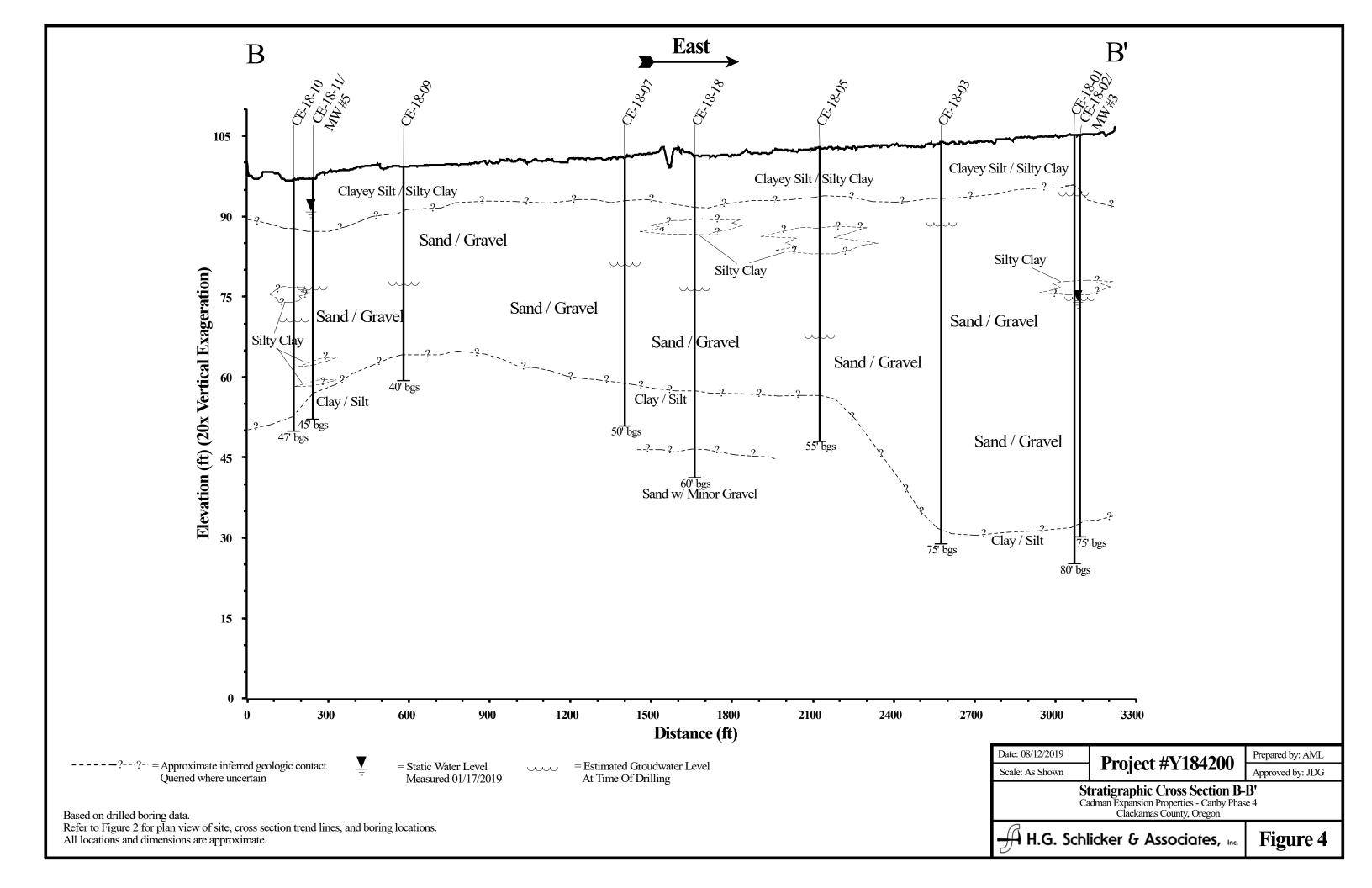
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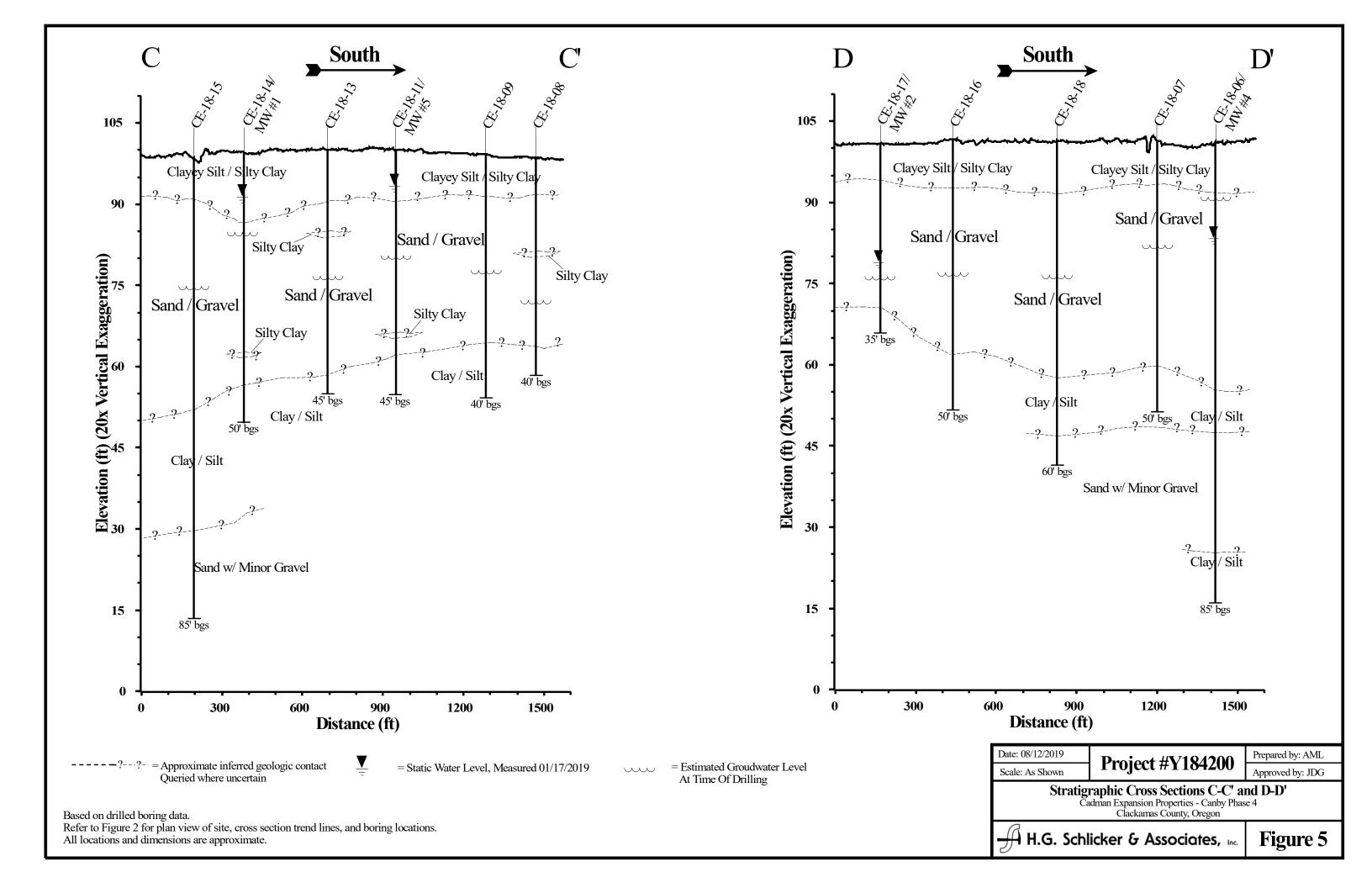
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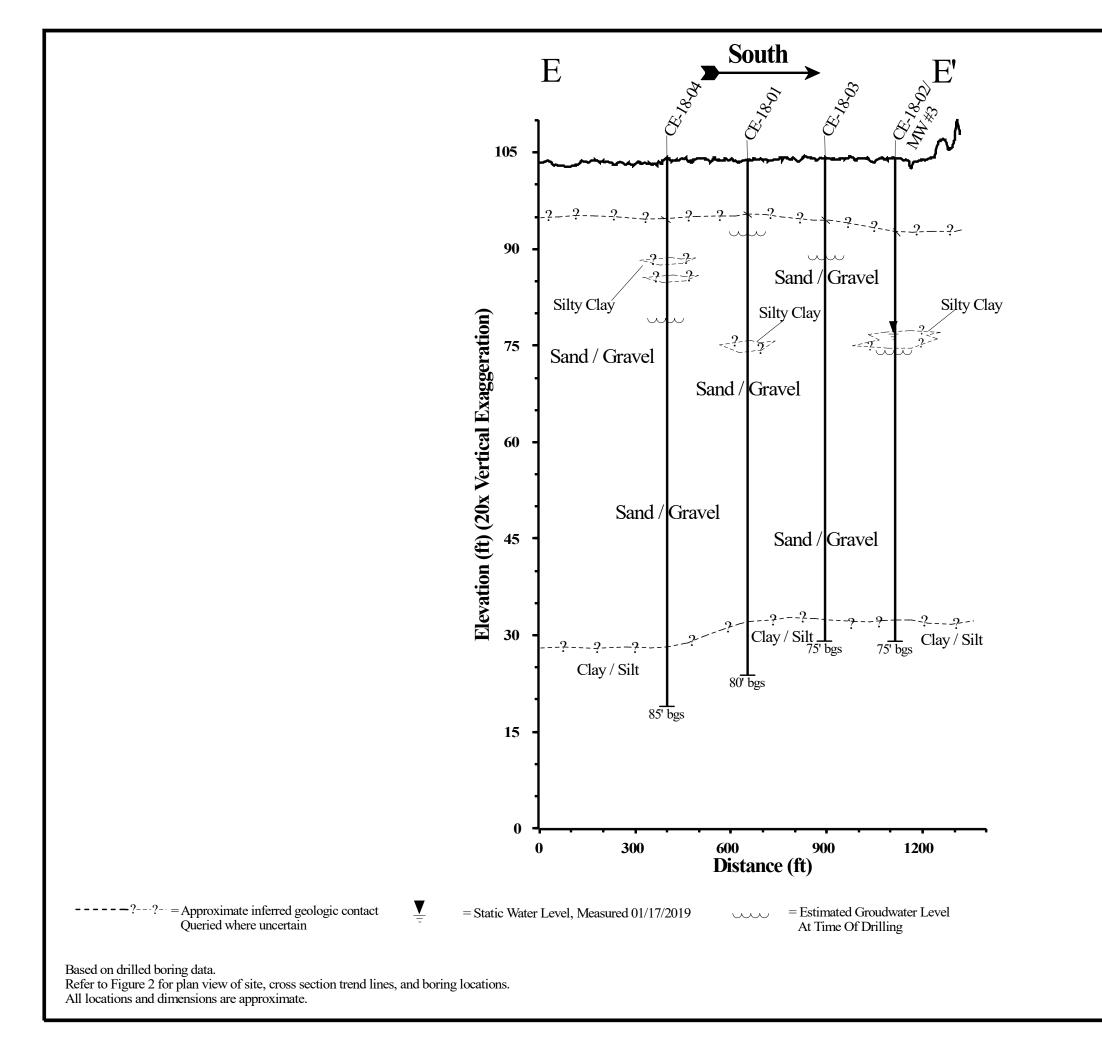


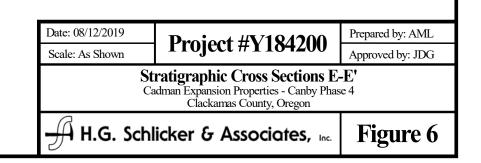


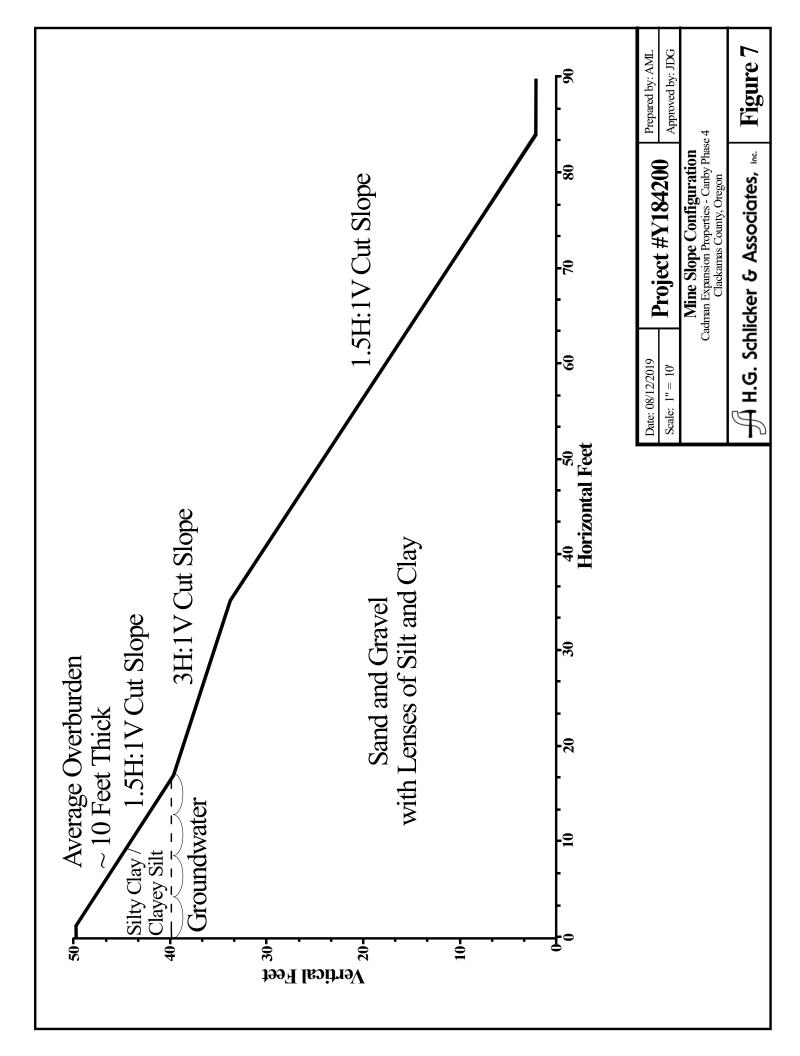












Project #Y184200

Appendix A – Site Photographs –





Photo 1 – Drill rig set up at CE-18-02 / MW #3 on October 16, 2018.



Photo 2 – View of CE-18-06 / MW #4 on October 24, 2018 during monitoring well construction.



Photo 3 – View of material recovered during drilling boring CE-18-01 from 0' to 10'.



Photo 4 – View of material recovered during drilling boring CE-18-01 from 10' to 20'.



Photo 5 - View of material recovered during drilling boring CE-18-01 from 20' to 30'.



Photo 6 – View of material recovered during drilling boring CE-18-01 from 30' to 40'.



Photo 7 – View of material recovered during drilling boring CE-18-01 from 40' to 50'.



Photo 8 – View of material recovered during drilling boring CE-18-01 from 50' to 60'.



Photo 9 - View of material recovered during drilling boring CE-18-01 from 60' to 70'.



Photo 10 – View of material recovered during drilling boring CE-18-01 from 67' to 80'.

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Appendix B – NRCS Custom Soil Resource Report –





USDA United States Department of Agriculture

> Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# **Custom Soil Resource Report for** Clackamas **County Area**, Oregon

Cadman - Canby Phase 4 **Expansion Area** 



## Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2\_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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## **How Soil Surveys Are Made**

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

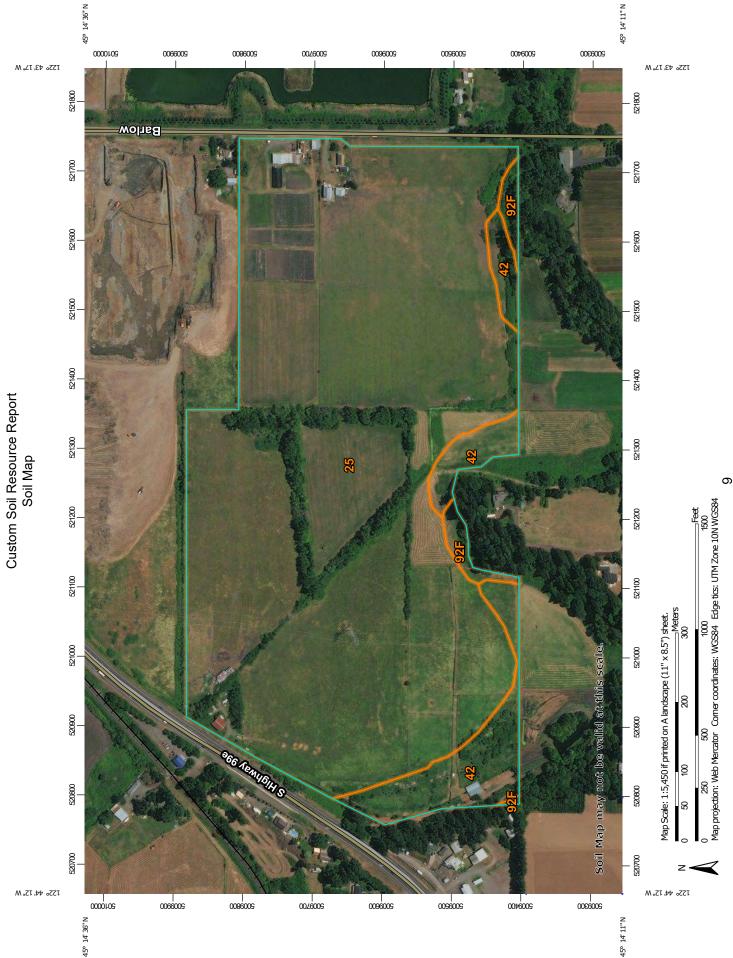
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

## Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Γ

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	inte 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 confront projection, should be used if more	accurate calculations of distance of area are required.	This product is generated from the USDA-NRCS certified data as		0	Survey Area Data: Version 14, Sep 18, 2018	Soil map units are labeled (as space allows) for map scales	1:50,000 or larger.	Date(s) aerial images were photographed: Aug 19, 2015—Sep	13, 2016	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 LEGEND	rest (AOI) 😹 Spoil Area Area of Interest (AOI) 👌 Stony Spot	Soil Map Unit Polygons	Soil Map Unit Lines & Other Soil Map Unit Points & Other	Water Featu	w Pit Streams and Canals	pression	i Pit US Routes	Gravelly Spot	III Local Roads	Flow Background	Marsh or swamp	Mine or Quarry	Miscellaneous Water	Perennial Water	Rock Outcrop	Saline Spot	Sandy Spot	Severely Eroded Spot	ole	Slide or Slip	Spot		
	of Inte	Soils Soil N	Soil IV Soil IV	Special Point Features	Borrow Pit	Clay spot	K Gravel Pit	erave	🕲 Landfill	🙏 Lava Flow	den Marsh	Mine	Misce	Peren	Rock	Saline Saline	Sand)	Sever	Sinkhole	Slide	Sodic Spot		

## **Map Unit Legend**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
25	Cove silty clay loam	89.2	89.4%
42	Humaquepts, ponded	9.0	9.0%
92F	Xerochrepts and Haploxerolls, very steep	1.6	1.6%
Totals for Area of Interest		99.8	100.0%

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

### **Clackamas County Area, Oregon**

### 25—Cove silty clay loam

#### **Map Unit Setting**

National map unit symbol: 223y Elevation: 100 to 1,500 feet Mean annual precipitation: 40 to 60 inches Mean annual air temperature: 52 to 54 degrees F Frost-free period: 165 to 210 days Farmland classification: Farmland of statewide importance

#### **Map Unit Composition**

Cove and similar soils: 85 percent Minor components: 12 percent Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Cove**

#### Setting

Landform: Flood plains Landform position (three-dimensional): Dip Down-slope shape: Linear Across-slope shape: Linear Parent material: Clayey alluvium

#### **Typical profile**

*H1 - 0 to 7 inches:* silty clay loam *H2 - 7 to 60 inches:* silty clay

#### **Properties and qualities**

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: High (about 9.9 inches)

#### Interpretive groups

Land capability classification (irrigated): 4w Land capability classification (nonirrigated): 4w Hydrologic Soil Group: D Hydric soil rating: Yes

#### **Minor Components**

#### Wapato

Percent of map unit: 5 percent Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

#### Conser

Percent of map unit: 4 percent Landform: Terraces Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

#### Concord

Percent of map unit: 2 percent Landform: Terraces Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

#### Dayton

Percent of map unit: 1 percent Landform: Terraces Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

#### 42—Humaquepts, ponded

#### Map Unit Setting

National map unit symbol: 224t Elevation: 100 to 1,500 feet Mean annual precipitation: 40 to 60 inches Mean annual air temperature: 52 to 54 degrees F Frost-free period: 165 to 210 days Farmland classification: Farmland of unique importance

#### **Map Unit Composition**

*Humaquepts, ponded, and similar soils:* 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.* 

#### **Description of Humaquepts, Ponded**

#### Setting

Landform: Flood plains, lakebeds (relict) Landform position (three-dimensional): Talf Down-slope shape: Linear Across-slope shape: Linear Parent material: Lacustrine deposits over peat organic material

#### **Typical profile**

H1 - 0 to 24 inches: mucky clay

H2 - 24 to 50 inches: peat

H3 - 50 to 60 inches: silt loam

#### Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: Very high (about 18.5 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3w Hydrologic Soil Group: C/D Hydric soil rating: Yes

#### **Minor Components**

#### Wapato

Percent of map unit: 10 percent Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

#### Cove

Percent of map unit: 5 percent Landform: Flood plains Landform position (three-dimensional): Dip Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

#### 92F—Xerochrepts and Haploxerolls, very steep

#### Map Unit Setting

National map unit symbol: 2281 Elevation: 50 to 1,000 feet Mean annual precipitation: 40 to 60 inches Mean annual air temperature: 50 to 54 degrees F Frost-free period: 165 to 210 days Farmland classification: Not prime farmland

#### Map Unit Composition

*Xerochrepts and similar soils:* 50 percent *Haploxerolls and similar soils:* 35 percent

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

#### **Description of Xerochrepts**

#### Setting

Landform: Terraces Landform position (three-dimensional): Riser Down-slope shape: Linear Across-slope shape: Linear Parent material: Colluvium derived from igneous rock

#### **Typical profile**

H1 - 0 to 8 inches: silt loam

H2 - 8 to 48 inches: gravelly clay loam

H3 - 48 to 60 inches: very cobbly clay loam

#### **Properties and qualities**

Slope: 20 to 60 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.0 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Hydric soil rating: No

#### **Description of Haploxerolls**

#### Setting

Landform: Terraces Landform position (three-dimensional): Riser Down-slope shape: Concave Across-slope shape: Linear Parent material: Colluvium derived from igneous rock

#### **Typical profile**

H1 - 0 to 12 inches: silt loam H2 - 12 to 60 inches: very gravelly loam

#### **Properties and qualities**

Slope: 20 to 60 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 36 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 12.0 inches)

Interpretive groups Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Hydric soil rating: No

## Soil Information for All Uses

## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

### Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

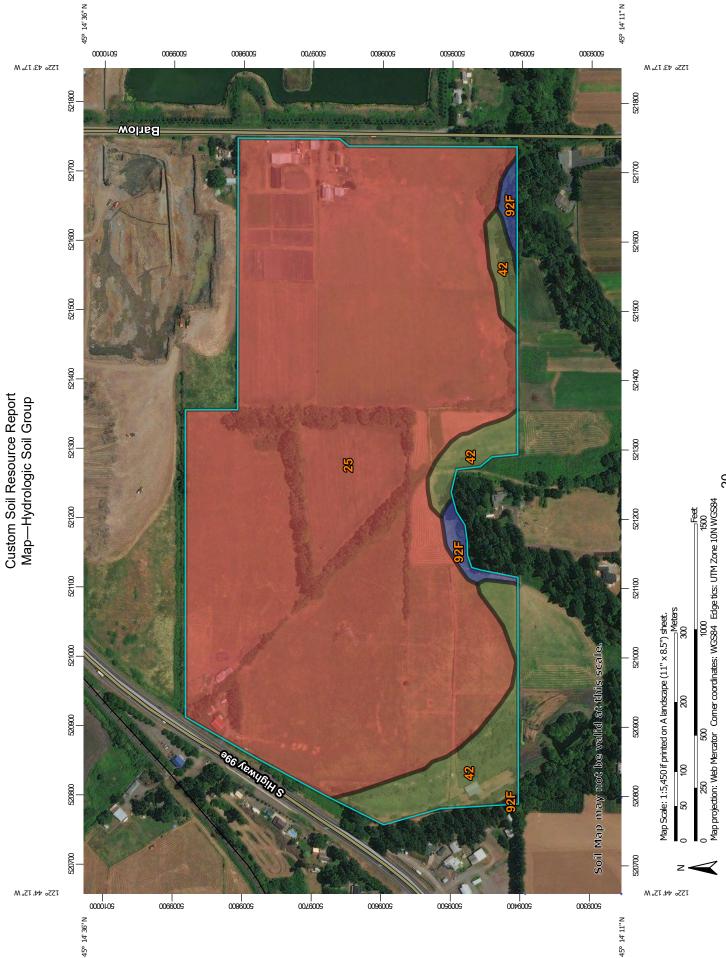
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

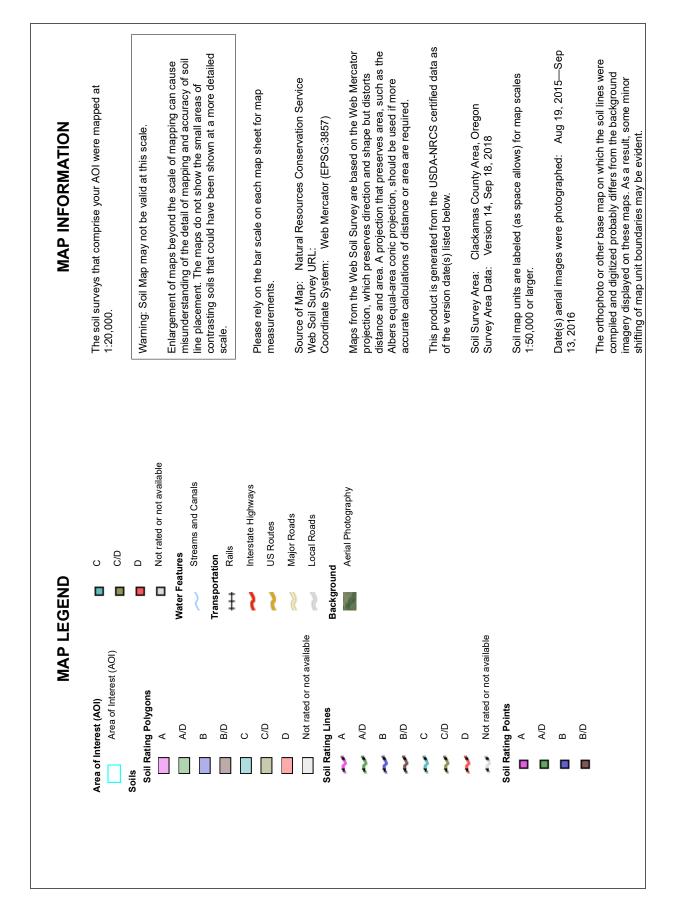
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.





### Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
25	Cove silty clay loam	D	89.2	89.4%
42	Humaquepts, ponded	C/D	9.0	9.0%
92F	Xerochrepts and Haploxerolls, very steep	В	1.6	1.6%
Totals for Area of Intere	st	99.8	100.0%	

### Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition Component Percent Cutoff: None Specified Tie-break Rule: Higher

## **Soil Reports**

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

## Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

## Land Capability Classification

The land capability classification of map units in the survey area is shown in this table. This classification shows, in a general way, the suitability of soils for most kinds of field crops (United States Department of Agriculture, Soil Conservation Service, 1961). Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit.

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

- Class 1 soils have slight limitations that restrict their use.
- Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.
- Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
- Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

- Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.
- Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by w, s, or c because the soils in class 5 are subject to little or no erosion.

Land Capability Classification–Clackamas County Area, Oregon							
Map unit symbol and name	Pct. of map unit	Component name	Land Capability Subclass				
			Nonirrigat ed	Irrigated			
25—Cove silty clay loam							
	85	Cove	4w	4w			
42—Humaquepts, ponded							
	85	Humaquepts, ponded	3w	_			
92F—Xerochrepts and Haploxerolls, very steep							
	50	Xerochrepts	6e	_			
	35	Haploxerolls	6e	_			

### **Report—Land Capability Classification**

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Appendix C – Geotechnical Hole and Monitoring Well Reports – Holt Services –



### STATE OF OREGON GEOTECHNICAL HOLE REPORT

(as required by OAR 690-240-0035) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT: Hole Number (2.18-1						
Name LCC	(9) LOCATION OF HOLE (legal description) County Clac Lance Twp 4 Nors Range Bor W W.M.					
Address 25351 5 Barlow Rd	SED J SE MARTIN NE MATAY LALLESTIN M					
city Aurora state ()R zip 97012.	Tax Map Number					
(2) TYPE OF WORK	Tax Map Number         Lot           Lat         '         '         DMS or DD					
(2) TITE: OF WORK ☑ New □ Deepening □ Alteration (repair/recondition) □ Abandonment	Long '' or DMS or DD					
	Long ' or DMS or DD Street Address of Well (or nearest address) 25351 Bar Dw R					
(3) CONSTRUCTION METHOD:	Aurora OR					
□ Rotary Air □ Hand Auger □ Hollow Stem Auger □ Rotary Mud □ Cable Tooi □ Push Probe □ Other So Mic						
(4) TYPE OF HOLE:	Map with location identified must be attached					
Uncased Temporary Z Cased Temporary	(10) STATIC WATER LEVEL:					
Uncased Permanent D Slope Stability D Other						
(5) USE OF HOLE: <u>Soil Sampling</u>						
	(11) SUBSURFACE LOG:					
	Ground Blevation					
	Material Description From To SWL					
(6) BORE HOLE CONSTRUCTION:	Sandy grovels 10 25					
Special Standard [] Yes (attach copy) Depth of Completed Hole 60 ft.	stilly same same growed 25 35					
HOLB SEAL	Silty grovels sands 35 50					
Diameter From To Material From To Amount Sacks or lbs	gravels sandy STO 67					
7 0 80 ann 3 80 25	sonzly 5-77 607 75					
	- gry clay 75 80					
	Date Started 10-16-18 Date Completed 20-12-18					
Backfill placed from ft. to ft. Material Barit/P.						
Filter Pack placed fromft. toft. Material Size	Material Description From To Sacks or Pounds					
(7) CASING/SCREEN:						
() CASHTONSCREEN:	Bent chills 3 80 25					
Diamotor From To Gauge Stool Plestic Welded Threaded						
Slot Size	Date Started 1014-18 Date Completed 10-16-18					
	Date Started 10-14-18 Date Completed 10-14-18 Professional Certification					
Slot Size	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon					
Slot Size       Image: Constraint of the state of the st	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer).					
Slot Size       Image: Conductivity	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer). I accept responsibility for the construction, alteration, or abandonment work					
Slot Size       Image: Constraint of the state of the st	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer). I accept responsibility for the construction, alteration, or abandosment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction					
Slot Size       Image: Slot Size         (8) WELL TEST:       Pump         Image: Pomp       Baller         Air       Flowing/Artesian         Permeability       Yield         Conductivity       PH         Temperature of water       •F/C         Vater water analysis done?       Yes [] No	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer). I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.					
Slot Size       Image: Constraint of the state of the st	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer). I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief. License or Registration Number 10609					
Slot Size       Image: Slot Size         (8) WELL TEST:       Pump         Baller       Air         Flowing/Artesian         Permeability       Yield         Conductivity       PH         Temperature of water       •F/C Depth artesian flow found         Water water analysis done?       Yes [] No         By whom?	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer). I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.					
Slot Size       Image: Constraint of the state of the st	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer).I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.License or Registration Number $10609$ License or Registration NumberSignedDate $10-16-18$					
Slot Size       Image: Slot Size         (8) WELL TEST:       Pump         Baller       Air         Flowing/Artesian         Permeability       Yield         Conductivity       PH         Temperature of water       •F/C Depth artesian flow found         Water water analysis done?       Yes [] No         By whom?       ft. toft. toft. toft.	Professional Certification (to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer). I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.					

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### STATE OF OREGON GEOTECHNICAL HOLE REPORT

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(as required by OAR 690-240-0035) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT: Hole Number CE 18.3	(9) LOCATION OF HOLE (legal description) County <u>CLACLAMAS</u> Twp <u>4</u> Nor Range <u>1</u> Br W W.M.					
Address 25 551 5 Barerow Roso	SecSE1/4 of the1/4 Tax Lot/1/5070600					
City Augors State OL Zip \$7002.						
(2) TYPE OF WORK	Tax Map Number         Lot           Lat        ' or         DMS or DD					
<ul> <li>(2) TITL OF WORK</li> <li>New □ Deepening □ Alteration (repair/recondition) □ Abandonment</li> </ul>	Long OMS or DD					
	Street Address of Well (or nearest address) 25551 Bullow Road					
(3) CONSTRUCTION METHOD: □ Rotary Air □ Hand Auger □ Hollow Stem Auger □ Rotary Mud □ Cable Tool □ Push Probe □ Other 200, 2	Nurova, OR					
Rotary Mud Cable Tool Push Probe Other 201.2	Map with location identified must be attached					
(4) TYPE OF HOLE: □ Uncased Temporary  Cased Temporary □ Uncased Permanent □ Slope Stability □ Other	(10) STATIC WATER LEVEL: ft. bolow land surface. Date					
	Artesian pressure lb. per square inch. Date					
(5) USE OF HOLE: Sangle	(11) SUBSURFACE LOG:					
····	(11) SUBSURFACE LOG: Ground Elevation					
	Material Description From To SWL					
(6) BORE HOLE CONSTRUCTION;	Ji 14 0 10					
(b) BORN, HOLE CONSTRUCTION; Special Standard $\Box$ Yes (attach copy) Depth of Completed Hole $\underline{\mathcal{I}}_{\underline{\mathcal{I}}}$ ft.	Med Fine sand 10,20					
	silty growls & sends 20 35					
HOLE SEAL Diameter From To Materiat From To Amount Sacks or lbs	gravely sends 35 55					
	Med-Fine send 55 75					
7" 3 75	Sime greeker 74 grey view 74 75					
	9.9 0109 74 15					
	Date Started 10-17-18 Dato Completed 10-18-18					
Backfill placed from 3_ ft. to 75_ ft. Material Bent chills	(12) ABANDONMENT LOG:					
- · · ·	Material Description From To Sacks or Pounds					
Filter Pack placed fromft. toft. MaterialSize	Bent ch/Ps 3 75 20					
(7) CASING/SCREEN:						
. Diameter From To Gauge Steel Plastic Welded Threaded						
Stot Size	Date Started 10-17-18 Date Completed 10-18-18					
(8) WELL TEST:	Professional Certification					
🗆 Pump 🔲 Bailer 🗋 Air 🔲 Flowing/Artosian	(to be signed by a licensed water supply or monitoring well constructor, or Oregon					
Permeability Yield GPM	registored geologist or professional engineer).					
Conductivity PH	I accept responsibility for the construction, alteration, or abandonment work					
Temperature of water •F/C Depth artesian flow found ft.	performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction					
Water water analysis done? [] Yes [] No	standards. This report is true to the best of my knowledge and belief.					
By whom?	Licenso or Registration Number 10609					
Remarks:	Signed Date 10-18-18					
······································	Affiliation Hoff Servies					
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#### STATE OF OREGON GEOTECHNICAL HOLE REPORT (as required by OAR 690-240-0035)

(as required by OAR 690-240-0035) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT: Hole Number CO. 18.4	(9) LOCATION OF HOLE (legal description)
Name LC Address 25351 5 Bar Jow Mad	County Clackamas Twp 4 No(S) Range Br W W.M.
	Sec. 7 SE 1/4 of the NE 1/4 Tax Lot 41ED70100
	Tax Map Number         Lot           Lat         `` or         DMS or DD
(2) TYPE OF WORK	Lat DMS or DD
New Deepening Alteration (repair/recondition) Abandonment	Long' or DMS or DD Street Address of Well (or nearest address) 25351 Barlyus Rd
(3) CONSTRUCTION METHOD:	Aurora, OR
□ Rotary Air □ Hand Auger □ Hellow Stem Auger □ Rotary Mud □ Cable Tool □ Push Probe □ Other Soul C	
Rotary Mud Cable Tool D Push Probe DOther Sould	. Map with location identified must be attached
(4) TYPE OF HOLE:	(10) STATIC WATER LEVEL:
Uncased Temporary Cased Temporary	ft. below land surface. Date
	Artesian pressuro ib. per square inch. Date
(5) USE OF HOLE: <u>Sil Senfle</u>	(11) SUBSURFACE LOG:
	Ground Elevation
	Material Description From To SWL
(6) BORE HOLE CONSTRUCTION:	
Special Standard 🗆 Yes (attach copy) Depth of Completed Hole 🔬 ft.	Still Same 5 10
	gravely sends 10 35
HOLB SEAL Diameter From To Amount Sacks or lbs	mod-illar scal 35 40
a l'	gravely sands 40 60 sandy gravely 60 78
	clay 78 \$5
	Date Started D. 19.18 Date Completed 10.19.18
Backfill placed from ft. to ft. Material	(12) ABANDONMENT LOG:
Filter Pack placed fromft. toft. Material Size	Material Description From To Sacks or Pounds
	Bent chils 0 85 25
(7) CASING/SCREEN:	
. Diameter From To Gauge Steel Plastic Welded Threaded	
Screen:	
Stot Size	Date Started 10.19.18 Date Completed 10-19.18
(8) WELL TEST:	Professional Certification
🗆 Pump 🔲 Bailor 🔛 Air 🔂 Flowing/Artesian	(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer).
Permeability Yield GPM	
Conductivity PH	I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed
Temperature of water •F/C Depth artesian flow foundft,	during this time is in compliance with Oregon's geotechnical hole construction
Water water analysis done? [] Yes [] No	standards. This report is true to the bast of my knowledge and belief.
By whom?f. toft.	License or Registration Number 1060 9
Remarkes:I.	Signed Jugan Date 10-19.15
	Affiliation the it Services
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#### STATE OF OREGON GEOTECHNICAL HOLE REPORT

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and a star and the set of a star and the star high of the toxin		
(1) OWNER/PROJECT: Hole Number [12 - 18 - 5] Name [2]	(9) LOCATION OF HOLE (legal description) County Clack G mange 4 Nors Range 6 Ebr W W.M.	
Address 25351 5 Barlow Road	Sec $SE I/4 \text{ of the } NE I/4 \text{ Tax Lot } I = 0.7060$	
City HUTCH State OR Zip 97002,	Sec         JC         1/4 of the         1/4 fax Lot           Tax Map Number         Lot         Lot	
(2) TYPE OF WORK	Tax Map Number         Lot           Lat        ' or         DMS or DD	
New DeepenIng [] Alteration (repair/recondition) [] Abandonment	Long OMS or DD	
(3) CONSTRUCTION METHOD:	Street Addross of Well (or nearest address) 25351 Barlow Nd NUTUTA, OR	
□ Rotary Air □ Hand Auger □ Hollow Stem Auger □ Rotary Mud □ Cable Tool □ Push Probe □ Other Sourc	Map with location Identified must be attached	
(4) TYPE OF HOLE:	(10) STATIC WATER LEVEL: ft. below land surface. Date	
Uncased Permanent D Slope Stability D Other		
(5) USE OF HOLE: 551 BORING		
	(11) SUBSURFACE LOG: Ground Elevation	
	Material Description From To SWL	
(6) BORE HOLE CONSTRUCTION:	SAND Med-File 5 10	
Special Standard 🖾 Yes (attach copy) Depth of Completed Hole <u>55</u> ft.	Gravely Serves 10	
HOLE SEAL	some silts 45	
Diameter From To Matariai From To Amount Sacks or lbs		
7"	med-Fine sand 45 50	
	silly sevel 50 55	
	Date Started Date Completed	
Backfill placed from 5 ft. to 55 ft. Material Bent chils (12) ABANDONMENT LOG:		
Filter Pack placed fromft. toft. MaterialSize	Material Description From To Sacks or Pounds	
(7) CASING/SCREEN:	But chills 0 SS MY	
. Diameter From To Gauge Steel Plastic Welded Threaded		
Stot Size	Date Started 10-18-18 Date Completed 10-18.18	
(8) WELL TEST:	Professional Certification	
🗇 Pump 📑 Ballor 🗂 Air 🗔 Flowing/Artesian	(to be signed by a licensed water supply or monitoring well constructor, or Oregon	
PermeabilityYleld GPM	registered geologist or professional engineer).	
Conductivity PH	I accept responsibility for the construction, alteration, or abandonment work	
Temperature of water •F/C Depth artesian flow foundft.	performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction	
Water water analysis done? 🛄 Yes 🛄 No	standards. This report is true to the best of my knowledge and belief.	
By whom?	License or Registration Number 1060 9	
Depth of strata analyzed. Fromft. toft.		
Remarks:	Affiliation Block Date	
······································	Affiliation for the Scources	
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# STATE OF OREGON GEOTECHNICAL HOLE REPORT (as required by OAR 690-240-0035) Instructions for completing this report are on the last page of this form.

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(1) OWNER/PROJECT: Hole Number <u>CU-18-7</u> Name	(9) LOCATION OF HOLE (legal description)
Address 25351 5 Barlow Road	County Clackanal STwp 4 North Range Bor W W.M. Sec 1 3E 1/4 of the NE 1/4 Tax Lot 41E070600
city Aurora state OR zip 97222.	Tax Map Number
(2) TYPE OF WORK	Tax Map Number         Lot           Lat
(2) THE OF WORK ØNew □ Deepening □ Alteration (repair/recondition) □ Abandonment	Long o, or DMS or DD
	Street Address of Well (or nearest address)
(3) CONSTRUCTION METHOD: □ Rotary Air □ Hand Auger □ Hellow Stem Auger □ Rotary Mud □ Cable Tool □ Push Probe □ Other	25351 Barlow Rd, Aurora, UR
Cable Tool Puse Prove	Map with location identified must be attached
(4) TYPE OF HOLE: Uncased Temporary Cased Tomporary Uncased Permanent Cased Tomporary Other	(10) STATIC WATER LEVEL: ft. bolow land surface. Date
11	Artesian pressure ib. per square inch. Date
(5) USE OF HOLE: Sol ] Som P4	(11) SUBSURFACE LOG:
	Ground Blevation
·	Material Description From To SWL
(6) BORE HOLE CONSTRUCTION:	51/4 0 5
Special Standard DYcs (attach copy) Depth of Completed Hole 50 ft.	gravely sometis 5 10
HOLE SEAL	growly silty card 10 20
Diarueter From To Material From To Amount Sacks or lbs	Lan 47 50
- <b>7</b> <i>H</i>	6 ay 47 50
	Date Started Date Completed
Backfill placed from ft. to ft. Materiai	(12) ABANDONMENT LOG:
Filtor Pack placed fromft. toft. Material Size	Material Description From To Sacks or Pounds
(7) (7) (5) (5) (7) (5) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	Ben chils 0 50 15
(7) CASING/SCREEN:	
. Diameter From To Gauge Steel Plastic Welded Threaded	
Stot Siza	Dato Started 10.23.18 Date Completed 10.23.18
(8) WELL TEST:	Professional Certification
🗆 Pamp 🖾 Bailer 🖾 Air 🗀 Flowing/Artesian	(to be signed by a licensed water supply or monitoring well constructor, or Oregon
Permeability Yield OPM	registered geologist or professional engineer).
ConductivityPH	I accept responsibility for the construction, alteration, or abandonment work
Temperature of water •F/C Depth artesian flow found ft.	performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction
Water water analysis done? [] Yes [] No	standards. This report is true to the best of my knowledge and belief.
whom?ft, toft. License or Registration Number 1960	
	Signed Julian Date 10.23.15 Affiliation Holt Cervices

#### THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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#### STATE OF OREGON GEOTECHNICAL HOLE REPORT

(as required by OAR 690-240-0035) Instructions for completing this report are on the last page of this form.

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	<u> </u>	
(1) OWNER/PROJECT: Hole Number <u>Ce-18-8</u> Name Lee	(9) LOCATION OF HOLE (legal description) County Carlos Twp _ No(S) Rango _ L (Bor W W.M.	
Name Lee County Clark County Cl		
City Alurora State OR Zip 97002	Tax Map Number     Lot       Lat     ''' or	
(2) TYPE OF WORK	Lat*' or DMS or DD	
New Deepening Alteration (repair/recondition) Abandonment	Long*' or DMS or DD	
(3) CONSTRUCTION METHOD:	Street Address of Well (or nearest address)	
Rotary Air Hand Augor THellow Stom Auger	25351 Barlow Rd, Hurgra, OR_	
Rotary Mud Cable Tool Push Probe Other Sparic	Map with location identified must be attached	
(4) TYPE OF HOLE:	(10) STATIC WATER LEVEL:	
□ Uncased Temporary 2 Cased Temporary □ Uncased Permanent □ Slope Stability □ Other	1 - /	
(5) USE OF HOLE: South Sample	(11) SUBSURFACE LOG:	
· · · · ·	Ground Blevation	
	Material Description From To SWL	
(6) BORE HOLE CONSTRUCTION:	silt 0 5	
Special Standard $\Box$ Yes (attach copy) Depth of Completed Hole $\underline{\mathcal{UO}}_{t}$ ft.	gravery savel 5 10	
HOLE SEAL	Bandy gravel 10	
Diamoter From To   Material From To Amount Sacks or lbs	Mul-Fin and 35 37	
	clay 37 4n	
· · · · · · · · · · · · · · · · · · ·		
	Date Started Date Completed	
Backfill placed from ft. to ft. Material Best d. 1/-	(12) ABANDONMENT LOG:	
	Material Description From To Sacks or Pounds	
Filter Pack placed fromft. toft. MaterialSize,		
(7) CASING/SCREEN:	Bent ChiPs 40 15	
. Diamoter From To Gauge Steel Plastic Wolded Threaded		
Screen:		
Slot Sizo	Dato Started 10-23-18 Date Completed 10-23-18	
(8) WELL TEST:	Professional Certification	
🗆 Pump 🗀 Bailer 🗀 Air 📄 Flowing/Artosian	(to be signed by a licensed water supply or monitoring well constructor, or Oregon	
PermeabilityYield OPM	registered geologist or professional engineer).	
Conductivity PH	I accept responsibility for the construction, alteration, or abandonment work	
Temperature of water •F/C Depth artesian flow foundft.	performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction	
Water water analysis done?  Yes No	standards. This report is true to the best of my knowledge and belief.	
By whom?	License or Registration Number 10609	
Remarks:		
	Affiliation that defices	

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#### STATE OF OREGON GEOTECHNICAL HOLE REPORT

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(as required by OAR 690-240-0035) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT: Hole Number C = - 18 - 9	(9) LOCATION OF HOLE (Jegal description)
Namo LEC Address 25351 5 Barlow Rond	County Clackamas Twp 4 No(S) Rango 1 (Bor W W.M.
	Sec 7 5E 1/4 of the NE 1/4 Tax Lot 41E 070600
	Tax Map Number         Lot         Lot           Lat         ''' or
(2) TYPE OF WORK	Long "or DMS or DD
	Street Address of Well (or nearest address)
(3) CONSTRUCTION METHOD:	Street Address of Well (or nearest address) 25351 Barles Rd, Auryrcy OR
Rotary Air Hand Auger Hollow Stem Auger     Rotary Mud Cable Tool Push Probe Other	
	Map with location identified must be attached
(4) TYPE OF HOLE:	(10) STATIC WATER LEVEL:
Uncased Temporary Z Cased Temporary     Uncased Permanent I Slope Stability I Other	ft. below land surface. Date
(5) USE OF HOLE: Soil Sanfler	Artesian prossure lb. per square inch. Date
	(11) SUBSURFACE LOG:
	Ground Blovation
	Material Description From To SWL
(6) BORE HOLE CONSTRUCTION:	Silt 0 3 Fre Sandis 3 &
Special Standard $\Box$ Yes (attach copy) Depth of Completed Hole $\underline{4b}$ ft.	The Sands 3 2- gravelly gand & 20
HOLE SEAL	
Diameter From To Material From To Amount Sacks or lbs	Simoly grave 20 35
74	
	Med- Fre snuds 35 40
	Date Started 10 -23-18 Date Completed 10 -23-18
	(12) ABANDONMENT LOG:
Backfill placed from ft. to ft. Material	
Filter Pack placed fromft. toft. Material Size	Material Description From To Sacks or Pounds
(7) CASING/SCREEN:	Brant chiles 0 40 15
Diameter From To Gauge Steel Plastic Welded Threaded	
Slot Sizo	Date Started 10-23-18 Date Completed 10-23-18
(8) WELL TEST:	Professional Certification
🗋 Pump 🔲 Bailer 🛄 Air 🖾 Flowing/Artesian	(to be signed by a licensed water supply or monitoring well constructor, or Oregon
PermeabilityYield GPM	registered geologist or professional engineer).
ConductivityPH	I accept responsibility for the construction, alteration, or abandonment work
Temperature of water •F/C Dopth artesian flow foundft.	performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction
Water water analysis done? 🗋 Yes 📄 No	standards. This report is true to the best of my knowledge and belief.
By whom?	Liceuse or Registration Number 1060 9
Depth of strate analyzed. From ft. to ft. to ft.	
Remarks:	
· · · · · · · · · · · · · · · · · · ·	Affiliation
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(1) OWNER/PROJECT Hole Number CO-18-10	
PROJECT NAME/NBR:	(9) LOCATION OF HOLE (legal description)
First Name Last Name	County ( A C KIMTERS 4 NS) Range 1 PW WM
Company	Sec <u>1</u> <u>DE</u> 1/4 of the <u>NE</u> 1/4 Tax Lot <u>41E o T(Xa1)</u>
Address 25351 3 Barlow Rind City Alucora State DD Zip 97(152	Tax Map Number Lot DMS or DD
	Long r or DMS or DD
(2) TYPE OF WORK New Deeponing Abandonment	C Street address of hole C Nearest address
Alteration (repair/recondition)	25351 Barlow Rd, Aurora, DR
(3) CONSTRUCTION Rotary Air Hand Auger Hollow stem auger	(10) STATIC WATER LEVEL
Rotary Mud Cable Push Probe	Date SWL(psi) + SWL(ft)
Other	Existing Well / Predeepening
	Flowing Artesian?
(4) TYPE OF HOLE:	WATER BEARING ZONES Depth water was first found
OUncased Temporary OCased Permanent	SWL Date From To Est Flow SWL(psi) + SW((it)
Outcased Permanent OStope Stability	
Other Other:	
(5) USE OF HOLE	(11) SUBSURFACE LOG Ground Elevation
	Material From To
Soil Samples	Silt 0 8
Voi ( Camilles	groully sande 8 45
(6) BORE HOLE CONSTRUCTION Special Standard [Attach copy] Depth of Completed Hole 47 ft.	
BORE HOLE SEAL sacks/	
Dia From To Material From To Amt Ibs	
	Date Started 10-23-18 Completed 10-23-18
Backfill placed from ft. to ft. Material Filter pack from ft. to ft. Material Size	(12) ABANDONMENT LOG: sacks/
·····	Material From To Amt lbs
(7) CASING/SCREEN	
Casing Screen Dia + From To Gauge Sti Pisto Wid Thrd	47 47
(8) WELL TESTS	Date Started 10-23-18 Completed 10-23-18
Pump Bailer Air Flowing Artesian	10 23 - 10
<u>Vield Ral/min</u> Drawdown Drill stem/Pump depth Duration(hr)	Professional Certification (to be signed by an Oregon licensed water or
	monitoring well constructor, Oregon registered geologist or professional engineer).
Temperature °F Lab analysis Yes By	
	work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction
Supervising Geologist/Engineer	standards. This report is true to the best of my knowledge and belief.
From To Description Amount Units	License/Registration Number 10609 Date 10.23.18
	First Name Lest Name
	Affiliation Halt Ser

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(1) OWNER/PROJECT Hole Number <u>CC 18 · 13</u>	
PROJECT NAME/NBR:	(9) LOCATION OF HOLE (legal description)
First Name Last Name	County Clackamation 4 NS Range DW WM Sec <u>7</u> <u>3E</u> 1/4 of the <u>NE</u> 1/4 Tax Lot <u>476071004</u>
Company	Sec <u>1 38</u> 1/4 of the <u>NE</u> 1/4 Tax Lot <u>976071009</u> Tax Map Number
Address 25351 5 Bar 1012 Rd.	Lat DMS or DD Long or DMS or DD
(2) TYPE OF WORK New Deepening Abandonment	C Street address of hole C Nearest address
Alteration (repair/recondition)	25351 Barlow Rd, Aurora, OR
(3) CONSTRUCTION Rotary Air Hand Auger Hollow stem auger	(10) STATIC WATER LEVEL
Rotary Mud Cable T Push Probe	Date SWL(psi) + SWL(ft) Existing Well / Predeepening
Other	Completed Well
	WATER BEARING ZONES
(4) TYPE OF HOLE:	Depth water was first found
OUncased Temporary OCased Permanent	SWL Date Prom. To Est Flow SWL(psi) + SWL(ft)
Outcased Permanent OSlope Stability	
Other Other:	┤ ┝ <del>╼╼┉┉╎╷╷╷┊╷╷╷</del> ┥╓╷ <sub>╍┥┥╴┅╍┥</sub> ┥ <mark>╘╡╴┈</mark> ╽
(5) USE OF HOLE	(11) SUBSURFACE LOG Ground Elevation
· · · · · · · · · · · · · · · · · · ·	Material From To
	Silt 02
Soil Semple	Silly gould 3 8 med Fin scoul 8 10
	greenily series 10 25
(6) BORE HOLE CONSTRUCTION Special Standard Attach copy)	gravely 1:14 seed 25 27
Depth of Completed Hole ft.	med-ishe word 22 42
BORE HOLE SEAL sacks/ Dia From To Material Prom To Amt lbs	<u> </u>
	Date Started Completed
Backfill placed from ft. to ft. Material	(12) ABANDONMENT LOG:
Backfill placed from ft. to ft. Material Filler pack from ft. to ft. Material Size	sacks/ Material From To Amt Ibs
(T) A CINC (CODDEN)	
(7) CASING/SCREEN	Thirs 0 45 15
Casing Screen Dia + From To Gauge Stl Plste Wid Thrd	chips 0 45 13
(8) WELL TESTS	
O Pump O Bailer O Air O Flowing Artesian	Date Started 10-25-18 Completed 10-25-18
Yield gal/min Drawdown Drill stem/Pomp depth . Duration(hr)	Professional Certification (to be signed by an Oregon licensed water or
monitoring well constructor, Oregon registered geologist or professional	
L accept responsibility for the construction demoning alteration or alteration of the second states in the second	
temperature ver Lab analysis ver by work performed during the construction dates reported above. All work performed during the construction dates reported above. All work performed during the construction dates reported above.	
Supervising Geologist/Engineer during this time is in compliance with Oregon geotechnical hole constandards. This report is true to the best of my knowledge and belief,	
Water duality concerns? I Lifes (desofine below)	
From     To     Description     Amount     Units       License/Registration Number     10609     Date     10       First Name     2000     2000     2000       Affiliation     1000     1000     1000	

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(1) OWNER/PROJECT Hole Number Ce 18-15		
PROJECT NAME/NBR:	(9) LOCATION OF HOLE (legal description)	
	County CCACIC Twp 4 NO Range 1 DW WM	
Pirst Name Last Name	Sec 7 SE 1/4 of the N/5 1/4 Tax Lot 4/200700	
Company Address 25490 S EltoThe Error	Tax Map Number	
Address 25490 S PHOTEN ROAD City August State OL Zip 97013	Lat " or DMS or DD	
	Long " or DMS or DD	
(2) TYPE OF WORK New Deepening Abandonment	C Street address of hole C Nearest address	
Alteration (repair/recondition)	25470 S RIJOTIN ROMD, AVERES, OK G7018	
(3) CONSTRUCTION	23470 3 ELADING KIMIS, MOURE, DE Y 1013	
Rotary Air Hand Auger Hollow stem auger	(10) STATIC WATER LEVEL	
Rotary Mud Cable Push Probe	Date SWL(psi) + SWL(fi) Existing Well / Predeepening	
Other که ۲۰۰۰	Completed Well	
	Flowing Artesian?	
(4) TYPE OF HOLE:	WATER BEARING ZONES Depth water was first found	
OUncased Temporary OCased Permanent	SWL Date From To Est Flow SWL(psi) + SWL(R)	
OUncased Permanent OSlope Stability		
Outher		
Other:		
(5) USE OF HOLE	(11) SUBSURFACE LOG Ground Elevation	
	Material From To	
Soil sample	S/IT OS	
Join Sample	Med File Sand 8 10	
	gravely stripy sand 18 15	
(6) BORE HOLE CONSTRUCTION Special Standard [Atlach copy]		
Depth of Completed Holeft.	Med-Fire schul 35 52	
BORE HOLE SEAL sacks/	<u> </u>	
Dia From To Material From To Amt Ibs	Band some grovel 65 85	
7" 0 25 Bent		
	Date Started 10-25-18 Completed 10-20-18	
	Date Started 10-25-18 Completed 10-25-18	
Backfill placed from ft. to ft, Material	(12) ABANDONMENT LOG:	
Backfill placed from ft. to ft. Material Filter pack from ft. to ft. Material Size	sacks	
	Material From To Amt ibs	
(7) CASING/SCREEN	Ch (8) 25	
Casing Screen Dia + From To Gauge Stl Plste Wld Thrd		
(8) WELL TESTS	Date Started 10-25-18 Completed 10-25-18	
O Pump O Bailer O Air O Flowing Artesian	Dire Stated 10 - 23 - 18 Completed 10 - 23 - 18	
Yield gal/min Drawdown Drill stem/Pump deptin Duration(hr)	Professional Certification (to be signed by an Oregon licensed water or	
monitoring well constructor, Oregon registered geologist or professional		
Temperature °F Lab analysis Yes By	i accept responsibility for the construction, deepening, alteration, or zbandonment work performed during the construction dates reported above. All work performed	
Supervising Geologie/Engineer		
Water quality concerns? Yes (describe below) standards. This report is true to the best of my knowledge and belief.		
From To Description Amount Units License/Registration Number 10605 Date 10		
First Name JEFP Last Name Jomes		
Affiliation Hatt Services		

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(1) OWNER/PROJECT Hole Number CE 18 - 16	· · · ·	
PROJECT NAME/NBR;	(9) LOCATION OF HOLE (legal description)	
First Name Last Name Lober	County CLACK Twp U NO Range [ DW WM Sec SC 1/4 of the NF 1/4 Tax Lot 415070700	
Company	Sec SC 1/4 of the WE 1/4 Tax Lot 4/5070700	
Address 25490 S Ruona 2000	Tax Map Number Lot Lat ° " " or DMS or DD	
City Avlock State of Zip 37013	Long or DMS or DD	
(2) TYPE OF WORK New Deepening Abandonment	C Street address of hole C Nearest address	
Alteration (repair/recondition)		
(3) CONSTRUCTION	28490 S RHOTEN ROOD ANROLL, OL 87015	
Rotary Air Hand Auger Hollow stem auger	(10) STATIC WATER LEVEL	
Rotary Mud Cable Push Probe	Date SWL(psi) + SWL(ft) Existing Well / Predeepening	
Other Sante	Completed Well	
(4) TYPE OF HOLE:	Flowing Artesian?	
	Depen water was first tound	
Ouncased Temporary OCased Permanent	SWL Date From To Est Flow SWL(psi) + SWL(ft)	
OUncased Permanent OSlope Stability		
Other;		
(5) USE OF HOLE	(11) SUBSURFACE LOG Ground Elevation	
· · · · · · · · · · · · · · · · · · ·	Material From To	
Soil somple	5/17-03	
	met-file saved 3 5	
	Gravelly condis 10 20	
(6) BORE HOLE CONSTRUCTION Special Standard Attach copy)		
Depth of Completed Holo <u>50</u> ft.	ned FM sand 35 45	
BORE HOLE SEAL sacks/ DiaTo Material From To Arat lbs	doy 45 50	
┟──┼──┼──┼──┼──┼──┼		
	Date Started 110-25-18 Completed 11-25-18	
Backfill placed from ft. to ft, Material Filter pack from ft. to ft, Material Sizo	(12) ABANDONMENT LOG:	
Filter pack from ft. to ft. Material Sizo	sacks/ Material From To Arnt Ibs	
(7) CASING/SCREEN		
	CLAPE O SU 18	
Casing Screen Dia + From To Gauge St Piste Wid Thrd		
(8) WELL TESTS		
O Pump O Bailer O Air O Flowing Artesian		
Yield gal/min Drawdown Drill sten:/Pump depth . Duration(hr)		
	1 accept responsibility for the construction, deepening, alteration, or abandonment	
Temperature°F Lab analysis 🛄 Yes By	work performed during the construction dates reported above. All work performed	
Supervising Geologist/Engineer during this time is in compliance with Oregon geotechnical hole c standards. This report is true to the best of my knowledge and belief.		
Water quality concerns? Yes (describe below)		
From To Description Amount Units	License/Registration Number 10609 Date 10-35-18	
	First Name Last Name	
	Affiliation	

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#### STATE OF OREGON GEOTECHNICAL HOLE REPORT

(as required by OAR 690-240-0035) Instructions for completing this report are on the last page of this form.

1 0 1	
(1) OWNER/PROJECT: Hole Number <u>Cc - 18 - 18</u> Name <u>CC</u>	(9) LOCATION OF HOLE (legal description)
Address 25351 3 Barlyw Road	County <u>Clackana</u> September 1/4 of the <u>NE</u> 1/4 Tax Lot <u>41E070/00</u>
City ALATORIC State OR Zip 97002	Tax Man Number
(2) TYPE OF WORK	Tax Map Number     Lot       Lat     ''' or   DMS or DD
ØNew □ Deepening □ Alteration (repair/recondition) □ Abandonment	Long°' or DMS or DD
	Street Address of Well (or nearest address) 25351 Barlow Rd
(3) CONSTRUCTION METHOD:	Allrora, OR
□ Rotary Air □ Hand Auger □ Hollow Stem Auger □ Rotary Mud □ Cable Tool □ Push Probe □ Other	Map with location Identified must be attached
(4) TYPE OF HOLE:	(10) STATIC WATER LEVEL:
Uncased Temporary     Cased Temporary     Uncased Permanent     Slope Stability     Other	fl, below land surface. Date
	Artesian pressuro lb. per square inch. Date
(5) USE OF HOLE:Sample	(11) SUBSURFACE LOG:
	Ground Blovation
	Material Description From To SWL
(6) BORE HOLE CONSTRUCTION:	3/17 0 5
Special Standard DYes (attach copy) Depth of Completed Hole 20 ft.	JANCH ANENCAS 5 15
HOLE SBAL	gravely stands some 15 28
Diameter From To Material From To Amount Sacks or Ibs	Sandy gravel 25 40
	mud-Flue sand 40 50
	slity sand SU 60
· · · · · · · · · · · · · · · · · · ·	
	Date Started 10-22 - 18 Date Completed
······································	
Backfill placed from ft, to ft, Material	(12) ABANDONMENT LOG:
Filtor Pack placed fromft. toft. Material Size	Material Description From To Sacks or Pounds
	But 1/2 0 60 19
(7) CASING/SCREEN:	
Diameter From To Gauge Steel Plastic Wolded Threaded	
Stot Size	Date Started 10.22.16 Date Completed 10.22.16
(8) WELL TEST:	Professional Certification
🗆 Pump 🔲 Bailer 🗌 Air 🔲 Flowing/Artesian	(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or professional engineer).
Permeability Yield OPM	
Conductivity PH	I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed
Temperature of water •F/C Depth artesian flow found ft.	during this time is in compliance with Oregon's geotechnical hole construction
Water water analysis done? [] Yes [] No	standards. This report is true to the best of my knowledge and belief.
By whom?	License or Registration Number 20605
Remarks:	
	Affiliation 4 17 Services
······································	

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER

# STATE OF OREGON GEOTECHNICAL HOLE REPORT (as required by OAR 690-240-0035) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT: Hole Number <u>Ce 18.19</u> Name LZC	(9) LOCATION OF HOLE (legal description) County CLCC LOMCESTP 4 Nors Rango 1 (For W W.M.
Address 25351 5 Barlow Road	Sec JE 1/4 of the NE 1/4 Tax Lot 41E DICLOC
City ALLTOTA State DR ZID 97002.	Tax Map Number Lot
(2) TYPE OF WORK	Tax Map Number         Lot           Lat         " or OMS or DD
∠New □Deepening □ Alteration (repair/recondition) □Abandonment	Long°' or DMS or DD
	Street Address of Well (or nearest address) 25351 Barlins Rd
(3) CONSTRUCTION METHOD:	Auxoro, OR
□ Rotary Mud □ Cable Tool □ Push Probe □ Other Son L	Map with location identified must be attached
(4) TYPE OF HOLE:	(10) STATIC WATER LEVEL:
Uncased Temporary Z Cased Temporary     Uncased Permanent D Slope Stability Other	ft. below land surface. Date
(5) USE OF HOLE: South South	Artesian pressure lb. per square inch. Date
(5) SEC OF HOLE:O(1) II IC	(11) SUBSURFACE LOG:
<u> </u>	Ground Elevation
· · · · · · · · · · · · · · · · · · ·	Material Description From To SWL
(6) BORE HOLE CONSTRUCTION:	SIT 05
Special Standard 🗆 Yes (attach copy) Depth of Completed Hole 60 ft,	Five Sawel 5 10
	Barry gravel 10 25
HOLE SEAL Diameter From To Material From To Amount Sacks or Ibs	greatery sciel some 25
	Sards some greats 40 55
	sands some grends 40 55 solty 5454 55 60
	3117 2194 - 30 - 00
	Date Started 10.22.18 Date Completed 10.22.28
	(12) ABÁNDONMENT LOG:
Backfill placed from ft. to ft. Material	
Filter Pack placed fromft. toft. MaterialSize	Material Description From To Sacks or Pounds
(7) CASING/SCREEN:	Durt chils 0 60 20
(7) CASHIO/SCREEN.	
Diameter From To Gauge Steel Plastic Welded Threaded	
	1)
Screen:	
Słot Size	Date Started 10-22.18 Date Completed 10-22.18
(8) WELL TEST:	Professional Certification
🗆 Pump 🔲 Bailer 🖾 Air 🔲 Plowing/Artesian	(to be signed by a licensed water supply or monitoring well constructor, or Oregon
Permeability Yield GPM	registered geologist or professional engineer).
ConductivityPH	I accept responsibility for the construction, alteration, or abandonment work
Temperature of water • F/C Depth artesian flow found ft,	performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction
Water water analysis done? I Yes I No	standards. This report is true to the best of my knowledge and belief.
By whom?	
Depth of strata analyzed. Fromft. toft.	License or Registration Number 10639
Retnarks:	Signed Inton Date 10.22.14
<u> </u>	Affiliation
<u> </u>	

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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#### STATE OF OREGON MONITORING WELL REPORT (as required by ORS 537.765 & OAR 690-240-0395)

WELL LABEL # L	130502
START CARD #	1040144

Company       State       <	(1) LAND OWNER Owner Well I.D. MW !	(6) LOCATION OF WELL (legal descript County ( Jackar Group 4 No Ran	ion)
Address       15 351       5.       Tool Out Algad         TYPE OF WORK [2]New       Despening       Conversion         Alleration (regarification)       Despening       Conversion         Alleration (regarification)       Despening       Conversion         Brown An [] Rokey Mal       Cable       The Map Mumber       Lat       or         Conversion       Conversion       ACStreet enders of vell       Neuronal enders         O PORLING MERTHOD       Despening       Conversion         O CONSTRUCTION       Provide Article       Date Studies         Period       To       Date Studies       Date Studies         OR ONLINGENT/VALIT       Abore Greend       From       To         Material       Diameter       14       Prom       To         Dorph of Completed Well       Diameter       16       Date State       Date State         OB ORE HOLA       Diameter       To       Date State       Date State       Date State         State       Date State       Construction       State       Date State       Date State         Or ONT TWE OP OP       To       Date State       Date State       Date State       Date State         State       Date State       Date State <td></td> <td></td> <td></td>			
City       Can bey       State       C       210       Can bey       State       Conversion         Alteration (topaliticecedition)       Alteration (topaliticecedition)       Alteration (topaliticecedition)       DMS or DD         Alteration (topaliticecedition)       Alteration (topaliticecedition)       Alteration (topaliticecedition)       DMS or DD         3) DRLL METHOD       Conversion       Reverse Really       Conversion       Reverse Really       SWL (bit)       + SWL(c)         Conversion       Reverse Really       Conversion       Reverse Really       Conversion       - SWL (bit)       + SWL(c)         Depth of Completed Well       Conversion       Reverse Really       Conversion       - SWL (bit)       + SWL (bit)         BORF HOLR       Date       Date       - To       - To       - Hat Place SWL (bit)       + SWL (bit)         BORF HOLR       Date       - To       - To       - Hat Place SWL (bit)       + SWL (bit)         CASING       Dia       - 2''       From       - To       - Gauge State       - Gauge S			
2) T VE OF WORK [			
Attention (capatricecondition)       Abardonment         3) DRLL METHOD       Cable			
			address
[Rotery Atr ]       [Robery Mtd ]       [Cabb ]       [C			
Reverses Robry       Othor       Sourch       Percenser Well       Date       SWL(ps)       + SWL(ft)         4) CONSTRUCTION       Percenser Well       Percenser	(3) DRILL METHOD Rotury Air Rotary Mud Cable Hollow Stem Auger Cable Mud		<u> </u>
Opening Construction       Provident with Dimension reported with Dimension report of Completed Well       Doption of Completed Well       Dopt	Reverse Rolary Other Service		L(psi) + SWL(ft)
Depth of Completed Well	(4) CONSTRUCTION Piezometer Well		
MONUMENT/VAULT       Above Ground         From       To         BORE HOLR       To         BORE HOLR       To         BORE HOLR       To         CASING       Orage         CASING       Diameter         Diameter       To         CASING       Orage         Diameter       To         CASING       Orage         Diameter       To         Gauge       Stell D         J.JNER       Diameter         Dia       From         Gauge       Stell O         Material       Steel         Stell D       17         Where       To         Stell D       17         Wrem       To         Stell D       17         Wrem       To         Stell D       17         Wrem       To         Stell D       17         Material       Steel         Stell D       17         Wrem       To         Stell D       17         Wrem       To         Diametrial       Stell D         Diametrial       Stell P			
MONUMENT/VAULT       Above Ground         Form       To         BORE HOLR       Diameter         Diameter       7"         BORE HOLR       Diameter         CASING       Diameter         CASING       Diameter         CASING       Diameter         CASING       Dia         Dia       2"         From       D         To       2"         Material       Diacel         Dia       1"         Material       Steel         Dia       1"         Material       Steel         Steal       1"         Material       Steal         Material       Steal         Steal       1"         Material       Steal         Diameter       1"         Material       Steal         Diameter       1"         Wid       The         Diameter       1"         Wid       The         Diameter       1"         Diameter       1"         Diameter       1"         Diameter       1"         Boand       Size of pack     <		1 31 A 1212D 1312 A D 1517 27 15120	
From	MONUMENT/VAULT Above Ground	isophi water was t	
Diameter <u>7</u> <sup>H</sup> From <u>To</u> <u>To</u> <u>To</u> CASING       Dia. <u>2''</u> From <u>D</u> To <u>To</u> Gauge <u>Stall</u> <u>Q</u> Wid       Thrd <u>Material</u> <u>From</u> <u>To</u> LINER       Dia.       From <u>To</u> <u>To</u> <u>To</u> <u>To</u> <u>To</u> Stall <u>Q</u> 17 <u>To</u> <u>To</u> <u>To</u> <u>To</u> <u>To</u> Neterial <u>Steal</u> <u>Plastic</u> <u>I</u> <u>To</u>		SWL Date From To Hist Flow S	$\frac{SWL(psi)}{1} + \frac{SWL(n)}{1}$
Diameter <u>7</u> <sup>H</sup> From <u>To</u> <u>To</u> <u>To</u> CASING       Dia. <u>2''</u> From <u>D</u> To <u>To</u> Gauge <u>Stall</u> <u>Q</u> Wid       Thrd <u>Material</u> <u>From</u> <u>To</u> LINER       Dia.       From <u>To</u> <u>To</u> <u>To</u> <u>To</u> <u>To</u> Stall <u>Q</u> 17 <u>To</u> <u>To</u> <u>To</u> <u>To</u> <u>To</u> Neterial <u>Steal</u> <u>Plastic</u> <u>I</u> <u>To</u>			
CASING       Dia       2''       From       D       To       ZD         Guiges       SL       4D       Wid       The       Material       Start       To         Material       Osteol       Oftastic       D       To       To       To         Dia       From       To       To       To       To       To         Grauge       From       To       To       To       To       To         Material       Osteol       Oftastic       D       To       To       To         Material       Osteol       Osteol       Osteol       To       To       To       To       To       So Net       To			
Dia       2 <sup>th</sup> From       0       To       20         Gauge       52.4       40       Wid       The       Material       From       To         Gauge       Steel       Chastic       0       10<	Diameter <u>7"</u> Prom <u>0</u> To <u>50</u>		
Dia       2 <sup>th</sup> From       0       To       20         Gauge       52.4       40       Wid       The       Material       From       To         Gauge       Steel       Chastic       0       10<			
Gauge       Size       40       Wid       Thrd         Material       Size       Gauge       Gauge       Size       Gauge       Gauge </td <td></td> <td>(8) WELL LOG Ground Elevation</td> <td></td>		(8) WELL LOG Ground Elevation	
Guige 3.2. 40       Wid Thrd Material Osteol Otlastic []         LINER       Dia.       From []       To         Dia.       From []       To         Guige 7.2. 40       Wid Thrd Material Osteol Otlastic []       Stand       Stand         SEAL 0       17       Guige 7.2. 40       Stand       Stand         Viet 7.6       Stand       Guige 7.2. 40       Stand       Stand         Stand       0       17       Guide 7.6. 20       Yes       Yes         Naterial       Stand       Grout weight       Stand       Stand       Stand         State 21       From 20       To 40       Filt TEST       Material       Stand       Size of pack       12/20         State 211       Filt TEST       Onbonded Monitor Well Constructor Certification       To 20       To 40       Flow and the more to this well and hiformation reported above are true to the best of my knowledge and belief.         Pamp       Dailer       Air       Plowing Artesian       Date Stated Constructor Certification       To 20	Dia. $U$ from $U$ To $U$	Material	From To
LINER         Dia       From       To         Grauge       Wid Thrd         Material       Osteol       Olassic         SEAL       0       17         Yeom       40       To         Material       To       50         Material       To       50         Material       To       50         SCREEN       CasingLiner       Material         CasingLiner       Material       50         Dia Sito Size       010       Size of pack         Prom       17       To       10         FILTER       Size of pack       12/12         Gower of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and beliet.         Pamp       Data Bailer       Air       Plowing Artesian         Yield real/min       Data malysis       Yes getseribe below) TDS smount       To inter to be stored on this well is in compliance with Oregon monitoring well construction, despening, alteration, or abandoment work performed on the soutbuilton datas reported above. All work performed on this well construction, despening, alteration, or abandomment work performed on this well construction, despening, alteration, or abandomment work performed on this well construction, despening, alteration, or abandomment work performed on this well is i	Gauge Jak 40 Wid Thrd	5/14	
Dia.	Material Steel Plastic 🔲 🖉		2
Dia.		0.0000000000000000000000000000000000000	-a
Dia		gravo la savo	8 24
Material       Steel       Plastic       Image: Steel       Image: Steel <td< td=""><td>Dia To</td><td></td><td></td></td<>	Dia To		
SEAL       0       17         Yrom       40       To       50         Material       13e.x)       CATPS         Anount       Grout weight       30         SCREEN       Casing/Liner       Material         Diameter       21'       From 20       To         Slot Size       CHD       Material       50         Slot Size       CHD       Material       510         Slot Size       CHD       Size of pack       12/20         GS       WELL TESTS       Casing/Liner       Plowing Artesian         Yield gal/min       Drewdown       Drill stem/Pump degth       Duration (hr)         Supervising Geologist/Engineer       Yes (describe below)       YDS smount         Prom       To       Description       Amount         Water quality concerns?       Yes (describe below)       YDS smount         Prom       To       Description       Amount         Material       Signed       Date       1024 - 18         Yield gal/min       Drewdown       Drill stem/Pump degth       Duration (hr)         Signed       Material       Smount       1024 - 18         Vield gal/min       Drewdown       Drill stem/Pump deg	Gauge Wid Thrd	SONDY GORNUL	
Hrom       40       To       50         Material       13e.J       A.IP.       Grout weight         SCREEN       Casing/Liner       Material       Screen         Diametor       21'       From       To       40       Fill         From       17       To       40       Fill       Size of pack       17/20         (5)       WELL TESTS       Oracle of mark       17/20       Completed       10 - 24 - 18         O'Pump       Bailer       Air       Flowing Artesian       Icentify that the work 1 performed on the construction, deepening, alteration, or abandomment of this well is in compliance with Oregon moniforing well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.         O'Pump       Bailer       Air       Plowing Artesian         Yield gal/min       Drewdown       Drill stem/Pump depth       Duration (hr)         Supervising Geologist/Engineer       Water quality concerns?       Yes (describe below) TDS smount       Icensit work performed on this well during the construction durates during this time is in compliance with Oregon moniforing well construction standards. Material is used a nonlying with construction construction ally?         Signed       Icense Number       106.09       Date       10 - 24 - 18         Water quality concerns?       Yes (descr	Material OSteel OPlastic		<u> 40</u>
Hrom       40       To       50         Material       13e.J       A.IP.       Grout weight         SCREEN       Casing/Liner       Material       Screen         Diametor       21'       From       To       40       Fill         From       17       To       40       Fill       Size of pack       17/20         (5)       WELL TESTS       Oracle of mark       17/20       Completed       10 - 24 - 18         O'Pump       Bailer       Air       Flowing Artesian       Icentify that the work 1 performed on the construction, deepening, alteration, or abandomment of this well is in compliance with Oregon moniforing well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.         O'Pump       Bailer       Air       Plowing Artesian         Yield gal/min       Drewdown       Drill stem/Pump depth       Duration (hr)         Supervising Geologist/Engineer       Water quality concerns?       Yes (describe below) TDS smount       Icensit work performed on this well during the construction durates during this time is in compliance with Oregon moniforing well construction standards. Material is used a nonlying with construction construction ally?         Signed       Icense Number       106.09       Date       10 - 24 - 18         Water quality concerns?       Yes (descr			
if the state is a state in the state is a state is in compliance with Oregon monitoring well construction despensing, alteration, or abandomment work performed on this well is in compliance with Oregon monitoring well construction standards. Material used and information reported above are true to the best of my knowledge and belief.         (bonded) Monitor Well Constructor Certification         Yield gal/min       Air       Plowing Artesian	SEAL 0 17	MADE FINE SANCE	
Anuount       Grout weight         SCREEN       Casing/Liner         Diametor       2'         Stot Size       10         Prom       10         From       10         From       10         From       10         Statisze       11/2/20         One Statisze       10         Operation       11/2/20         One Statisze       10         Operation       11/2/20         Operation       Size of pack         10       11/2/20         Operation       Size of pack         11/2       Date Statisze         Operation       Operation         Operation       Size of pack         11/2       Date Statisze         Operation       Operation         Operation       Size of pack         11/2       Date Statisze         Operation       Operation         Operation       Size of pack         11/2       Size of pack         11/2       Date Statisze         Operation       Air         Prometation       Operation         Password : (if filing electronically)         Signed       O			
SCREEN         Casing/Liner       Material         Diametor       21' From         Slot Size       100         Stot Size       100         To       40         Flom       100         Stot Size       110         Date Started       10-2:1-18         Completed       10:-2:4-18         Curbonded) Monitor Well Constructor Certification         1 certify that the work 1 performed on the construction, deepening, alteration, or abandomment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.         Pump       Bailer       Air         Yield gal/min       Drewdown       Drill stem/Pump depth       Duratico (hr)         Supervising Geologist/Engineer       Yes       By         Supervising Geologist/Engineer       Yes (describe below) TDS amount       To somount         From       To       Description       Amount Units         Water quality concerns?       Yes (describe below) TDS amount       Construction standards. This report is true to the best of my knowledge and belief.         License Number       Date       Password : (if filing electronically)       Signed         Signed       Yes (descripte below) TDS amount       Construction s		clay/	48
Casing/Liner       Material         Diametor       21'       From       To       40         Stot Size       100       To       40         From       17       To       100       Date Started       10-24-18       Completed       10-24-18         From       17       To       40       Fild TER       Size of pack       17/20         (s) WELL TESTS       Size of pack       17/20       (uebonded) Monitor Well Constructor Certification       1 certify that the work 1 performed on the construction, deepening, alteration, or atomoment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.         Pump       Bailer       Air       Plowing Artesian         Yield gal/min       Drawdown       Drill stem/Pump depth       Duration (hr)         Password: (if filing electronically)       Signed       Signed         Supervising Geologist/Engineer       Amount       Units         Water quality concerns?       Yes (describe below) TDS smount       Inits         From       To       Description       Amount       Units         Password: (if filing electronically)       Signed       Date         Signed       Monuntor       Date       Password: (if	Amount Grout weight		50
Casing/Liner       Material         Diametor       21'       From       To       40         Stot Size       100       To       40         From       17       To       100       Date Started       10-24-18       Completed       10-24-18         From       17       To       40       Fild TER       Size of pack       17/20         (s) WELL TESTS       Size of pack       17/20       (uebonded) Monitor Well Constructor Certification       1 certify that the work 1 performed on the construction, deepening, alteration, or atomoment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.         Pump       Bailer       Air       Plowing Artesian         Yield gal/min       Drawdown       Drill stem/Pump depth       Duration (hr)         Password: (if filing electronically)       Signed       Signed         Supervising Geologist/Engineer       Amount       Units         Water quality concerns?       Yes (describe below) TDS smount       Inits         From       To       Description       Amount       Units         Password: (if filing electronically)       Signed       Date         Signed       Monuntor       Date       Password: (if			
Diametor       21' From Zo To 40         Slot Size       010         From 17 To 40 FILTER       Size of pack 12/20         (unbonded) Monitor Well Constructor Certification       10-24-18         (unbonded) Monitor Well Constructor Certification       1 certify that the work 1 performed on the construction, deepening, atteration, or abandonment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.         Pump       Bailer       Air       Plowing Artesian         Yield gal/min       Drawdown       Drill stem/Pump depth       Duration (hr)         Supervising Geologist/Engineer       Yes (describe below) TDS amount       To servent         Water quaity concerns?       Yes (describe below) TDS amount       Units         From       To       Description       Amount         Signed       Amount       Units         Password : (if filing electronically)       Signed         Signed       Date	- 2007 (2011) — 2007 (2012)		
Slot Size	Casing/Liner Material		
From       Image: Completed       Image: Completed <thimage: completed<="" th="">       Image: Compl</thimage:>	Diametor 2 From 20 To 40		
From       To       W       Material       Size of pack       712         (5) WELL TESTS       I certify that the work 1 performed on the construction, deepening, alteration, or abandomment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.         Vield gal/min       Drawdown       Drill stem/Pump depth       Duration (hr)         Supervising Geologist/Engineer       °F Lab analysis       Yes       By         Supervising Geologist/Engineer       Yes (describe below) TDS amount       To       Amount       Units         From       To       Description       Amount       Units       Date       Date         Password : (if filing electronically)       Signed       Signed       License Number       Date       10 - 24 - 16         Water quality concerns?       Yes (describe below) TDS amount       TDS amount       I accept responsibility for the construction dates reported above. All work performed out ins true to the best of my knowledge and belief.         License Number       Date       Date       Password : (if filing electronically)         Signed       Yes (describe below) TDS amount       Amount       Units         Password : (if filing electronically)       Signed       Signed	Slot Size _010_	Date Started 10-24-18 Completed	10-24-18
From       To       W       Material       Size of pack       712         (5) WELL TESTS       I certify that the work 1 performed on the construction, deepening, alteration, or abandomment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.         Vield gal/min       Drawdown       Drill stem/Pump depth       Duration (hr)         Supervising Geologist/Engineer       °F Lab analysis       Yes       By         Supervising Geologist/Engineer       Yes (describe below) TDS amount       To       Amount       Units         From       To       Description       Amount       Units       Date       Date         Password : (if filing electronically)       Signed       Signed       License Number       Date       10 - 24 - 16         Water quality concerns?       Yes (describe below) TDS amount       TDS amount       I accept responsibility for the construction dates reported above. All work performed out ins true to the best of my knowledge and belief.         License Number       Date       Date       Password : (if filing electronically)         Signed       Yes (describe below) TDS amount       Amount       Units         Password : (if filing electronically)       Signed       Signed	in Un FILTER 1 17./	(unbonded) Monitor Well Constructor Certification	
(5) WELL TESTS         O Pump       O Bailer       Air       O Flowing Artesian         Yield gal/min       Drawdown       Drill stem/Pump depth       Duration (hr)         Image: Supervising Geologist/Engineer       •F Lab analysis Yes       By         Supervising Geologist/Engineer       •F (describe below)       TOS amount         Water quality concerns?       Yes (describe below)       TOS amount         From       To       Description         Amount       Units       License Number       Date         Password : (if filing electronically)       Signed       Date         Supervising Geologist/Engineer       Yes (describe below)       TDS amount         From       To       Description       Amount         Supervising Geologist/Engineer       Date       Date         Water quality concerns?       Yes (describe below)       TDS amount         From       To       Description       Amount         Supervising Geologist/Engineer       Date       Date         Water quality concerns?       Yes (describe below)       TDS amount         From       To       Description       Amount         Signed       Date       Password : (if filing electronically)         Signed <t< td=""><td>From To W Material Size of pack 1/20</td><td>I certify that the work I performed on the constructio</td><td>n, deepening, alteration, or</td></t<>	From To W Material Size of pack 1/20	I certify that the work I performed on the constructio	n, deepening, alteration, or
(5) WELL TESTS         Pump       Bailer       Air       Plowing Artesian         Yield gal/min       Drawdown       Drill stem/Pump depth       Duration (hr)			
Pump       Bailer       Air       Plowing Artesian         Yield gal/min       Drawdown       Drill stem/Pump depth       Duration (hr)	(5) WELL TESTS		теропса авоте вте (пре 8)
Yield galimin       Drawdown       Drill stem/Pump depth       Duration (hr)         Password : (if filing electronically)       Signed       Signed         Comperature       °F Lab analysis       Yes       By         Supervising Geologist/Engineer       Water quality concerns?       Yes (describe below) 'TDS amount       (honded) Monitor Well Construction dates reported above. All work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon monitoring well construction standards. This report is true to the best of my knowledge and belief.         From       To       Description       Amount Units'         License Number       Date         Password : (if filing electronically)       Signed	OPump OBailer OAir OPlowing Artesian		10-54-20
Signed       Signed         Signed       Signed         Supervising Geologist/Engineer       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 monitoring well construction standards. This report is true to the best of my knowledge and belief.         From       To       Description         Amount       Units       License Number       Date         Password : (if filing electronically)       Signed       Signed	Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)		
Pemperature       °F Lab analysis       Yes By       (bonded) Monitor Well Constructor Certification         Supervising Geologist/Engineer       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 monitoring well construction standards. This report is true to the best of my knowledge and belief.         From       To       Description       Amount         Prom       To       Description       Date         Password : (if filing electronically)       Signed			
Femperature			· · · · · · · · · · · · · · · · · · ·
Supervising Geologist/Engineer       work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon monitoring well construction standards. This report is true to the best of my knowledge and belief.         Water quality concerns?       Yes (describe below) TDS amount         From       To         Description       Amount         Water quality concerns?       Description         Supervising Geologist/Engineer       Description         Barborn To       Description         Supervising Geologist/Second       Description         Amount       Units         License Number       Date         Password : (if filing electronically)         Signed       Description		· · ·	alteration or abandonment
Supervising Geologist/Engineer       work performed during this time is in compliance with Oregon monitoring well         Water quality concerns?       Yes (describe below) 'TDS amount         From       To       Description         Mount Units       Licenso Number       Date         Password : (if filing electronically)       Signed	Temperature "P Lab analysis [_] Y cs By	work performed on this well during the construction of	dates reported above. All
From     To     Description     Amount     Units       License Number     Date       Password : (if filing electronically)       Signed	Supervising Geologist/Engineer	work performed during this time is in compliance with	th Oregon monitoring well
Password : (if filing electronically) Signed			,
Signed	Prom To Description Amount Units	License Number Date	
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ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

STATE OF OREGON		
MONITORING WELL REPORT (as required by ORS 537.765 & OAR 690-240-0395)	WELL LABEL # L / 32	503
(25 required by ORS 351.763 & CAR (50-240-0353)	START CARD # 104	0143
(I) LAND OWNER Owner Well I.D. MUZ	(6) LOCATION OF WELL (legal descrip	
First Name Last Name Vodue	County Clacka Martin 4 NS Ra	
		lax Lot <u>4/E070700</u> .ot
City Arucora State OR Zip	Lat or "or	DMS or DD
(2) TYPE OF WORK Kew Deepening Conversion	Long ' or' or' OStreet address of well Neares	DMS or DD
(3) DRILL METHOD Reference Air Cable Hollow Stem Auger Cable Mud	25490 S. Rhoten Pe	Lucora
Reverse Rotary Other	(7) STATIC WATER LEVEL	/L(psi) + SWL(N)
(4) CONSTRUCTION Piezometer Well	Existing Welt / Predeepening Completed Well	
Depth of Completed Well <u>30</u> ft. Special Standard	Flowing Artesian?	Dry Hole?
MONUMENT/VAULT Above Ground	Deput which was	
		<b>  <u> </u></b>
	(8) WELL LOG Ground Elevation	
	Material	From To
	Bilty Sand	0 5
	sondy graved	5 10
	gnavelly Sand	10 20
Gauge Wid Thrd	cravelly sends suft	20 25
Material Osteel OPlastic		
SEAL 0' 7'	From       To       To       SWLDate       East Flow SWL(pai) $+$ SWL(pi) $+$ SWL(pi) $+$ SWL(pi)         BORE HOLE       Diameter $1''$ From $0$ To $25$ CASING $0$ To $0$ To $25$ $(8)$ WELL LOG       Ground Elevation         Gauge       Set. $40$ Wid       Thrd       Material $0$ $5$ I.INER       Dia       From       To $0$ $5$ $10$ I.INER       Dia       From       To $3$ $5$ $10$ I.INER       Dia       From       To $20$ $3$ $3$ $5$ SEAL $0'$ $1''$ $7'$ $5$ $10$ $20$ Gauge       Wid       Thrd $9$ $9$ $4$ $10$ $20$ SEAL $0'$ $1''$ $7''$ $5$ $10$ $20$ $25$ SEAL $0'$ $1''$ $7''$ $5$ $10$ $20$ $25$ SEAL $0''$ $7''$ $5$	
From _ 30 10 35 -		33 33
	·····	
· 철회 (정치····································		
		······································
First Name	Date Started 10-26-18 Completed	10-26-18
FILTER	(unbonded) Monitor Well Constructor Certification	
rion / 10 30 material 20,720 Size of pack /20	I certify that the work I performed on the constructi abandonment of this well is in compliance will	n Oregon manitoring well
(5) WELL TESTS	construction standards. Materials used and information the best of my knowledge and helief.	
	License Number 10609 Date	10-26-18
<u>Yield gal/minDrawdownDrill stem/Pump depthDuration (br)</u>	Password : (if filing electronically)	
	(bonded) Monitor Well Constructor Certification I accept responsibility for the construction, deepening	alteration, or abandonment
·	work performed on this well during the construction work performed during this time is in compliance w	dates reported above. All
Water quality concerns? Yes (describe below) TDS amount	construction standards. This report is true to the best of	f my knowledge and belief.
rrom To Description Amount Units	License Number Date Password : (if filing electronically)	
	Signed	
	Contact Info (optional)	

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ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

STATE OF OREGON MONITORING WE		WELL LABEL # L	0505	- 
(as required by ORS 537	7.765 & OAR 690-240-0395)			
	N	START CARD #04		
(I) LAND OWNED First Name	R Owner Well I.D. MW 3 Last Name Vodest	(6) LOCATION OF WELL (logal descri	iption)	Anna
	· · · · · · · · · · · · · · · · · · ·	County Clackamas Twp 4 NB 1 See 7 SE 1/4 of the NE 1/4	Tax Lot 4//	<u> </u>
Company Address 25490		tax map Number	Lot	
(2) TYPE OF WOR		Lat or or or	• • • • • • • • • • • • • • • • • • • •	
Alteration (ropain/reo	ondition) Abandomment		est address	
(3) DRILL METHO	y Mud Cable Hollow Stem Auger Cable Mud	(7) STATIC WATER LEVEL	<u>Aurora</u>	OR
the state of the s	Other Sortu	Date S	<u>SWL(psi)</u> +	SWL(A)
(4) CONSTRUCTION		Existing Well / Predespening Completed Well	┈──┤╞═╣	
Depth o	Ahove			и []
	From +3 To 2	-	_	+_SWL(0)_
			┨	
	BORB HOLE Diameter 7 From 0 To 70			
	CASING 1 Dia. 2 From 1 +3 To -40	(8) WELL LOG Ground Elevation	· · · · · · · · · · · · · · · · · · ·	
	Gauge Sun HO Wid Third	Material	<u>From</u>	10 10
	Matorial OSteel ØPlastic 🔲 🗹			
	LINER	Sanky gravels	1.0	20
	Dia. From 🗍 'To	silty grovels + sands	20	35
	Gauge Wid Thrd	grovelly sands	35	72
Dia,         From         To           Gauge         Wid Thrd         growelly sands         35         72           Material         Stoel         Oplastic         0         9	72.	75		
	Prom 1/ Bo / 1 Material Barris Charles			
	Amount Grout weight			
	SCREEN			
	Casing/Liner Material	J		
	Diameter <u>2"</u> From <u>40</u> To <u>10</u> Slot Sizo <b>210</b>			
		Date Started 10-16-18 Completed	Lot       DMS or DD         * or       DMS or DD         ress of well       Nearest address <b>Rhoten Aucora</b> OR <b>Busser Bhoten Aucora</b> OR <b>Busser Bhoten Aucora Br LEVEL</b> Date         Gepening       Date         Depth water was first found         To       Est Flow         SWI4(psi)       + SWI4(n)         Ground Elevation         rerial       From <b>Ground Elevation</b> rerial       From <b>Wells + searts</b> 20 <b>St Flow</b> 35 <b>Aucora BS Wells + searts</b> 20 <b>Wells - IS</b> Completed <b>ID-15</b> Completed <b>Well Constructor Certification</b> 1 performed on the construction, deepening, alteration, or welit is in compliance with Oregon monitoring well	-18
From 37 To 70	FILTER Material 12/20 San Size of pack	Q       n. Special Standard         Ahove       Ahove         ULT       Ahove         To       72	alteration or	
		abandonment of this well is in compliance y	with Oregon n	conitoring well
(5) WELL TESTS			acon repaireu a	boye are the to
O Pump O B Yield gal/min Dr	$\mathbf{v}$		10-17-	<u>§</u>
		Password : (if filing electronically) Signed		······································
		(bonded) Monitor Well Constructor Certification		ń
Temperatureº	F Lab analysis Yes By	work performed on this well during the constructi	on dates report	ed above, All
Supervising Geologist/En	· · · · · · · · · · · · · · · · · · ·	work performed during this time is in compliance	with Oregon	monitoring well
Water quality concorns?	Yes (describe below) TDS amount Description Amount Units	Licenso Number Date		-B- mot Collel.
		Password : (if filing electronically)	~	**
		Contact Info (optional)		

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ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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Form Version: 0.96

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STATE OF OREGON MONITORING WELL REPORT	WELL LABEL #L 130 504
(as required by ORS 537.765 & OAR 690-240-0395)	START CARD # $04 \sigma 146$
(1) LAND OWNER       Owner Well I.D.       MAN 4         First Name       Last Name       Lee         Company	(6) LOCATION OF WELL (legal description)         County (lackana5Twp ty
Rotary Air       Rotary Mud       Cable       Hollow Stem Auger       Cable Mud         Reverse Rotary       Coher       Solving	(7) STATIC WATER LEVEL Date SWL(psi) + SWL(ft)
(4) CONSTRUCTION Piezometer Well Depth of Completed Well 46 N. Special Standard MONUMENT/VAULT Above Ground From 43 To -2 BORE HOLE Diameter 7 From 0 To 85 CASING Dia. 1 <sup>th</sup> From 1 +3 To 25 Gauge Sta 40 Wid Thrd Material Osteel Plastic 10 LINER Dia. From 10 To Gauge Wid Thrd Material Osteel Plastic 10 SEAL 0 10 SEAL 0 10 Krom 46 To 35 Material Grout weight	Date       SWL(psi)       +       SWL(h)         Existing Well / Predeepening
SCREEN Casing/Liner Material Diameter <u>7</u> From <u>24</u> To <u>46</u> Slot Size <u>010</u> FIL TER From <u>23</u> To <u>46</u> FIL TER Material Sould Size of pack <u>76</u>	Date Started <u>10-18-18</u> Completed <u>10-18-18</u> (unbonded) Monitor Well Constructor Certification
From	I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief. License Number <b>IOURY</b> Date <u>IO -18-18</u> Password : (if filing electronically) Signed <b>IO -18</b> and
	Signed

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ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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STATE OF OREGON	
MONITORING WELL REPORT	WELL LABEL #1. 130 501
(as required by ORS 537.765 & OAR 690-240-0395)	START CARD # 1040145
(1) LAND OWNER Owner Weil I.D. Mw 5	(6) LOCATION OF WELL (legal description)
First Name Last Name Node/	County Clackama Rup 4 NS Range 1 DW WM
Address 25490 S. Rhotan Rd	Sec         7         SE         1/4 of the         NE         1/4         Tax Lot         4// E0.704.0           'Tax Map Number         Lot
City Aucoro State OR Zip	ital - Or DMS or DD
(2) TYPE OF WORK New Deepening Conversion	Long or BMS or DD
(3) DRILL METHOD Rotary Air Rotary Mud Cable Bollow Stem Auger Cable Mud	25351 S. Barlow Rd
Reverse Rotary Other Source	(7) STATIC WATER LEVEL Date SWL(psi) + SWL(ft)
(4) CONSTRUCTION Piezometer Well	Existing Well / Predeepening
Depth of Completed Well _ 20_ ft. Special Standard ]	Completed Well Flowing Artesian? Dry Hole?
MONUMENT/VAULT Above Ground	WATER BEARING ZONES Depth water was first found
From To	SWL Date From To Est Flow SWL(psi) + SWL(ft)
BORE HOLE	
Diameter 7 From 0 To 45	
	(8) WELL LOG Ground Elevation
	Material From To
Material OSteel Plastic	3117 0 5
	Silty Bank 5 10
	SAREY Aronels Source 10 15
	From       0       To       20       Material       From       To         La U0       Wid       Thrd       Sitel       Plastic       2       Sitel       Sitel
Gauge Wld Thrd Material OSteel OPlastic	AVAVULLY SANCH 15
	35
EXALXED TO THE FILL AND A STREET AND A ST	med - Fire Source 35
Material Bent chips	<u> </u>
「 この この に の この この この この この この この この この	<u>}</u>
Casing/Liner Material	
Diameter 2" From 2.0 To 30	
Slot Size 0/b	Date Started 10-24-18 Completed 1.0-24-18
From 17 To 30 Material Sand Size of pack 12/20	(unbonded) Monitor Well Constructor Certification I certify that the work 1 performed on the construction, deepening, alteration, or
	abandonment of this well is in compliance with Oregon monitoring well
(5) WELL TESTS	construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
O Pump O Bailer O Air O Flowing Artesian	License Number 10609 Date 10.24.18
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)	Password : (if filing electronically)
	Signed
Temperature °F Lab analysis Ycs By	(bended) Monitor Well Constructor Certification I accept responsibility for the construction, deepening, alteration, or abandonment
Temperature °F Lab analysis [] Ycs By Supervising Geologist/Engineer	work performed on this well during the construction dates reported above, All work performed during this time is in compliance with Oregon monitoring well
Water quality concerns? Yes (describe below) TDS amount	construction standards. This report is the to the best of my knowledge and belief.
From To Description Amount Units	License Number Date
	Password : (if filing electronically)
	Contact Info (optional)

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ORIGINAL - WATER RESOURCES DEPARTMENT THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Project #Y184200

Appendix D – Boring Logs –



PROPERTY NA	ME:	Lee Property
PLANT:		Canby
COUNTY/PARIS	SH:	Clackamas
STATE:		Oregon
LOCATION:	Lee	Property
LOGGED BY:	K.S	

BORING ID:	CE-18-01
COORD. SYS:	State Plane NAD 83
RIG: Terra	Sonic 150 TSI
NORTHING:	581,335.0
EASTING:	7,629,451.0
ELEVATION:	104.2
TOTAL DEPTH	<u>+:</u> 80

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-16-18 DATE COMPLETED: 10-16-18 TYPE SAMPLE: 4.0" CORE CASED TO: 80 EST. WL (ft.): 11

Depth (ft.) Soil Class. Soil Class. Class.	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
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	ML,CL	Grading to a medium brown, silty-clay with some organics, slightly moist at 6'.				
HI			0	 	N/A	0901
	SM,G W SP	Dark brown, loose, dry, silty-sand with minor gravel to 11'. To saturated, grayish-dark brown, loose gravel with some coarse sand. Gravel is round to sub-round.	50			
AD (	GW.SP	Well sorted, fine grained sand,		222	1	0902
14	GC,G M	Saturated, gray to dark brown, loose gravel with some coarse sand. Some interbeds of fine, well sorted sand.				
<u>, , , , , , , , , , , , , , , , , , , </u>		Becoming drier at 15'. Dark brown to gray, semi-consolidated, clayey-silt with some sand and gravel.				
0	GM	To moist, gray-brown, semi-consolidated silty sand with gravel and some clay.	- 55		2	0303
	GC	Slight increase in clay and consolidation. Material is a dry, poorly sorted gravel with clay, silt and fine grained sand.				
0	SM,G W	To gray, poorly sorted, loose, silty sand with gravel. Material slightly moist. Gravels are round to sub-round. Slight increase in clay towards 40'.	60		3	0904
	GW	Decrease in clay-like fines. Moist, brown-black, poorly sorted sand with gravel and cobble.			2 <u></u>	
	GW	Becoming medium-brown, loose, saturated (47'), poorly sorted, coarse grained sand and gravel with cobble. Sand becoming finer towards bottom of run.	65		4	0905
	GW,SC	Dark brown, poorly sorted sand and gravel with cobble and some clay. Material is moist, becoming wet at 55'. Slight degree of consolidation.				
		To reddish-brown, saturated, poorly sorted gravel with minor sand & cobble. Very coarse, loose and unconsolidated. Increased cobble percentage towards 65'. Gravel and cobble rounded to subrounded. Abundant 1" to #4 sized material.	65		5	0906
		GC,G M GM GM C C M GC C M GC C M GC C C M GC C C M GC C M C M	Well sorted, fine grained sand.         Saturated, gray to dark brown, loose gravel with some coarse sand. Some interbeds of fine, well sorted sand.         Becoming drier at 15'. Dark brown to gray, semi-consolidated, clayey-silt with some sand and gravel.         To moist, gray-brown, semi-consolidated silty sand with gravel and some clay.         GC       Slight increase in clay and consolidation. Material is a dry, poorly sorted gravel with clay, silt and fine grained sand.         To gray, poorly sorted, loose, silty sand with gravel. Material slightly moist. Gravels are round to sub-round. Slight increase in clay towards 40'.         GW       Decrease in clay-like fines. Moist, brown-black, poorly sorted sand with gravel and cobble.         GW       Becoming medium-brown, loose, saturated (47'), poorly sorted, coarse grained sand and gravel with cobble. Sand becoming finer towards bottom of run.         GW,SC       Dark brown, poorly sorted sand and gravel with cobble and some clay. Material is moist, becoming wet at 55'. Slight degree of consolidation.         Yery coarse, loose and unconsolidated. Increased cobble percentage towards 65'. Gravel and cobble rounded to subrounded. Abundant 1" to #4 sized material.	GC,G       Saturated, gray to dark brown, loose gravel with some coarse sand. Some interbeds of fine, well sorted sand.         Becoming drier at 15'. Dark brown to gray, semi-consolidated, clayey-silt with some sand and gravel.         To moist, gray-brown, semi-consolidated silty sand with gravel and some clay.         GM         GC       Slight increase in clay and consolidation. Material is a dry, poorly sorted gravel with clay, silt and fine grained sand.         GK       To gray, poorly sorted, loose, silty sand with gravel. Material slightly moist. Gravels are round to sub-round. Slight increase in clay towards 40'.         GW       Decrease in clay-like fines. Moist, brown-black, poorly sorted sand with gravel and cobble.         GW       Becoming medium-brown, loose, saturated (47'), poorly sorted, coarse grained sand and gravel with cobble. Sand becoming finer towards bottom of run.         GW,SC       Dark brown, poorly sorted sand and gravel with cobble and some clay.         Material is moist, becoming wet at 55'. Slight degree of consolidation.         GW,SC       To reddish-brown, saturated, poorly sorted gravel with minor sand & cobble. Very coarse, loose and unconsolidated. Increased cobble percentage towards 65'. Gravel and cobble rounded to subrounded. Abundant 1" to #4 sized material.	Well sorted, fine grained sand.         Saturated, gray to dark brown, loose gravel with some coarse sand. Some interbeds of fine, well sorted sand.         Becoming drier at 15'. Dark brown to gray, semi-consolidated, clayey-silt with some sand and gravel.         To moist, gray-brown, semi-consolidated silty sand with gravel and some clay.         GM         GC       Slight increase in clay and consolidation. Material is a dry, poorly sorted gravel with clay, silt and fine grained sand.         To gray, poorly sorted, loose, silty sand with gravel. Material slightly moist. Gravels are round to sub-round. Slight increase in clay towards 40'.         GW       Decrease in clay-like fines. Moist, brown-black, poorly sorted sand with gravel and cobble.         GW       Becoming medium-brown, loose, saturated (47'), poorly sorted, coarse grained sand and gravel with cobble. Sand becoming finer towards bottom of run.         GW, SC       Dark brown, poorly sorted sand and gravel with cobble and some clay. Material is moist, becoming wet at 55'. Slight degree of consolidation.         GW, SC       To reddish-brown, saturated, poorly sorted gravel with minor sand & cobble. Very coarse, loose and unconsolidated. Increased cobble percentage towards 65'. Gravel and cobble or unded to subrounded. Abundant 1" to #4 sized material.	Well sorted, fine grained sand.       Saturated, gray to dark brown, loose gravel with some coarse sand. Some interbeds of fine, well sorted sand.         Becoming drier at 15'. Dark brown to gray, semi-consolidated, clayey-silt with some sand and gravel.       To moist, gray-brown, semi-consolidated silty sand with gravel and some clay.         GM       To moist, gray-brown, semi-consolidation. Material is a dry, poorly sorted gravel with clay, silt and fine grained sand.         GC       Slight increase in clay and consolidation. Material is a dry, poorly sorted gravel with clay, silt and fine grained sand.         To gray, poorly sorted, loose, silty sand with gravel. Material slightly moist. Gravels are round to sub-round. Slight increase in clay towards 40'.       60       20       3         GW       Decrease in clay-like fines. Moist, brown-black, poorly sorted sand with gravel and cobble.       65       30       4         GW       Becoming medium-brown, loose, saturated (47'), poorly sorted, coarse grained sand and gravel with cobble. Sand becoming finer towards bottom of run.       65       30       4         GW, SC       Dark brown, poorly sorted sand and gravel with cobble and some clay. Material is moist, becoming wet at 55'. Slight degree of consolidation.       65       10       5         Very coarse, loose and unconsolidated. Increased cobble percentage towards 65'. Gravel and cobble rounded to subrounded. Abundant 1" to #4 sized material.       5       5

(60'-	1001		0907
67')	(60'- 67')		
ds bottom	- 0	N/A	0909
	ds bottom	ds bottom	ds bottom

PROPERTY NAME: Lee Pro	perty BORING ID:	CE-18-02 MW #3	DRILLER: Holt Services, Jeff Jones
PLANT: Canby	COORD. SYS	: State Plane NAD 83	DRILL METHOD: SONIC
COUNTY/PARISH: Clackan	as <u>RIG:</u> Terra	Sonic 150 TSI	DATE STARTED: 10-16-18
STATE: Oregon	NORTHING:	580,859.0	DATE COMPLETED: 10-16-18
LOCATION: Lee Property	EASTING:	7,629,447.0	TYPE SAMPLE: 4.0" CORE
LOGGED BY: K.S.	ELEVATION:	106.7	CASED TO: 70
	TOTAL DEPT	<u>'H:</u> 75	<u>EST. WL (ft.):</u>

Picture # Depth (ft.)

	OL	Loose, dark brown topsoil with organics down to 2'.				
	ML	Grading to semi-consolidated, dark brown soil with organics. Material becoming moist at 7' and changing to dark brown, silty clay becoming sandy to 12'.	0	0	N/A	091
	SP	Dark brown-black, loose, clean, wet, well sorted, fine grained sand			7	
	GW	Clean, loose, brownish black sand and gravel.		111		091
d	GC,G M	Material becoming consolidated at 15'. Dark brown, clayey-silt with some gravel. Moist, somewhat dense, sticky and turning gray towards bottom of run.	- 45	- 5 -	8	031
0	GM,G C	Similar to above. Greenish-gray, dense, consolidated clays and silts with gravel. Material will present challenges to operations, high waste factor due to clay/silt matrix.	40		9	091
	1L,CL	Dense, becoming increasingly moist. "Till-like" material consisting of gray, silty-clay.			10	
G	GM,G C	To semi-consolidated, brown-gray, silty-clay with gravel. Moist and becoming drier at 35'.			11	
d	GM,G C	To consolidated, dense gravels caught in silt-clay matrix. Material is moist with some clay nodules present. Difficult material to process.	40	-15 - 		091
	GW	Decrease in clay-like fines. Moist, brown-black, poorly sorted sand with gravel and cobble.			1000	
d	GM,G C	Similar to above. Material is stiff/sticky. Gravel and cobble reside within silty-clay matrix. Particles continue to be round to sub-round. Color changing to reddish-brown/rusty-brown at 48', decrease in silt.	40	_20 _	12	091
	GW	Medium brown, poorly sorted, loose, coarse and and gravel. Moist to saturated at 57'. Abundant 1" to #4 gravel. Material staying similar to 65' with increase in medium-grained sand. Material staying loose, clean with rounded to subrounded gravels.	65	-10 -	13	N/A

65 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	GM,G C	Increase in medium-brown silt/clay. Semi-consolidated cobbles and gravel in silty matrix, becoming loose and wet towards bottom of run.	55	-20	14	0918
	GW	To dark brown, loose, poorly sorted sand and gravel. Wet with abundant 3/4" to #4 gravel.			15	0040
75	CL	Stiff, consolidated, brown to blue-gray clay, some silt. Dense. EOH			N/A	0919

PROPERTY NAM	<u>ME:</u> Lee Property
PLANT:	Canby
COUNTY/PARIS	<u>H:</u> Clackamas
STATE:	Oregon
LOCATION:	Lee Property
LOGGED BY:	K.S.

BORING ID:	CE-18-03
COORD. SY	State Plane NAD 83
RIG: Ten	a Sonic 150 TSI
NORTHING	581,097.0
EASTING:	7,628,950.0
ELEVATION	l: 102.6
TOTAL DEP	<u>'TH:</u> 75

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-17-18 DATE COMPLETED: 10-17-18 TYPE SAMPLE: 4.0" CORE CASED TO: 70 EST. WL (ft.):

Depth (ft.) Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
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<u> </u>	OL	1' dark-brown topsoil.					
	ML,CL	Transitioning to a medium-brown silty-clay towrds bottom of run. Organics throughout. Becoming moist at 7.5', 1' layer of well sorted medium-grained sand becoming finer, turning to a wet silt with some clay 10'. Wet at 10'.		0	N/A	0920	
	SP,GW	Dark brown/black, well sorted sand transitioning to poorly sorted gravels, round to sub-round with minor silt and clay.					
	GM,G	Gray, dense (hard) silty clay with gravel. Dry.			16	0921	
	GM,G C	Moist, blue-gray, sand and gravel residing in silty-clay matrix. Somewhat consolidated. Material chaning to brown towards end of run.	- 55 -	-20		0021	
	GM,G C	Similar to above. Becoming slightly less consolidated and cleaner towards bottom of run. Material is moist/wet.					
	GW	Similar to above with increased coarse sand. Material somewhat loose. Medium-brown, poorly sorted, sand and gravel with cobble and some clay.	60	_20 _		17 0922	
	GW	Medium-brown, damp, poorly sorted sand and gravel with cobble. Round to subround, material cleaner than previous 5'.			1		
	GW	Saturated, poorly sorted, loose gravels with coarse sand. Abundant gravel (R to S.R.), some Fe staining at 48'.	60	_15 _	5 18	0923	
	GW	Similar to above. At 41' a 1' lense of clean, well sorted, fine-grained sand. Abundant 1" to #4 gravel.				Constanting of	
	GW	Similar to above with increase in fine grained sand and cobble. Poorly sorted gravels with cobble and sand. Saturated at 49'.	60	_25 _ 19	19	0924	
	GW	Same as above. Increase in cobble.			20	0926	
	SP	To a brown, well sorted, clean, loose, wet, medium grained sand. Minor coarse sand in distinct layers.	- 60  	-30 -	21		
()		Medium brown, medium grained sand. Minor clay and silt. Grading to a					

	SP,GW	poorly sorted sand towards 65'. Becoming very loose, clean, poorly sorted sand with minor gravel.	5	 - 0 	22	0927
	• SP	To well sorted, moist, tan-brown, medium grained sand.			23	
, 🚞	CL,ML	Dense, blue-gray, silty clay. Dry. EOH at 75'.			N/A	0928

PROPERTY NA	ME: Lee Property
PLANT:	Canby
COUNTY/PARIS	<u>H:</u> Clackamas
STATE:	Oregon
LOCATION:	Lee Property
LOGGED BY:	K.S.

BORING ID	: CE-18-04
COORD. SY	<u>'S:</u> State Plane NAD 83
RIG: Ter	ra Sonic 150 TSI
NORTHING	581,600.0
EASTING:	7,628,931.0
ELEVATION	N: 102.2
TOTAL DEP	PTH: 85

DRILLER: Holt Services, Jeff Jones
DRILL METHOD: SONIC
DATE STARTED: 10-17-18
DATE COMPLETED: 10-17-18
TYPE SAMPLE: 4.0" CORE
CASED TO: 80
<u>EST. WL (ft.):</u>

Depth (ft.) Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
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	OL	2' dark-brown topsoil transitioning to a tan-brown silty-clay with some red/rust towards bottom.						
    	ML,CL	Grading to a dark brown, moist, silty-clay.	0	 - 0 	N/A	094		
	SP	Dark brown/black, well sorted, moist sand to 12.5'.						
×.	GW	Black, poorly sorted gravels with coarse to medium grained sand. Loose. Abundant 1" to #4.			36	094		
	ML.CL	Dark brown silty clay, moist.	- 55			034		
2Q	GW	Loose, wet gravels.			37			
	ML.CL	Dry, gray-brown, silty clay.		$i = i \rightarrow i$				
	GC,G M	To poorly sorted, brown-gray gravel and cobble in silt-clay matrix. Dry and somewhat consolidated.			38			
	GC,G M, GW	To tan-brown, moist, poorly sorted gravels with silts and clays. Semi-consolidated, zones of Fe staining. To wet, loose, black, medium grained sand with gravel, increase in Fe staining towards bottom of run.	60	_20 _		0949		
	GW	Tan-brown gravel with coarse sand grading to dark-brown gravels with cobble and some sand. Loose and saturated.						
	GW	Similar to above with increase in coarse grained sand, minor cobble.	60	-15 -	39	9 095		
		Medium brown, well sorted, clean, medium grained sand. Becoming coarse sands with gravel towards bottom of run.						
	SP,GW				40	095		
		To tan-brown-orange, loose, saturated, poorly sorted gravel with coarse sand. Abundant 3/4" to #4. Increased cobble towards bottom of run.	60	-29	10	000		
	GW				41	095		
	SP	Tan, moist, well sorted, clean, fined grained sand. Somewhat dense.	- 60	30 	42			

	SW	Grading to tan, medium to coarse grained sand with some #4 to #8 material. Wet to moist.	-50	43	0953
70 - 7 · · · · · · · · · · · · · · · · · ·			0	44	
30 - <u>\</u> - <u></u>	CL	Dense, hard, blue-gray, silty clay. Dry. EOH		 N/A	0954

PROPERTY NA	Lee Property			
PLANT:	Canby			
COUNTY/PARIS	SH:	Clackamas		
STATE:		Oregon		
LOCATION:	Lee	Property		
LOGGED BY:				

BORIN	G ID:	CE-18-05
COOR	D. SYS:	State Plane NAD 83
RIG:	Terra S	onic 150 TSI
NORTI	HING:	581,358.0
EASTI	NG:	7,628,505.0
ELEVA	TION:	101.3
TOTAL	DEPTH	55

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-18-18 DATE COMPLETED: 10-18-18 TYPE SAMPLE: 4.0" CORE CASED TO: 50 EST. WL (ft.):

Depth (ft.) Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
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OL,C ML	Overburden. 2.5' dark-brown topsoil, hard, compacted. To rusty-brown subsoil-dense, silty clay with some organics.				
ML	Dry, brown, silt with some clay, somewhat consolidated.	0	- 0	N/A	0940
SP	Moist, loose, clean, dark brown to black, well sorted fine grained sand.				
GW	To gray-black, poorly sorted gravels with some cobbles and sand. Material becoming increasingly consolidated and dense from 15'-20' (increased silt and clay)	55	_20	32	N/A
GM, C GW	Light brown-tan, poorly sorted gravels with coarse grained sand and some silt-clay. Material is wet and semi-consolidated. Gravels-cobbles are round to sub-round. Grading to a medium brown, loose, poorly sorted sand and gravel. Decrease in cobble percentage to 30'.	60		33	0941
GM,( C	Similar to above with increase in clay content and consolidation. Material moist to dry to 35'. Grading to clean, loose, light brown, poorly sorted sand and gravel with minor clay. Material is saturated. Increase in med. to coarse grained sand.	60	-20 -	34	0942
GW GW	Abundant gravel to 42'				
SP	To well sorted, medium grained, moist sand.	60		35	0943
(-)(-) (-)(-) ML,C	Gray silt, compact, slightly moist. Grading to gray, silty clay to dry, dense, gray clay. EOH			N/A	
				IN/A	0944

PROPERTY NAM	<u>NE:</u> Lee Property
PLANT:	Canby
COUNTY/PARIS	<u>H:</u> Clackamas
STATE:	Oregon
LOCATION:	Lee Property
LOGGED BY:	K.S.

BORING ID	): CE-18-06 M.W. #4
COORD. S	YS: State Plane NAD 83
RIG: Te	rra Sonic 150 TSI
NORTHING	G: 580,845.0
EASTING:	7,628,470.0
ELEVATIO	N: 102.3
TOTAL DE	<u>PTH:</u> 85

DRILLER: Holt Services, Jeff Jones
DRILL METHOD: SONIC
DATE STARTED: 10-18-18
DATE COMPLETED: 10-18-18
TYPE SAMPLE: 4.0" CORE
CASED TO: 80
<u>EST. WL (ft.):</u>

Depth (ft.)	Lithology	Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
1.1		· · · · · · · · · · · · · · · · · · ·						

	OL	1' dark-brown to black topsoil.				
<u></u>	ML,CL	Rusty-brown subsoil-dense, silty clay with some organics, to moist, tan, silty-clay.			N/A	
다. [11:1: 11:1:	SM	Grading to a silty-sand. Tan-brown, loose.	0	- <b>0</b>		
	GW	To clean, loose, wet, dark brown to black, poorly sorted sand and gravel. Gravels are round to subround, sand is coarse grained. Bottom of run (18'-20') has increase in silt and clay, sand becoming finer with increase in cobble.	- 50		24	0930
	GW	Dark brown-black, fine grained with gravel and minor cobble			25	
	GM,G C	Medium brown, silty clay with gravel and cobble, gravel resides in silty-clay matrix. Moist and semi-consolidated. Grading to dry, brown, dense, silty-clay with gravel. HIgh waste factor	50	_20 _	26	0931
	GW	Grading to light brown, poorly sorted, coarse sand, gravel and cobble. Some silt and clay with zone of Fe staining at 32'. Material becoming loose, unconsolidated with abundant gravel from 36' to 46'. Mostly saturated.	60		27	0932
			60	_30	28	0934
/-/-)		Blue-gray, moist, silt with some clay. Semi-consolidated, high silt content.			N/A	
\-\-\ \-\-\	ML,CL		0	- 0 	29	
•		Medium brown, loose, clean, medium grained sand with minor gravel and coarse grained sand. Moist			8	0937

SW			30	1
				0938
		5 0		0.500705
	Similar to above with decrease in gravel		6	
sw			31	
		2 0		
<u> </u>	Compact, dense, gray silt with some clay. Moist EOH			0939
				0000
CL,ML		00	N/A	
-/-/-/				

PROPERTY NAME:		Yoder Property
PLANT:		Canby
COUNTY/PARIS	SH:	Clackamas
STATE:		Oregon
LOCATION: You		ler Property
LOGGED BY: K.S		

BORING ID:	CE-18-07
COORD. SYS	State Plane NAD 83
RIG: Terra	Sonic 150 TSI
NORTHING:	581,079.0
EASTING:	7,627,779.0
ELEVATION:	100.6
TOTAL DEPT	<u>H:</u> 50

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-22-18 DATE COMPLETED: 10-23-18 TYPE SAMPLE: 4.0" CORE CASED TO: 40 EST. WL (ft.):

Depth (ft.) Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
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	OL	Topsoil, dark brown, dry.				
-7-7-7	ML,CL	Tan, moist, silty-clay to gray silty-clay.			N/A	0967
***	GW	Brown, loose, wet, gravel with sand and some cobble.	60	-30	55	
41, 61 11, 61 11, 61	GC,G M	To dry, dense, greenish-gray gravel in silty-clay matrix. Hard, compact.	40	-30 -	56	0968
	GC,G M,GW	To semi-consolidated, moist, brown gravel with silts, clays and sand.				
	GW	Becoming a saturated (25') loose, poorly sorted gravel with abundant 1" to #4.	- 55-	-25 -	57	0969
	GW	To loose, tan-brown, sand with some gravel. Sand is medium grained with some coarse grained sand. Clean.				
0000	GW	To loose, medium brown, gravel with sand. Abundant 1" to #4 material.	20	- 5	58	0970
-1-1-	SM, CL	Semi-consolidated, dry, dense silt with minor clay. Changing at 45' to a greenish-gray silt then to gray-green, compacted silts and clays. EOH	0		59	0971

PROPERTY NA	ME:	Goby Property
PLANT:		Canby
COUNTY/PARIS	SH:	Clackamas
STATE:		Oregon
LOCATION:	Gol	by Property
LOGGED BY:	K.S	

BORING ID:	CE-18-08
COORD. SY	S: State Plane NAD 83
RIG: Terr	a Sonic 150 TSI
NORTHING:	580,815.0
EASTING:	7,627,398.0
ELEVATION	99.9
TOTAL DEP	TH: 40

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-23-18 DATE COMPLETED: 10-23-18 TYPE SAMPLE: 4.0" CORE CASED TO: 40 EST. WL (ft.):

Lithology	Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #
	OL	Dark-brown to black topsoil.				
/-/- /-/-	ML,CL	Medium brown, moist, silty-clay. Dense	0	- 0	N/A	0972
	GW	Dark gray, loose, wet gravel with sand and some cobble.				
111	GM,G C	Becoming slightly consolidated with increase in silt and clay, gray. Becoming tan-brown from 12.5' to 15'.	60	_20 _	60	0.0000
<b>₽</b> ₽	GW	Loose, wet gravels.				0973
	CL	Gray-green clay.			61	1
	GC	Light brown, semi-consolidated gravel with silt and clay.				
		Loose, sand with gravel. Becoming saturated at 27'. Sand is coarse grained,				0974
	GW	increase in cobble towards 30'.	- 50	20	62	
••••	ML	Well sorted, medium grained sand. Tan-brown.				0975
$\frac{1}{2}$	ML.CL	Stiff, dense, blue-gray silty clay. Moist. EOH	0	_0	N/A	

PROPERTY NA	ME:	Goby Property
PLANT:		Canby
COUNTY/PARIS	SH:	Clackamas
STATE:		Oregon
LOCATION:	Gol	by Property
LOGGED BY:	K.S	

BORING ID	CE-18-09
COORD. SY	<u>'S:</u> State Plane NAD 83
RIG: Ter	ra Sonic 150 TSI
NORTHING	581,017.0
EASTING:	7,626,949.0
ELEVATION	<b>1</b> : 98.0
TOTAL DEP	PTH: 40

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-23-18 DATE COMPLETED: 10-23-18 TYPE SAMPLE: 4.0" CORE CASED TO: 40 EST. WL (ft.):

Depth (ft.)	Lithology	Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
Depth (ft.)	Lithology	0	MATERIAL DESCRIPTION	ravel %	Oversiz	ample #	-	Donth (ft )

	OL	Topsoil, dark brown to black.				
7-7-, 7-7-,	ML,CL	Medium brown, moist, silty-clay. Saturated gray silt at 5' with transition to brown silty-clay at 6'.			N/A	0977
	GW	Brown, loose, wet, gravel with sand and some cobble				1
tatatata tatatata tatatata	GC,G M	Becoming dry, dense gravel with silt and clay at 9' to semi-consolidated, brown, poorly sorted gravel with fine grained sand and silt/clay. Material is damp. Increase in consolidation at 14' becoming a dense gravel in silty clay matrix.			63	0978
	SP	To well sorted, moist, fine grained sand. Material is loose and clean				
	GW	To saturated, medium brown gravels with coarse sand and some cobble . Abundant 1" to #4.	60	-20 -	64	0980
	SP	To well sorted, medium grained, brown sand. Material grading finer with depth. Changes to dense, tan silt at 35'.	0	  - 0	65	
<u>7-7-</u> ,	CL,ML	Blue-gray silt grading to blue gray silty-clay back to blue gray silt. EOH			66	0981

PROPERTY NA	ME:	Goby Property
PLANT:		Canby
COUNTY/PARIS	SH:	Clackamas
STATE:		Oregon
LOCATION:	Gol	by Property
LOGGED BY:	K.S	t i

BORING ID	CE-18-10
COORD. SY	State Plane NAD 83
RIG: Ter	ra Sonic 150 TSI
NORTHING	580,834.75
EASTING:	7,626,540.2
ELEVATION	<b>1</b> : 99.6
TOTAL DEP	<u>PTH:</u> 47

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-23-18 DATE COMPLETED: 10-23-18 TYPE SAMPLE: 4.0" CORE CASED TO: 40 EST. WL (ft.):

Depth (ft.) Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
---	----------------------	----------	----------	----------	-----------	-------------

	OL	Dark brown to black topsoil. Dry.				
<u></u>	ML,SC	Tan, moist, silty-clay to tan-gray, moist, silt with some clay. To rusty-brown, well sorted, medium grained sand.	_0	N/A	0982	
	GW	Brown, loose, wet gravel with sand and some cobble.			_	
윈나윈나	GC	To consolidated gravels in silty-clay matrix, dense with high waste factor.			67	
	GC,G M	To semi-consolidated, poorly sorted gravels with some silt and clay to (15') poorly sorted, loose, saturated, medium brown sand and gravel. Sand is coarse grained.	- 50	_20 _	68	0984
-/-/-)	ML	Tan, dense silt with some clay. Damp.	-0	- 0	69	
		To poorly sorted gravels and cobbles with coarse sand. Loose and	- 65 -	-30 -	70	0985
	GW	unconsolidated with abundant 1" to #4. Nice material.			71	0986
			60	_20 _	72	0987
	CL	Blue-gray clay. EOH			N/A	0907

PROPERTY NA	Lapp Property	
PLANT:	Canby	
COUNTY/PARI	SH:	Clackamas
STATE:		Oregon
LOCATION: Lap		op Property
LOGGED BY: K.S		3.

BORING ID:	CE-18-11 M.W. #5
COORD. SY	S: State Plane NAD 83
RIG: Terr	a Sonic 150 TSI
NORTHING	581,371.0
EASTING:	7,626,622.0
ELEVATION	97.1
TOTAL DEP	<u>TH:</u> 45

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-24-18 DATE COMPLETED: 10-24-18 TYPE SAMPLE: 4.0" CORE CASED TO: 40 EST. WL (ft.):

Lithology	Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #
	OL	Dry, dark brown to black topsoil.			2	
	ML,CL	To moist, blue-gray silty-clay to gray silt with clay to tan silt.	0	- 0	N/A	0990
.6.2	GW	Brown, loose, wet, gravel with sand and some cobble.				
	GC,G M	To consolidated gravels in silty-clay matrix, dense with high waste factor.			6228	0.000
GM		To semi-consolidated, poorly sorted gravels with some silt and clay.	- 55 -	_20	74	099
	GW	To saturated, medium brown, poorly sorted coarse sand and gravels, some cobble. Loose, unconsolidated.	- 55 -		75	
	SM	To moist, rusty-brown, well sorted, medium grained sand with increasing silt content towards bottom of run			0992	
	SM	Similar to above. At 34' dry, dense, interbed of tan silt.		76		
	SP	Well sorted, tan-brown, fine grained sand, saturated.	0	— <b>0</b> — —	0	
TTT	ML SP	Dense, dry silt.				
	SP	Well sorted, tan-brown, fine grained sand, saturated.			10	
-/-)	CL,ML	Various interbeds of clay, silt and some fine sand. Blue-gray silts and clays. EOH			77	N/A

PROPERTY NAME:	Van Pelt Property	BORING ID: CE 18-12 (NOT	DRILLED) DRILLER: Holt Services, Jeff Jones
PLANT:	Canby	COORD. SYS: State Plane NAD	83 DRILL METHOD: SONIC
COUNTY/PARISH:	Clackamas	RIG: Terra Sonic 150 TSI	DATE STARTED: N/A
STATE:	Oregon	NORTHING: 581,366.0	DATE COMPLETED: N/A
LOCATION: N/A		EASTING: 7,627,472.0	TYPE SAMPLE: 4.0" CORE
LOGGED BY: K.S		ELEVATION: 0.0	CASED TO: 0
		TOTAL DEPTH: 0	<u>EST. WL (ft.):</u>

Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #
	Location not drilled.	50	0		

PROPERTY NA	ME: Van Pelt Property
PLANT:	Canby
COUNTY/PARI	<u>SH:</u> Clackamas
STATE:	Oregon
LOCATION:	Van Pelt Property
LOGGED BY:	K.S.

BORIN	IG ID:	CE-18-13
COOR	D. SYS:	State Plane NAD 83
RIG:	Terra S	onic 150 TSI
NORT	HING:	581,601.36
EASTING:		7,627,394.6
ELEVA	ATION:	99.7
TOTAL	DEPTH	45

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-25-18 DATE COMPLETED: 10-25-18 TYPE SAMPLE: 4.0" CORE CASED TO: 40 EST. WL (ft.):

Lithology	Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #
-	OL	Dry, dark brown to black topsoil.			2	
- and the second						

-X-X- 	ML,CL	medium grained sand to 9.5.	0 	- 0 	N/A	1011
	GW	Dark gray-black, loose, poorly sorted gravel with some cobble to gravelly sand. Abundant 1" to 3/8". Saturated.				
	CL	Blue-gray, dense interbed of silty-clay. Damp to dry.			88	
		To slightly consolidated gravel and cobble with some silt and clay.			5.	
	GM		- 65		89	
<u>HIHI</u>						1012
		To fine grained ten condicheration to loope, blue gravitate light				
	SP,ML	To fine grained, tan sand changing to loose, blue-gray silts to light brown/rusty colored fine grained sand.				
	OF, MIL		0	- 0	N/A	1013
						1010
-/-/-	ML,CL	Blue-gray silt with increasing clay content at depth. EOH				

PROPERTY NA	Lapp Property	
PLANT:	Canby	
COUNTY/PARIS	Clackamas	
STATE:		Oregon
LOCATION: La		p Property
LOGGED BY: K.		<u>.</u>

BORING ID:	CE-18-14 M.W. #1
COORD. SYS	S: State Plane NAD 83
RIG: Terra	a Sonic 150 TSI
NORTHING:	581,929.0
EASTING:	7,626,895.0
ELEVATION	99.0
TOTAL DEP	<u>TH:</u> 50

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-24-18 DATE COMPLETED: 10-24-18 TYPE SAMPLE: 4.0" CORE CASED TO: 50 EST. WL (ft.):

Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
	ravel	ravel	ravel % versize	ravel % versize Sample #

OL	Overburden. Dark-brown to black topsoil.				2
ML,CI	To gray, moist, silty clay. Saturated 10' to 13'.			N/A	099
GW	Poorly sorted medium grained sand with gravel. Loose.				-
GC	Tan, dry, poorly sorted gravel with some silt and clay. Semi-consolidated.			1-010	099
GW	To saturated, poorly sorted, loose, unconsolidated, tan sand with gravel. Some cobble and coarse sand.			78	
GC	Wet, rusty-brown, loose gravel with some coarse sand. Increased clay content and consolidation 22.5' to 25'.	- 55	_20 _		1
GC,G M	Similar to above, slight degree of consolidation. Poorly sorted gravel in sand/silt/clay matrix.			79	0998
GW	Becoming loose, saturated, gravel with some sand to brown fine grained sand with gravel and some cobble. To rusty brown, fine grained sand from 34' to 35'	60	_20 _	80	
SP	Well sorted, rusty brown, fine grained sand				0999
ML	Silt. Dense.				
SP	Clean, well sorted medium grained sand.			N/A	
SM,CI	Undesirable fine grained sands, silts and blue-gray clay. EOH	0	- 0 		100

PROPERTY NA	ME:	Van Pelt Property
PLANT:		Canby
COUNTY/PARIS	<u>SH:</u>	Clackamas
STATE:		Oregon
LOCATION: Var		Pelt Property
LOGGED BY:	K.S.	

BORING ID:	CE-18-15
COORD. SYS:	State Plane NAD 83
RIG: Terra S	onic 150 TSI
NORTHING:	582,100.0
EASTING:	7,627,407.0
ELEVATION:	100.0
TOTAL DEPTH	85

DRILLER: Holt Services, Jeff J	ones
DRILL METHOD: SONIC	
DATE STARTED: 10-25-18	
DATE COMPLETED: 10-25-18	
TYPE SAMPLE: 4.0" CORE	
CASED TO: 80	
<u>EST. WL (ft.):</u>	

Depth (ft.) Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
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OL	Dark-brown to black topsoil.				
ML,CL	Subsoil. Similar consistency to surrounding holes.			N/A	N/
SP	Tan-brown, well sorted, medium grained sands.				
GW	Dark gray to black, saturated, loose, poorly sorted gravel with coarse sand.				
GC,G M	Color change to greenish-gray. Dense cobble in silty-clay matrix to semi-consolidated gravel/cobble/silts and clays. Increase in clay 19' to 20'.	60 -	-30 - 	N//	
GC,G M	To moist to damp, light brown-gray gravel with cobbles, silts and clays. Some coarse sand.				
GW	Saturated, poorly sorted gravels. Clay content decreasing. To tan-brown, medium grained sand with gravel and some cobble.	55	-25 -	83	83 N/
SP	Tan-brown, rusty colored, fine grained sand grading to medium grained sand. Some Fe staining from 35' to 40'. Loose, clean.			84	N/A
					101
ML,CL	Blue-gray silty clay.				
ML	Dark gray silt, clean-loose.				
CL,ML	Gray clayey silt. Increased density and clay percentage to 60'.		 - 0 	N/A	101
	Blue clay	-0			<u> </u>

65 - 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7	ML	Dark gray silt.		1017
70	SP	Dark gray, medium grained sand with minor coarse grained sand.		
75	GW	Dark gray-black, medium to coarse grained sand with minor gravel. Loose and clean. EOH	 N/A	1018

PROPERTY NA	ME: Van Pelt Property
PLANT:	Canby
COUNTY/PARIS	SH: Clackamas
STATE:	Oregon
LOCATION:	Van Pelt Property
LOGGED BY:	K.S.

BORING ID:	CE-18-16
COORD. SYS	State Plane NAD 83
RIG: Terra	Sonic 150 TSI
NORTHING:	581,845.0
EASTING:	7,627,786.0
ELEVATION:	100.2
TOTAL DEPT	TH: 50

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-25-18 DATE COMPLETED: 10-25-18 TYPE SAMPLE: 4.0" CORE CASED TO: 40 EST. WL (ft.):

Lithology	Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #
	OL	2' dry, dark-brown to black topsoil. To medium brown subsoil of clay and silt. to 7.5 to clean fine to medium grained sand to 9.5.	-0		N/A	1002
	SP GW	Tan, loose, clean sand with some gravel. To wet, dark gray-black gravel with coarse and medium grained sand.				
ut ut ut ut	GC,G M	To gray, dense/consolidated "till-like" material. Becoming slightly loose towards bottom of run (20'). Material changing to a dense, stiff, tan gravel and cobble in silty-clay matrix. Difficult material to process.	50	-20	85	N/A
	GW	To saturated, medium brown, medium grained sand with some gravel and minor cobble.	45	_30	87	1003
	SP	Medium grained, well sorted, clean, rusty brown sand. Damp.				1006
	SM	Hard, tan silt to loose medium grained sand.				
-\- -\- -\- -\-	CL,ML	Blue-gray silt with increasing clay content at depth. EOH	0  	0	N/A	1010

PROPERTY NAME	Van Pelt Property
PLANT:	Canby
COUNTY/PARISH:	Clackamas
STATE:	Oregon
LOCATION: Va	an Pelt Property
LOGGED BY: K	S.

BORING ID:	CE-18-17 M.W. #2
COORD. SYS	State Plane NAD 83
RIG: Terra	Sonic 150 TSI
NORTHING:	582,106.0
EASTING:	7,628,079.0
ELEVATION:	100.5
TOTAL DEPT	Ή: 35

DRILLER: Holt S	ervices, Jeff Jones
DRILL METHOD:	SONIC
DATE STARTED:	10-26-18
DATE COMPLETE	<u>D:</u> 10-26-18
TYPE SAMPLE:	4.0" CORE
CASED TO: 30	
EST. WL (ft.):	

Depth (ft.) Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
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	OL	Dark-brown to black topsoil, dry, hard.				
	SM	Tan to rusty brown subsoil, hard. To rusty brown, fine grained silty sand, dry, loose.			N/A	
	SP,GW	Brown, fine grained sand with some gravel.	-			
	GW	Dark gray, dry, poorly sorted sand and gravel with cobble. Cobble is round to angular. Material is loose.			   91	
	GM	Similar to above with increased clay and consolidation. Poorly sorted gravels with cobble in silty clay matrix. Moist.	- 50	-25		1020
1 0 1 0 1 1 0 1 0 1 1 0 1 0 1	GM,G C	Medium brown cobble in silt-clay matrix, some gravel. Moist, consolidated, forming logs.			92	
	GW	Loose, saturated, clean, poorly sorted, rusty brown, sand and gravel with minor cobble. Sand is medium grained.	50	-50	93	1021
-/-/-/	ML,CL	Dense, moist silt to blue-gray silt to gray clayey silt. EOH		- 0	N/A	1022

PROPERTY NA	Cha Property	
PLANT:	Canby	
COUNTY/PARIS	SH:	Clackamas
STATE:		Oregon
LOCATION:	Cha	a Property
LOGGED BY:	K.S	<u>.</u>

BORING ID:	CE-18-18
COORD. SYS	S: State Plane NAD 83
RIG: Terra	a Sonic 150 TSI
NORTHING:	581,444.0
EASTING:	7,628,042.0
ELEVATION	100.6
TOTAL DEP	<u>TH:</u> 60

DRILLER: Holt Services, Jeff Jones DRILL METHOD: SONIC DATE STARTED: 10-22-18 DATE COMPLETED: 10-22-18 TYPE SAMPLE: 4.0" CORE CASED TO: 60 EST. WL (ft.):

Depth (ft.) Lithology Soil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
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	OL	Overburden. Dark-brown to black topsoil, dry, hard.				
	ML,CL	Subsoil. Tan-brown, semi-consolidated. Some organics.			N/A	0955
	SP	Tan, loose, fine-grained, well sorted, fine-grained sand.		- 0	IN//X	
••-	SM	Dark gray, silty sand with minor clay.				
5	GW	Black, moist to wet, poorly sorted gravels with sand. Loose and unconsolidated.	60		45	0956
1-1	ML,CL	Dense, gray, silty clay with hints of green. Moist.	-0	$-0^{-}$	46	0957
	GC	Dry, dense, consolidated gravel in silty-clay matrix. Grayish-green. Becoming moist towards 19'.			47	0937
	GC,G M	Semi-consolidated, wet, tan-light brown, gravel with medium to coarse grained sand, some clay/silt. Material becoming increasingly dense at 23'. Fe staining throughout.			A.	
0	GM	To medium brown, loose, saturated sand and gravel with silt. Poor recovery 28'-30'.	50	-15 -	48	0958
C	GM	Similar to above. Silty, loose gravel, some cobble.				
	GW	Tan-brown, loose, medium grained sand with gravel. Consolidation, cobble and silt content increasing to 44'.	60	-25	49	0960
	SM	Hard, dense, silty-sand.			<u>.</u>	
<u>/-</u> /	ML,CL	Tan, dense, moist, silty clay. Grading to greenish-gray silt to 50'.				121233455
	ML,CL	To gray, dense, silty clay. Moist.	0	- 0	50	0961
		To dark brown-black, silt grading to medium grained sand with minor gravel. Swirls of green-gray silt throughout length. EOH				

PROPERTY NA	Cha Property				
PLANT:	Canby				
COUNTY/PARK	SH:	Clackamas			
STATE:		Oregon			
LOCATION:	Cha	Property			
LOGGED BY:	K.S				

BORING ID	CE-18-19
COORD. SY	State Plane NAD 83
RIG: Ter	ra Sonic 150 TSI
NORTHING	581,851.0
EASTING:	7,628,522.0
ELEVATION	N: 101.4
TOTAL DEP	<u>PTH:</u> 60

DRILLER: Holt Services, Jeff Jones
DRILL METHOD: SONIC
DATE STARTED: 10-22-18
DATE COMPLETED: 10-22-18
TYPE SAMPLE: 4.0" CORE
CASED TO: 60
EST. WL (ft.):

Depth (ft.)	Lithology	ŝoil Class.	MATERIAL DESCRIPTION	Gravel %	Oversize	Sample #	Picture #	Depth (ft.)
		Ś						

	OL	Dark-brown to black topsoil, dry, hard.				
	ML,CM	Subsoil. Rusty-brown, semi-consolidated, some organics. To light brown, dry, dense, silty-clay.	-0-	0	N/A	
0.0.0	GW	Loose, dark brown to black, medium grained sand with gravel. Gravel percentage increasing with depth. Some cobble.	50		52	0962
	GM,G C	Dry, brown, gravel and cobble with fine sand, silt and clay. Somewhat dense.			<u>.</u>	
1	GM,G C	Medium brown, slightly consolidated, clayey-silt with gravel. Becoming moist to wet at 27'. Increase in cobble.	- 55-	 	52	0963
	GW	Medium brown, moist, medium grained sand with gravel. Fairly loose.			17232	10110-0010
	GM	Increased silt and clay content with slight degree of consolidation. Cobble is round to subround with some angular.	60	_30 _	53	0964
	GM,G C	Dry, brown, dense, silty clay with gravel.		54		
O C	GW	Clean, loose, rusty-brown sand and gravel. Saturated.	20	_20 _		0965
	SP	Medium grained sand. Clean, loose.			ξ.	1
$\overline{\mathbf{T}}$	ML	Tan, damp silt.	0	0	N/A	0966
	-	Gray, dense, silty-clay. Damp. EOH				1

Project #Y184200

Appendix E – Laboratory Test Data and Summary Table –



#### Appendix E - Laboratory Test Results Summary, 2018 Exploration Program Cadman Materials - Canby Phase 4

Boring	Depth Interval	Oregon Air Aggregate Degradation (ODOT TM 208) (ODOT Requirement: 30% maximum passing No. 20 Sieve; maximum sediment height 3")			Los Angeles Abrasion (ODOT TM 211, AASHTO T 96) (ODOT Requirement: 35% maximum loss at 500 revolutions)		
		% Passing No. 20 Sieve	Sediment Height (in.)	Pass / Fail	% Loss	Pass / Fail	
CE-18-01	10'-67'	9.8	0.9	Pass	18.4	Pass	
CE-18-06	9'-46'	11.7	1.1	Pass	18.9	Pass	
CE-18-10	12.5'-44'	10.4	0.8	Pass	17.9	Pass	
CE-18-13	9.5'-26'	11.3	0.7	Pass	19.4	Pass	
CE-18-14	13'-34'	14.4	1	Pass	19.4	Pass	
CE-18-17	7'-31'	11.9	0.8	Pass	18.8	Pass	
CE-18-19	10'-47'	12.2	1	Pass	18	Pass	
CE-18-04	20'-30'	16.4	0.7	Pass	19.8	Pass	
CE-18-04	30'-40'	15.5	1.5	Pass	17.2	Pass	
CE-18-04	40'-50'	16.7	1.7	Pass	16	Pass	
CE-18-05	12'-20'	20	2.4	Pass	19.4	Pass	
CE-18-05	20'-30'	16	1.1	Pass	16.3	Pass	
CE-18-05	30'-40'	16.7	1.8	Pass	16.5	Pass	
CE-18-07	17'-30'	19.1	1.3	Pass	17.5	Pass	
CE-18-07	30'-42'	16.4	1.6	Pass	17	Pass	
CE-18-18	20'-30	17.3	1.4	Pass	18.8	Pass	
CE-18-18	30'-45'	16.6	1.2	Pass	16.5	Pass	

Note: 1) Sodium Sulfate Soundness in not required for base rock, it is used for aggregates for paving rock and Portland Concrete.

#### Sodium Sulfate Soundness (AASHTO T 104)<sup>1</sup>

#### (ODOT Requirement for EAC and PCC Coarse Aggregate: 12% maximum loss at 5 cycles)

% Loss	Pass / Fail
10	Pass
13	Fail
7	Pass
12	Pass
9	Pass
9	Pass
5	Pass
10	Pass
9	Pass
14	Fail
12	Pass
6	Pass
7	Pass
12	Pass
11	Pass
13	Fail
10	Pass

	MATERIALS L	F TRANSPORTATION ABORATORY SALEM, OR 97301-4792	Page 1 of (503)986-3000 FAX(503)986-3096
ontract No.: PRIVATE	EA No.:	PRIVATE TESTING Lab	No.: 18-003328
coject: FRIVATE AGGREGAD	TE TESTING - CAD	MAN-CANBY =	1
ghway.	County	Data Sheet 1	No.:
ntractor: CADMAN-CANEY	Org Cnit:	FA No. :	
oject Manager bmitted By KURT SEIGFRIBD	Órg Unit:	Bid Item No CC Sample No.:	
terial Source:	ory ones	Qty Represe	sted.
	Sampled By	: Witnes:	sed By-
CE-Sampled 18/10/ 8 Recei	ived: 18/10/12 Te	sted: 18/10/26 Date	Reported 18/10/26
for the second sec		Use: 18-01 10-20' F	INE AC AGGR
	and the second se	REPORT - FACAG Si	ze:
Test Test	i - 1 - Lab	T 84 F. Grav	T 85 C. Grav
T 176 S.E	2	Bulk.	Bulk:
T 89 1 L   T 90 P		S.S.D.: Appar.:	S. 3. D
T 335 TLI Frau.		Absorp :	Appar : Absorp
TM 226 Dust/Clay	9	T 104 Soundness	- TM 208 Degrade -
TM 227 Cleanness		CA: FA:	- IM 200 Degrade -
TH 279 Elong pct		1.5-3/4	
T JOB LINCIN A/C		3/4-3/8-	1
Total A/C		3/8 #4:	Crse Ht:
Recention		#4 #B.	P20.
T 329 Moisture		#8 #16:	Fine Ht.
T 27/11		#16-430:	P20:
Gieve Passit	10 Passing 90 N	#30-#50:	
2.5	90 1	- T 96 Abrasion	T 21 Impurity
1.5	77 4		LIAUC #
1 4	76 1	- T 335 Fracture	T 112 Friables -
3/4	63.8	DF 1.0	WE'D AVG
1/2	54 1	5/4-	1.5 1/4-
3/8	4 2 3	1/2-	3/4-7/8
1/4	43 4	単位 。	3/8- 44
# 4	39 8	8 F	#4 #16
# 8	32 \$	T 113 Lightweight -	
# 10		COALSE	Lab
# 16   # 30	25 N	Fine	Field
# 10 # 40	18 4		
# 50	24 8	T 177 M	cro Deval
	-9.5		다. 다. 다. 가지 않는 것이다. 이렇게 가지 않는 것이다. 가지 않는 것이다. 가지 않는 것이 있는 것이 있는 것이 없다. 가지 않는 것이 없다. 가지 않 것이 없다. 것이 없다. 것이 없다. 것이 없다. 가지 않는 것이 없다. 가지 않는 것이 없다. 가지 않는 것이 없다. 것이 없 것이 없다. 것이 않지 않지 않다. 것이 없다. 않지 않지 않다. 것이 없다. 것이 없다. 것
#100	2.1 1	Giading	1 : 200

3 @ 627	20 X 20 30	MINE A MINE MUCH AND A REAL AND AND AND A	monte antenana o	man cost in
3 @ 511	=\$ 47.00	NSM - Not Sufficient Material REMARKS:	TOTAL CHARGES: S	210.00
5	1	INFORMATION ONLY		

KEVIN BROPHY - LABORATORY SERVICES MANAGER

OREGON	DEPARTMENT	OF	TRANSPORTATION	
	MATERIALS	LAB	ORATORY	

800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX(50))986 1096 

Page 1 of 1 1503)sa6-3000

Contract No.: PRIVATE Project: PRIVATE AGGREGATE TE	EA No.: PRIVATE STING - CADMAN CANE	
H_ghway:	County.	Data Sheet No.:
Contractor: CADMAN CANBY Project Manager:	Org Unit.	FA No. Bid Item No
SLOWLETED BY KURT SEIGFRIND	Org Unit - CC	Sample No
Material Source:		Qty Represented:
Sampled At: CANBY LOCATON	Sampled By.	Witnessed By
DATE Sampled 10/10/ 8 Received:	18/10/22 Tested: 18/	10/25 Date Reported: 18/10/26
Class/Type: QUALITY CONTROL	Use:	18-01 20-30' FINE AC AGGR

Field ——	Lab	- T 84 F. Grav. Bulk: S.J.D.: Appar. Absorp - T 104 Soundness C A F A:	T 85 C. Grav Eulk: S.S.D.: Appar.: Absorp. TM 208 Degrade
		1.5-3/4 5-4.3/8 3/8.44: #4.#8: #9.416	Cisc Ht: PID. Fine Ht:
Passing	Passing 92 87	#3 #16; #16-#30; #30-#50;   - T 96 Abrasion	- T 21 Impurity
	70 % 64 % 34 % 48 % 41 %	- T 335 Fracture	T 112 Friables - Wt'd Avg : 1.5 3/4: 3/4-3/F: 3/B- #4: #4 #.4:
	24 8 18 1 13 1	Coarse Fine: T 327 Mic	
	Passing	92 % 97 % 76 % 70 % 64 % 48 % 48 % 30 % 24 % 18 %	Passing       Passing       Passing       #4 #8: #8 #16: #16 #30: #30 # #50:         92 %       T 96 Abrasion       #30 - #50:         97 %       T 96 Abrasion

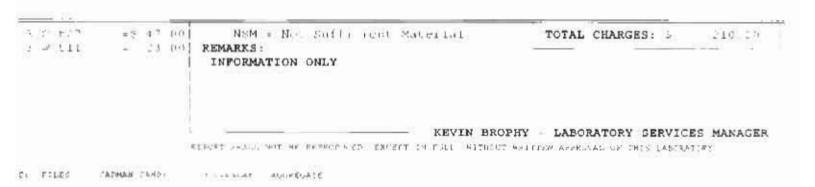
3 @ C27 3 @ C11	-5 47 00 + 23:00	
		KEVIN BROFHY - LABORATORY SERVICES MANAGER
		REPORT MAARS NOT BE ANTRODUCED EXCEPT IN FULL, NUTHTHE WAITTED AFFENTIAL OF AFTA LABORATION
inges in	A MARINE CANES	(2) (4.1) (3.1) The manufactory (1.6) (4.1) (

800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX(503)	
Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18- Project PRIVATE AGGREGATE TESTING - CADMAN-CANBY	003330
Highway County Data Sheet No.:	
Contractor: CADMAN-CANBY FA No	
Project Manager Grg Unit: Bid Item No.:	
Submitted By: KURT SFIGFRIED Crg Unit: CC Sample No.:	
Material Source: Qty Represented:	
Sampled At: CANBY LOCATON Sampled By: Witnessed By:	
DATE-Sampled 18/10/ 8 Received 18/10/22 Tested: 18/10/25 Date Reported: 18	3/10/26
Class/Type: QUALITY CONTROL Use: 18-01 30-40' FINE AC AGGR	

OREGON DEPARTMENT OF TRANSPORTATION

Fage 1 of 1

or G: Test	AGGREGATE LABORAT	ORY REPORT - FACAG	Size: T B5 C. Grav
T 176 S.E.	11414	Bulk	Bulk
T 89 L.L.		S S.D	2 S.U.:
T 9C P I.	1	Appar -	Appar .:
T 335 Tri Frac		Apport	Absorp
TM 226 Dust/Clay	. 12	- T 104 Soundness	- TM 208 Degrade
TM 227 Cleanness		CA PA-	- IN 208 Degrade
TM 229 Elong pcs		1.5-3/4	
1 308 Incin A/C		1/4-3/8	1
Total A/C		3/8- #4	and the second sec
Retention		44. 48	Crse Ht: F20:
T 329 Moisture		#4, #C #8-#16	Fine Ht
T 27/11		#1.E-#30	
Sieve	Passing Passir		8203
2.5"	Passing Passir 100 %	- T 96 Abrasion -	
2.5	57 1	- 1 96 Abrasion -	<ul> <li>T 21 Impurity —</li> <li>Place d</li> </ul>
1.5	92 1		FIACE R
1.5	8-1	T 335 Fracture -	
3/4	72		T 112 Friables
1/2	59.3		Wa ' d Avg
3/8		3/4	1.5-3.4
1,4		1/2.	3/4-3/8:
	44 k 39 k	5F. #8	3 8 #4
¥ 4 ≠ 8			N- 1.0:
⊭ a ⊭ 10	31 ¥	⊢ T 113 Lightweigh	
¥ 16		Coarse:	Lab
# 16 # 3C	25 1	Fine.	Field
# 4¢	1.2.3		
# 40 # 50			Micro Deval
#100	-2.5	Grading.	Loss 1
#200	-1 %	stading.	LOB3 1



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OREGON DEPARTMENT OF TRANSPORTATION Page 1 of (503)986-3000 800 AIRPORT RD. SE SALEM, OR 97301-4792 PAX(503)986 3096

Page 1 of 1

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Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY         Highway       County:         Johractor: CADMAN-CANBY       FA No.:         Frohect Manager:       Dig Unit:         Submitted By: ZURT SELGERIED       Dig Unit: CC         Material Source:       Oty Represented:         Sampled AL: CANBY LOCATON       Sampled By:         DATE-Gampled 16/10/ P Received: 18/10/22       Testod: 18/10/26         Class/Type: OUALITY CONTROL       Use: 18-01 40-50'	Contract No.: PRIVATE	EA No .: PRIVATE	TESTING Lab No.: 18-003331
Iontractor: CADMAN-CANEY     FA No.:       Prohect Manager:     Drg Unit:       Submitted By: ZURT SEIGFRIED     Drg Unit: CC       Material Source:     Org Unit: CC       Sampled At: CANEY LOCATON     Sampled By:       DATE-Sampled 16/10/ P     Received: 18/10/22	Project: PRIVATE AGGREGATE TE	STING - CADMAN-CAN	BY
Project Manager:     Drg Unit:     Bid Item No.:       Submitted By: ZURT SEIGFRIED     Drg Unit: CC     Sample No.:       Material Source:     Org Unit: CC     Sample No.:       Sampled At: CANSY LOCATON:     Sampled By:     Witnessed By:       DATE-Sampled 16/10/ P     Received: 18/10/22     Testod: 18/10/26	Highway	County:	Data Sheet No.:
Submitted By     ZURT SEIGFRIED     Drg Unit: CC     Sample No.:       Material Source:     Oty Represented:       Sampled AL: CANSY LOCATON     Sampled By:     Witnessed By:       DATE-Sampled 16/10/ P     Received: 18/10/22     Testod: 18/10/26	CONLIGATION CADMAN-CANBY		FA NO. :
Material Source:         Oty Represented:           Sampled AL: CANSY LOCATON         Sampled By:         Witnessed By:           DATE-Sampled 16/10/ P Received: 18/10/22         Tested: 18/10/26         Date Reported: 18/10/26		Drg Unit-	Bid Item No.:
Sampled AL: CANBY LOCATON Sampled By: Witnessed By: DATE-Sampled 16/10/ P Received: 18/10/22 Testod: 18/10/26 Date Reported: 18/10/26	Submitted By ZURT SEIGERIED	Drg Jnit: CC	Sample No.:
Sampled AL: CANBY LOCATON         Sampled By:         Witnessed By:           DATE-Sampled 16/10/ P         Received: 18/10/22         Testod: 18/10/26         Date Reported: 18/10/26	Material Source:	The Property of the States of the States	Qty Represented:
DATE-Sampled 16/10/ P Received: 18/10/22 Tested: 18/10/26 Date Reported: 18/10/26	Sampled AL: CANBY LOCATON	Sampled By:	Witnessed By:
Class/Type: OUALITY CONTROL Use: 18-01 40-50' FINE AC AGGR	DATE-Sampled 15/10/ P Received:	18/10/22 Tested: 18/	/10/26 Date Reported: 18/10/26
	Class/Type: QUALITY CONTROL	Use	: 18-01 40-50' FINE AC AGGR
지수는 것이 같은 것이 같은 것이 있는 것이 없는 것 않이	Test Field	Lab T 8	84 F. Grav T B5 C. Grav

	Lab	- T 84 P. ( Bulk: S.S.D Appar.: Absorp.: - T 104 Sov C A 1 5-3 3/4 J 3/8-1 #4-1	undness —— FA /4: /6: #4:	T B5 C. Grav. Bulk: S.S.D. Appar.: Absorp. TM 208 Degrade —
		Appar : Absorp : - T 104 Sov C A 1 5-3 3/4 3/ 3/8-1 #4-1	F A. /4: /6: #4:	S.S.D Appar.: Absorp. TM 208 Degrade —
		Absorp.: - T 104 Sov C A 1 5-3 3/4 3/ 3/8-1 #4-1	F A. /4: /6: #4:	Absorp. TM 208 Degrade — Crse Ht.
		Absorp.: - T 104 Sov C A 1 5-3 3/4 3/ 3/8-1 #4-1	F A. /4: /6: #4:	Absorp. TM 208 Degrade — Crse Ht.
		— т 104 Sov   С А   3/4 3/   3/8-1   #4-1	F A. /4: /6: #4:	TM 208 Degrade
		CA 1.5-3- 3/4.3/ 3/8-1 #4-1	F A. /4: /6: #4:	Crse Ht.
		1 5-3 3/4 5/ 3/8-1 #4-1	/4/: /⊌: #4:	
		3/4 3. 3/8- 1 #4- 1	/6: #4:	
		3/8-1 #4-1	#4:	
		#4 - 1		
			C K -	123
		#8-#.		Fine Ht
		#16-#1		P20.
assing	Passing	#10-#*		
	100 1	- T 96 Abra		T 21 Impurity -
	94 %		101011	Plate #
	91 1			1 PIRCE A
		T 335 Pr	ACTUER	- T 112 Friables -
1				WE'd Am
		199		1 1 -1 4
1				3.4.1.8-
				1 1/3 114:
131		1 3490	1015 A C 1	#4-216
				TM 225 Woodwaste
	100 10 10		Aucherdus -	Lab:
1.1	55 6			
8		2.100		Field:
0	10.1			
	125.10	1	m 307 W	
<i>6</i> .		0.000	10 0.7500 00593	8.8.8 B - 6.070 B - 6.0
		oragind:	1.4	oss: ¥
		76 % 67 % 51 % 48 % 48 % 16 % 23 % 18 % 12 % 8 % 6.1 %	67 % DF 51 % 48 1 40 1 16 % T 113 Lis Coarse 23 % 18 % 12 % 8 % Grading:	67 %     DF     1 c       51 %     3:4       48 %     1/2       40 %     24       16 %     24       16 %     24       16 %     24       16 %     5F       23 %     T 113 Lightweight -       23 %     Fibe       12 %     Grading:       12 %     Grading:

3 00 ±27	=\$ 47.00	NSM - Not Soff.cleat Material	TOTAL CHARGES: \$ 210.00
3 @ ±11	\$ 23.50	REMARKS:	
		INFORMATION ONLY	

KEVIN BROPHY - LABORATORY SERVICES MANAGER REPORT AGAI, BUT DE REPRODUCED, RECEPT ON FULL, WITHOUT APITTA ATTS THE IN THIS LABORATORY.

CT FOLKS ALWAN ANRY . C LIESLAK - AGGREGATE

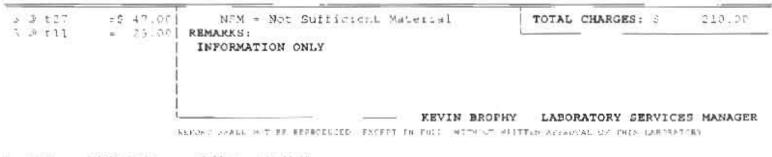
100.5 <u></u>		MATERIALS L	F TRANSPORTATION ABORATORY SALEM, OR 97301-4792	Page 1 of 1 (501)986-1500 FAX(503)986-1596
Project: PRIVATE A Highway: Contractor: CADMAN-CAS Project Manager. Subvitted By: KURT ST: Material Source:	GGREGATE TF 9BY IGFRIED ATON 8 Received	STING - CAD County Org Unit Org Unit Sampled By 18/10/22 Te	Data Sheet	No.: nted: sed Dy: Reported: 18/10/26
Q OI G:	AGGREGAT	LABORATORY	REPORT - FACAG Si	
Test       1 1/6     S.E.       T BS     1.L       T 335     TLI Frac       TM 226     Dust/Clay       TM 227     Cleanness       TM 229     Elong pcs       T 108     Incin A/C       Toral A/C     Fetention       T 329     Noisture       - T 27/11     Sieve       2 5*     2       1.5     1       3/4     1/2       3/4     1/2       3/8     1/4       # 4     # 4       # 10     # 16       # 30     # 40       # 50     #100       # 10     # 16       # 200     # 200	- Field	Lab	Appar. Ansorp.: T 104 Soundness	Sulk S.S.D Appar Absorp TM 208 Degrade Crse Ht P20 Fine Ht P20 T 21 Impurity Plate # T 112 Friables WL'd Avg : 1.6.3/4: 3/4-3/8: 3/8- #4: #4-#16: TM 225 Woodwaste - Lab Fire.d

		The second se	
3 0 t.27	-5.47.30	NSM = Not Sufficient Material	TOTAL CHARGES: 5 2.0 00
3 ≇ t11	- 23.50	REMARKS:	
		INFORMATION ONLY	

- KEVIN BROPHY - LABORATORY SERVICES MANAGER REFORM SAME AND ADVANTAGED EXCEPT 12 FOR, ADDRESS STRUCTURE ATTROVATION OF THE FARMADORY

2: POLES TADALA TIMPA : J HIERORE AGGREGATE

		MATERIALS LA	F TRANSPORTATION BORATORY SALEM, OR 97301-4792	Page 1 of (\$031986-3000 FAX(\$031986-3096
Project: PRIVATE A ighway: Contractor: CADMAN CA Project Manager: Submitted By: KURT SE Material Source: Sampled At: CANBY LOC DATE-Sampled 18/10/ Class/Type: QUALITY C	AGGREGATE TE NHY HGFRIED	STING - CADM County: Org Unit Org Unit C Sampled By:	Data Sheet M FA No.	No.: : ited ied By:
) or G:	AGGREGA	TE LABORATORY F	EPORT - PACAG Siz	20:
<pre></pre>	- Field — Passing	Passing	#4 - #8 #8 #16 #16 #30 #10-#50	S S D I Appail: Absorp: TM 208 Degrade Crse Ht: P20: Fine Ht: P20:
2 5" 2 1 5	100001117	100 k 93 k 86 k	T 96 Abrasion	T 21 Impurity
1 3/4 1/2 3/8 1/4 # 4 # 2 # 10 # 16 # 30		72 k 64 k 46 k 38 k 28 k 22 k 14 k 10 k 9 k	- T 335 Fracture DF: 1.0- 3/4: 1.2: 44 SF: 40: - T 113 Lightweight - Coarse. Fine	Wt d Avg : 1.5-3/4: 3.4.3/8: 3.6- #4: #4-#25:
8 40 8 50 8100 8200		6 % 4 % 2.9 %	Crading T 327 Mid	cro Deval cos: 1



C: FILES IADMAN (ANR) . ( FILAN ADDATE

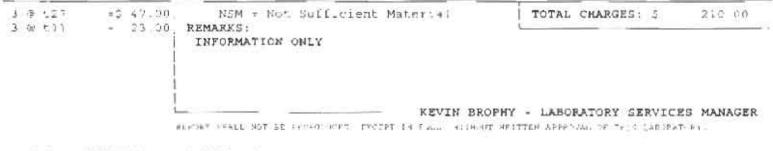
	DEPARTMENT OF TR MATERIALS LABORA AIRPORT RD. SE SALE	TORY	Page 1 of 1 (\$€3)986-3000 FAX(503)986-3096
Contract No.: PRIVATE Project. PRIVATE AGGREGATE T	EA No.: PRIV ESTING - CADMAN-	ATE TESTING Lab M	No.: 18-003334
Huthway:	County:	Data Sheet N	Jo.:
CONTRACTOR: CALMAN - CANBY	- 19- 19- 19- 19- 19- 19- 19- 19- 19- 19	FA No :	
Project Manager	Org Unit	Pid Item Nu.	
Submitted By: KURT SEICHRIED	Ore Unit: CC	Sample No.	
Material Source:		Oty Represen	nted:
Sampled At. CANBY LOCATON	Sampled By:	Witness	sed By:
DATE Sampled 18/10/ 8 Received.	14/10/22 "rested:	18/11/ S Eate	Reported: 18/11/ 5
Class/Type: COMPLIANCE		Use: 18-01 10-67' FI	
Q or G: AGGREGA	TE LABORATORY REPOR	T - FACAG Siz	:e:

G:	AGGREGATE LABORATORY REPORT - FACAG Size:						
	Test	Lab	- T 84 F. Grav	- I 85 C. Grav			
	T 176 S E		Bulk: 2 464	Bulk 2.602			
	T 89 L.L.		S.S.D + 2.559	S \$ 7 2.652			
	T 90 P.I.		AppAL 2.723	Appar . 2 739			
	T JJ: Ttl Fiac.		Absorp.: 3.56 %	Absorp.: 1.92 %			
	TM235 Dust/Clay		- T 104 Soundness	TM 208 Degrade -			
	TM227 Cleanness		CA: 10% FA: 7%	B			
	TM229 Plong pes 1		1 5-3/4 3 4 4				
	1 364		3/4-3/8: 10.4 %				
	Uncomp. Voids		3/8 #4: 16 4 1	Crse Ht: 0 9 in			
	T 19 Unit Wt		#4- #8: 6.6 %	P20: 9.8 V			
	T 129 Moisture		#8.#16 97%	Fine HU:			
	T 27/11	27 11	#16-#30: S.5 %	P20 -			
	Sieve	Fassing	#33-#50: 4.5 %	12			
	2.5"		- T 96 Abrasion	- T 21 Impurity			
	2		18.4 %	, Plate #			
	1 5		Type A	ť.			
	4		- T 335 Fracture	<ul> <li>T 112 Friables</li> </ul>			
	3/4		DF: 1.C.	WL'd Avg			
	1/2		3/4.	1 _ 4 - 1 / 4 :			
	37B		1/2:	3 4 - 3 - 5 -			
	1.74		#4:	1/8- #4			
	1 # 4 1		SF: #8:	#4 #16-			
	4 E		- T 113 Lightweight -	TM 225 Woodwaste -			
	1 # 1C		Ccarse:	l.ab.			
	1 # 16		Fine	Field			
	H = 10			1			
	# 40 1		1				
	# 50			cro Deval —			
	1 #100		Grading: L	oss: N			
	#2C0						

PHY - LABORATORY SERVICES MANAGER
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C: FILES . CADMAN LANES J. CLESLAS SCOREGATE

		MATERIALS L	F TRANSPORTATION ABORATORY SALEM. OR 97301-4792	Page 1 of (503)986-3000 FAX(503)986-3096
ontract No.: PRIV. roject: PRIVATE A	ATE	EA No.: 1	PRIVATE TESTING_ Lab	No.: 18-003363
ighway: ontractor: CADMAN+CAN roject Manage: abmitted By: KURT SET	GFRIED Y LOCATION TION	County: Org Unit: Org Unit: ( Sampled By 18/10/24 Te	Data Sheet 1 FA No : Bid Item No CC Sample No.: Oty Represen Witnes Sted: 16/10/25 Date Use: 18-6 9-20' FIND	nted: sed By: Reported: 18/10/26 E AC AGGR
or G:	ACGREGAT	E LABORATORY	REPORT - FACAG Sin	
Test	- Field -	Lab	- T 84 F. Grav	- T 85 C. Grav
T 176 S.E.	1			
T 89 L L			5.5.0	Bulk. S.S.D.
T 90 P I			Appar	Appar.
I 335 Trl Fran.				Abserp.
TM 026 Dust/Clay			T 104 Soundness -	- TM 208 Degrade -
TM 227 Clearness			CA. FA	1
IM 229 Eleng pes			1.5-3/4:	
f 105 Incin A/C			3/4-3/8:	
Total A/C			3/8- #4	Crse Ht.
Secention			1 #4- #8:	P20:
7 129 Moisture			#8 #16	Fice Ht:
			#16-#30.	PZ 0
Sieve	Fassing	Passing	#10-#50	1.2.00
2.5-	1 RDD1114	103 1	- T 96 Abrasion	T 21 Impurity
2		95 1	1 20 001001000	Plate #:
1.5		89 1		LUCE N.
1		87.5	- T 335 Fracture	T 112 Erisblag
3/4	i i	10 %	DF 10:	Wt'd Avg :
1/2		98 <b>\$</b>	3/4:	1.5-3/4:
3/8		66 %	1/2:	3/4 3/8-
1/4		61 %		
1 4		58 %	SF #8:	3,/8 - #4 : #4 -#16 :
4 8		50 %	T 113 Lightweight	
4 0 4 10		2.00 %	1 115 LIGHCWeight	IM 225 WOOdwaate
# 16		40 \$	COALSE Fine	Fre.c
4 30		20 \$	F 1.10*	Pieso.
4 40				
# 40 # 50		17.8	т 327 Ма	
2 TH		17 8		
#100			Grading L	CS8: N
#200		8 3 1		



UT FILES CADMAN-PAARY J CICCLER + A.V.+V. HIT

		MATERIALS LA	F TRANSPORTATION ABORATORY SALEM. OR 97301-4792	Page 1 of (5031936-3000 FAX(5031986-3096
ontract No.: PRIV		EA No.: 1 ESTING - CADI	PRIVATE TESTING_ Lab	No.: 18-003364
ighway:		Country	Data Sheet	No.:
UNTERCEOF: CADMAN CA	NEY	1	FA No.:	
ontractor: CADMAN CA roject Manager: ubmizted By: KURT SK aterial Source: CAN		org Unit	Bid Item No	
abmitted By: MURI SE	ICFRIED.	org Unit 4	"C Sample No -	
aterial Source: CAN	BY LOCATION	123. 2	Cty Represe Witnes sted: 18/10/26 Date	nted -
ampled AC CANNY LOS	ATION	campled By	W.tnes	acd By
ATE-Sampled	Received	18/10/24 Te:	sted: 18/10/26 Date	Reported 18/10/29
lass/Type: QUALITY C	ONTROL		Use: 18-6 20-23' FI	NE AC AGGR
or G:	AGGREGA	TE LABORATORY	REPORT - FACAG Si	ze:
- Test -	- Field -	- Lab	- T 84 F. Grav	- T 85 C. Grav
C 176 S.E.			Bulk	Bulk S.S.D
2 89 1. l.,			S S D :	, S.S.D =
7 90 P.L.			Appar Absorp	Appar
7 335 TUL Frac.			Absorp	Absorp
TM 226 Dust/Clay			- T 104 Soundness	<ul> <li>TM 208 Degrade</li> </ul>
TM 227 Cleanness			CA. FA.	
IM 223 Elong pcs			1.5-3/4:	£.
T 308 Incin A/C			3/4 3/8:	in the second second
Total A/C			378- #4:	Cipe Ht:
Retention			#4- #5:	P20:
T 329 Maisture			#B-#16:	Fine Hr:
T 27/11	Passing		#15-#30:	P20:
2 5*	Passing	Fassing	#30-#50	
		(All and the second sec	- T 96 Abrasion -	- T 21 Impurity -
1 5		100 %		Plate =
1 5		35 8	- 7 335 Fracture	T 112 Friables -
3/4		77 %	DF 1.0.	Wt'd Avg
1/2		69.1	1/1-	1 5-3/4
1 11		66 3	1.72	3/4 1/5-
1 4		el 3	41:	3/8- #4
N 4		62 1	5-1:: 4P	#4-#14
и н		57.1	<ul> <li>T 113 Lightweight -</li> </ul>	
1 1 .		1.141001 80	Coal se:	Lab
# 16		55 \$	Fine:	Field.
# SC		54 1		
# 40		100-004 83		
		10.0		are Devel
# 50		48.8	T 527 M1	CIO Deval
# 50 #100		48 %	Grading: T 327 Mi	Cro Deval

3 Q C77 = \$ 47.00 NSM = Not Suttrained Material TOTAL CHARGES: \$ 210.00 REMARKS: INFORMATION ONLY ESPECT SHALLS & REVIN BROPHY LABORATORY SERVICES MANAGER

CI FILES CARMAN CARSY . J LAR AN APPECATO

		MATERIALS LA	F TRANSPORTATION MORATORY SALEM. OR 97301-4792	Page 1 of (503/986-3000 PAX1501/986-1096
Contract No.: PRIVATE		EA No.: 1	PRIVATE TESTING Lab	No.: 18-003365
roject: PRIVATE AGGRI	EGATE TE			
ighway optractor: LADMAN-CANBY		County:	Data Sheet I FA No :	No.:
ontractor: CADMAN-CANA1 Colect Manager:		Org Unit		
ibmitted By: KURT SEIGERI	ED	Ore Date (	C Sample No :	
terial Cources CANBY LC	CATTON.		Ptri Darrada	nt ad a
mp.ed At: CANEY LCCATION	1	Sampled By	Witnes: Sted 18/10/26 Date	and By:
ATE-Sampled:	(ouesved)	18/10/24 Te:	sted 18/10/26 Date	Peported: 18/10/26
lass/Type: QUALITY CONTRO	DL		Use: 18-6 23-30' FI	NE AC AGGR
or G:	AGGREGAT	E LABORATORY I	T 84 F. Grav.	ze:
T 176 S F	Field -	Lab —		T #5 C. Grav
T 39 L.L.	5		Rulk-	SSD:
T 90 P.L.		1	Appar	Appar :
T 135 TEL Frac.			Absorp	Absorp :
TM 226 Dust/Clay			- T 104 Soundness	TM 208 Degrade
TM 227 Cleanness			CA FA	IN 208 Degrade -
TM 219 Flong pcs			1 5-3/4	
T 308 Incin A/C			3/4-3/8	10 10
Total A/C	1		3/8 - 44	Croe Ht-
Retention	í		#4- #S	P20 -
† 179 Moisture	1		1 #8-#16:	Fine Ht.
- T 27/11			4 " #16 #30	P20:
	assing	Passind	₿30 <b>#</b> 50.	
2 _ 5 "		89 1	- T 96 Abrasion	- T 21 Impurity -
2		89 1		Plate #
1.5		85 \$		
1		78 N	- T 335 Fracture	
3/9	1	72 %	DF 1 t-	WL'd Avg
1/2	1	62 %	3/4	1.5 3/4:
1,6		55 %	1/2.	3/4-3/B.
1/4		46 %	SF: #8:	3/8- #4: #4-#16:
4 4 1		42 %	T 113 Lightweight -	
# 0 # 10		4. 1	Coarse	Lab
# 10		36 1	File	FLEID
# 30		30 1		
8 40	1	87. T		

3 * 627 3 * 611	=\$ 47.20 - 23.00	NSM = Not Sufficient REMARKS: INFORMATION ONLY	Materia.	TOTAL CHARGES: S	219 00
		LECKI SHALL NOT BE REEP.DUCED EXC		OPHY - LABORATORY SERVI	

Grading:

- T 327 Micro Deval -

1055: 1

24 1

19 %

14 6 8

T PLASS CARMAN TANDY J TIPPLAK ASSAULT

# 50

#160

#200

		MATERIALS L.	F TRANSPORTATION ABORATORY SALEM, OR 97301-4792	(503)986 (000
Contract No.: PRIV Project: PRIVATE P Highway: Contractor: CADMAN+CA	GGREGATE TH	EA No.: STING - CAD County	PRIVATE TESTING Lab MAN-CANBY Data Sheet FA No	
Protect Manager	an r	Ora Dout	Rid Tran No	10 1 <b>1</b> 1
Subtitted By KURT SE	GFETED	Org Unit	Bid Item No Sample No. :	3556C
Material Source: CAN	BY LOCATION	1020041 3011303 4	OLy Represe	nted.
Sampled AL: CANBY LOC DATE Sampled: Class/Type: QUALITY C	ATION Recutved: ONTROL	Sampled By 19/10/24 Te	Cty Represe Witnes sted 19:10:26 Dare Use: 18-6 30:40' FI	sed By. Reported: 18/10/26 NE AC AGGR
			REPORT · FACAG Si	
T 176 S.E.	- Field	Lab	- T 84 F. Grav	
T 69 1. h.			S.S.D.:	S.S.D.
T 90 P I				L Appar
T 335 TLL Frac.			Appar Absorp	Absorp
TM 226 Dust/Clay			- T 104 Soundness	TM 208 Degrade
TM 227 Cleanness			CA: FA	1 0000000 000000000
TM 225 Eleng pes			1 5-3/4:	
T 308 Incin A C			1 4-3/8:	
Total A C			3 8 44	Crse Ht:
Recention 1		L.	#4 - \$8.	P20:
[ 7 329 Moisture ]		L	#8-#16	Fine Ht.:
<b>T</b> 27/11	Contraction of the second second		•   #16 #30:	P20
	Passing	Passing	#30 #50:	
2.5"		91 %	- T 96 Abrasion	- T 21 Impurity
2		91 %		Plate #.
		84 %		T 112 Friables
1/1		0.8 %	DF: 1 0:	Wtid Avg :
102		54 1	3/4-	
1/8		4 8	1/2	1/4-1 8-
1/4		40 1	6.0	3/8- 44:
# 4		35 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	#4.#16
<b>#</b> 9		27 1		TM 225 Woodwaste -
= 10			Coarse:	Lab
# 16		21 %	Fine:	Field
<b>5</b> 30		16 %	1	
# 40				
# 50		9 %	T 327 Mi	
#100 1		6 1	Grading: 1	oss: N
#200		4.5 %		

1 @ L27 1 @ t1:	-5 47 60 - 21.60	NSM = Not Sufficient Material REMARKS: INFORMATION ONLY	TOTAL CHARGES: \$ 210 00
		3.5" screen had 100% passing, 3.0" screen No 2.5" or 2.0" rock	nad 91% passing
		KEVIN BROPHY	- LABORATORY SERVICES MANAGER
C: FLIFY	TATMAN CANDI	ALTERE SALE ONT DE REPARANTE ENCORT (N.E.M.) WITHOUT APIT	TER ADDA VAL UN THIS ENBRATOPT

		MATERIALS L	F TRANSPORTATION ABORATORY SALEM, OR 97301-4792	Page 1 of (503/986-3000 FAX(503/986-3096
Contract No.: PRIV			PRIVATE TESTING_ Lab	No.: 18-003367
Project: PRIVATE A Lighway:	GUREGALE .1			1997
Contractor: CADMAN-CA	duv	County-	Data Sheet	NQ.1
Project Manageri	101	Dava (Invita)	Bid Item No	
roject Manager: Submitted By: KURT SE	GERTED	Gra Unit. (	CC Sample No	
aterial Source: CAN	BY LOCATION		Qty Heprese	nted
Sampled At - CANBY LOC.	ATICN	sampled By	Witnes	sed By:
CATE Sampled: Class/Type: QUALITY Co	Received	18/1C/24 Te	Witnes sted: 19/10/24 Date Use: 18-6 40-46' FI	Reported. 15/10/20 NE AC AGGR
) or G:	AGGREGA	TE LABORATORY	REPORT - FACAG Si	ze:
Teat	- Field -	- Lab	- T B4 F. Grav	
T 175 S.E.			<sup>1</sup> Bulk	Phillip :
1 7 89 L.L. 7 96 P.I.			5 S . D . :	S.S.D.:
7 335 Ttl Frac.				Appar .   Absorp .
TM 226 Dust/Clay		1	- T 104 Soundness -	
TM 227 Cleanness				In 200 Degrade -
TM 229 Elong pcs			1.5 3/4:	
T J08 Incin A/C			3/4-3/8:	1
Total A/C			3/8- #4:	Cise Ht.
Retention			#4 #8:	F20
T 329 Molsture			#8-#16:	Fine HL
- T 27/11			#16-#30	F20
SLEVE	Passing	Fassing	#30 #50:	
2.5-	The second states of the second s	100 \$	- T 96 Abrasion	- T 21 Impurity
2		97 8		Plate #
1.5		92 \$	1 1	
1 1		# CB	- T 335 Fracture -	T 112 Friables -
3/4		69 \$	DF: 1.0	Wt'd Avg
1/2		52 %	3/4	1.5 3/4
3/8		43 %	172	3/4-3/8:
1 1/4 1		33 %	\$4	3/8-#4.
# 4		28 %	SF \$8	44-416:
5 4		20 %		-+ TM 225 Woodwaste -
⊭ ic			Cuarse	Lat
# 16		16 %	Fine:	Field
# 10		12 %		
1 # 40     ± 50		8.1	525 BEE 10	a 9
± 50 ±100		81	the state of the second of a second sec	cro Deval
1 (Jacobian / 1)		3.4 %	l Stading: L	0.55 %
1 4200		2 1 2		

3 @ t27 3 @ t11	-\$ 4 = 2	7 00	NSM - Not Sufficient Material REMARKS: INFORMATION ONLY	TOTAL CHARGES: \$ 210 60
		2		
		1	KEVIN BROPH	Y - LABORATORY SERVICES MANAGER

 $\mathbb{D}_{1} = \mathbb{P}^{+} \mathbb{D} \mathbb{E} \mathbb{S} \qquad : \quad \mathbb{C} A \mathbb{D} \mathbb{P} A \mathbb{K} \cdot \mathbb{C} A \mathbb{A} \mathbb{P} \mathbb{S} \qquad : \quad \mathbb{D}^{+} \mathbb{C} \mathbb{P} \mathbb{S} \mathbb{L} A \mathbb{K} \qquad A \mathbb{O} \mathbb{D} \mathbb{P} \mathbb{C} A \mathbb{C} \mathbb{P}$ 

	ARTMENT OF TRANSI MATERIALS LABORATORY ORT RD. SE SALEM, O	+	/503	ge 1 of 1 )986-3635 )986-3696
Contract No.: PRIVATE Project: PRIVATE AGGREGATE TEST	EA NO.: PRIVATE	TESTING Lab	No.: 18-	003368
Highway:		Data Sheet	No.:	
이 가지에 잘 가진 것 같은 것 같은 것 같은 것 같아요. 것 같아요. 것 같아요. 것 같아요. 같아요. 것				
Protect Manager:	Orn Unit:	Hid Item A	0	
Submitted By, EURT SEIGFRIED	Org Unit CC	Samule No.	174.000 C	
Material Source: CANBY LOCATION	69.00.000.000.0000.0000	Quy Repres	ented:	
Sampled At : JANBY LOCATION	Sampled By	Witne	ased By	
Contractor: CADMAN-CANBY Project Manager: Submitted Dy. KORT SEIGERIED Material Source: CANBY LOCATION Sampled A: CANBY LOCATION DATE-Sampled : Received: 18 Class/Type: QUALITY CONTROL	/10/24 Posted 18/ Use	18-6 50-54 Pat	e Reported: 1 Mine ac aggr	8/10/29
Q or G: AGGREGATE	LABORATORY REPORT -	FACAG	ize:	
- Test - Field - 1-				Grav
T 176 S.E.		8u1k: 3.D.:	Buik:	Ĩ.
T 59 L.L.				12
T 90 F T.	App	bar.,	Appar	13
T 349 Itl Frac.	Abso	orp.: 104 Soundness	Absorp	28
TM 226 Bust/Clay			- TM 208 D	egrade —
DM 227 Cleanness		FA:		
TM 229 Elong pos		1 5-3/4		
T 108 Incin A/C		3/4-3/8.	Contraction (1977)	
Total A/C		3/8- 44:	Cise Ht.	8
Retention	1.00	¥4- #8:	P20.	10
T 309 Moisture		年日 年1.6 :	Fine Ht	

1 1 and the state.			ADSOLD.1	Anschipt
TM 226 Dust/Clay			T 104 Soundness	- TM 208 Degrade
IN 227 Cleanness			C Α. Γ Λ:	1 B
TM 229 Elong pes			1 5-3/4	
1 7 308 Incin A/C			3/4-3/8.	
Total A/C			3/8- 44:	Crse Ht.
Retention		1	44 - #8:	P20.
T 309 Moisture			<b>年日 年</b> 11日	Fine Htt
T 27/11			#16-#30:	P20
Sieve	Passing	Passing	# ¥0 #50:	
5 K +	1000 CHUG25	ACT-54.032037.56389	- T 96 Abrasion	- T 21 Impurity
1 2 1		1		Place #
1.5		1	ř ř	
1		i	- T 335 Fracture	T 112 Friables -
1 3/4			DF: 1 0:	Whid Avg -
1 112		162 6	3/4	1 5 3/4.
3.6		100.1	1/2	1/4-3/8
1 14 1		22.2	= 1	1/8- #4
1 4 1		99 %	2F: #9	単立・単した。
# 4 # 3 # 10		97 %	T 113 Lightweight -	TM 225 Woodwaste
# 10			Coarse:	Jab-
<b>#</b> 16		92 %	Fine:	Field
01. R		66 %	101235080A	
# 4D		1	ř.	
# 50		46 %	- T 327 Mi	cro Deval
#100		21 1	Grading: I	oss l
#200		9.0 €		49 / / · · · · · · · · · · · · · · · · ·

10 C 10 C 10 C	t 27		7 0G	NSM + Not Sutficier:	Material	TOTAL CHARGES: \$	70 QQ
	ti:	=	2.00	REMARKS: INFORMATION ONLY			
			G	Albier Stars Not 32 REPRISED. In		OPHY - LABORATORY SERVICE	
5. F1	1.8.5		ND.	J VIESAR AGOVEDATE			

OREGON	DEPART	MEN	TO	F TRAN	SPO	RTATION
	MATI	ERIA	LS L	ABORATO	RY	
800	AIRPORT	RD.	SE	SALEM,	OR	97301-4792

Page 1 of 1 (503)986-3000 FAX(503)986 1096

EA NO .: PRIVATE TESTING Lab No .: Contract No.: PRIVATE 18-003369 Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY Highway: County: Data Sheet No. : Contractor: CADMAN CANBY FA No. Project Manager: Org Unit. Bid Iter No Submitted By: KURT SEIGFRIED Org Unit CC Sample No . Gty Represented: Material Source: CANHY LOCATION Sampled At CANBY LOCATION Eampled By: Witnessed By: Received: 18/10/24 Tested: 18/10/26 Date Reported: 18/10/20 DATE Sampled: Class/Type: QUALITY CONTROL Use: 18-6 54-70' FINE AC AGGR

or G:	AGGREGATE 1	ABORATORY RE			ze:
Test	- Field -	_ Lab	- T 84 F	. Grav	- T 85 C. Grav
T 176 S E	0		Bud k		Buik.
T 89 L L	1		5.5 0.	E	S.S.D. :
T 95 P.I.	ť		Appa:	92	Appai
T 735 Til Frac.	E		Absorp	<b>F</b> (	Absorp .
TM 226 Dust/Clay			T 104	Soundness -	TM 208 Degrade
TM 227 Clearness			C A:	F A.	
TM 229 Elong pcs	i:	14	1.5	-3/4:	i
T 338 Incin A/C	1	1	\$/4	3/B:	1
Total A/C	14	1	3/8	- #4 :	Croe Hc:
Retention		1	#4	- #8:	220
T 329 Melature			18	-#16:	Fine Ht.
- T 27/11 -			#16	#30:	P20 -
Sieve	Passing	Passing	#30	#50:	100 March 200
2.5*			T 96 A	brasion	T 21 Impurity
2					Plate 4
1.5			1		
1		1	T 335	Fracture	- T 112 Friables -
3/4	1	750 8	DF	1 0	Wt'd Avg
1/2	v	98 8	3	3/4	1,5-2/4
37R	÷.	97 8	35	1/2-	3/4-3/8
1/4	1	95 \$	3	84:	3/8- #4
4 A	1	9 . 2	SF	# 8 ÷	#4-#16
#		68 %	T 113	Lightweight -	TM 225 Woodwaste -
# 10	ľ		Coarse		Lab
# 16 J	1	ac \$	tine		Field
# 30	i i	55 1	i		
# 4-C					
<b>⊭</b> 5∛ [		10 1	Y	- T 327 Mi	cro Deval
#100 I		E %	Gradin	41 L	085 4
#20b	i	4.8 %	1	<u> </u>	

1 (9 t.27 1 (# t. 1	 47.00		nt Material	TOTAL CHARGES: S	.20,55
	10 - 01 - 01 - 01	PF0-41 Coalt 6.7 UL 6262		- LABORATORY SERVICES	

	MATERIALS LABOR	RANSPORTATION RATORY LEM, OR 97301-4792	Page 1 of 1 (503/986-3000 FAX(503/986-3096
Contract No.: PRIVATE Project: PRIVATE AGGREGATE TEST Highway: Contractor: CADMAN CANBY Project Manager. Submitted By KURT SRIGFRIED Material Source: CANBY LOCATION Sampled At: CANBY LOCATION DATE Sampled Received. 18 Class/Type: QUALITY CONTROL	ING - CADMAN County: Drg Unit. Org Unit: CC Sampled Fy.	I-CANBY Data Sheet N FA No. Bid Item No Sample No.:	No.: ited: red By: Reported: 18/10/26
Q Dr G: Test T 1 % S.E T 8% L.5 T 90 F.I T 3% Ttl Frac TM 226 Dust.Clay   TM 227 Cleanness TM 229 Elong pts TM 229 Elong pts T 308 Incin A/C Retention T 329 Moisture		Bulk	T 85 C. Grav. Bulk: S.S.D.: Appar.: Absorp.:
T 27/11 Sieve Passing 2 5* 2 1.5 1 3/4 ./2 3/8 1/4 # 4 # 5	Passing 100 k 100 k 99 5 99 5 99 5 99 5	- T 335 Fracture	Wt'd Avg 1.5-3/4 5/4-3/8- 3/8-44 #4 #16:

1 + t27 1 = t1		47 00	NSM = Not Sufficient REMARKS:	Material	' TOTAL CHARGES: \$	70.00
A 8 944			INFORMATION ONLY			
				- KEVIN BROPHY	- LABORATORY SERVICE	SMANAGER
		3	TERGIT UNALL ST ST		0.000	
e. 31.75 i	CADMAN CA	4401	- a Clastar Austriatio			

1

1

1

85 %

50 %

16 1

3 1

5 2 1

# 10

4 16

# 30

# 40

# 50

4100

#200

Coarse.

F\_ne:

Grading:

Labi

Field:

- T 327 Micro Deval -

Loss: %

OREGON DEPARTMENT OF TRANSPORTATION Page 1 of 1 MATERIALS LABORATORY (503)986-3000 FAX (503) 986-3096 800 AIRPORT RD. SE SALEM, OR 97301-4792 Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18-003371 Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY Highway: County: Data Sheet No .: Contractor: CADMAN-CANBY FA No. : Project Manager: Org Unit: Bid Item No .: Submitted By: KURT SEIGFRIED Org Unit: CC Sample No.: Material Source: CANBY LOCATION Qty Represented: Sampled At: CANBY LOCATION ON Sampled By: Witnessed By: Received: 18/10/24 Tested: 18/11/ 8 Date Reported: 18/11/ 9 DATE-Sampled: Class/Type: COMPLIANCE Use: 18-6 9-46' FINE AC AGGR Q or G: Size: AGGREGATE LABORATORY REPORT - FACAG - Test ---\_\_\_\_\_ Lab \_\_\_\_\_ - T 84 F. Grav. -T 85 C. Grav. -T 176 S.E. Bulk: 2.442 Bulk: 2.561 T 89 L.L. S.S.D.: 2.545 S.S.D.: 2.611 T 90 P.I. Appar.: 2.724 Appar.: 2.696 T 335 Ttl Frac. Absorp : 4.23 % Absorp.: 1.96 % TM226 Dust/Clay - T 104 Soundness -- TM 208 Degrade -TM227 Cleanness CA: 13% FA: 9% TM229 Elong pcs 1.5-3/4: 9.8 % T 304 3/4-3/8: 9.0 %

Uncomp. Voids 3/8- #4: 21.0 % Crse Ht. 1.1 in T 19 Unit Wt. #4- #8: 13.9 % P20: 11.7 % T 329 Moisture #8-#16: 9.6 % Fine Ht: - 27 --- 11 ---- T 27/11 -#16-#30: 6.1 % P20: Sieve Passing #30-#50: 5.7 % 2.5" - T 21 Impurity -- T 96 Abrasion -2 18 9 % Plate #: 1.5 Type A 1 - T 335 Fracture -- T 112 Friables -3/4 DF: 1.0: Wt'd Avg : 1/2 3/4: 1.5-3/4: 3/8 1/2: 3/4-3/8: 1/4 #4: 3/8- #4: # 4 SF: #8: #4-#16: # 8 T 113 Lightweight -- TM 225 Woodwaste -# 10 Coarse: Lab: Fine. # 16 Field: # 30 # 40 # 50 - T 327 Micro Deval -#100 Grading: Loss: % #200

1 @ T-84 =\$ 57.00 NSM = Not Sufficient Material 1 @ T-85 = 45.00 REMARKS: 1 @ T-96 = 97.00 Material represented by sample DOES NOT comply with specifications. 2 @ T-104 = 29.00 1 @ TM 208A = 74.00 KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE REPRODUCED. EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THIS LAB PATHEY

		MATERIALS LA	TRANSPORTATION BORATORY SALEM, OR 97301-4792	Page 1 of (503)986-3000 FAX(503)986-3096
ontract No.: PRIV	ATE	EA No.: I	PRIVATE TESTING_ Lab	No.: 18-003505
	GGREGATE T	ESTING - CADM		
ighway: cotractor: CADMAN-CAN	15.15	County:	Data Sheet	No.:
JILIACIOF: LADMAN CAR	VD 1	Classes I Tend to	FA No.:	13
roject Manager: ubmitted By: KURT SE:	171001-010	Org Unit:	Bid Item No C Sample No.:	5. Č
aterial Source, CAN	N LOCATION	org onic: c	Oby Perroce	at ad.
ampled At CANBY LOCK	NTTON	Sampled Ry.	Qty Represe Witnes ted: 18/10/31 Date	ad Br
ATE-Sampled	Received	18/20/25 Teo	1 adi 19/10/31 Date	Paparted, 18/10/2
lass/Type: QUALITY CO	ONTROL	10/10/20 102	Use: CE18-8 7-17' F	INE AC AGGR
or G:	AGGREGA	TE LABORATORY P	EFÓRT - FACAG SI	2é:
	- Field	Lab	- T 84 F. Grav	
T 176 S.E.			Bulk:	Bulk;
T 89 L.L.			S.S.D.: Appar.: Absorp.: - T 104 Soundness	S.S.D.:
Т 90 Р.1.			Appar.:	Appar. :
T 335 Ttl Frac.			Absorp.:	Absorp :
TM 226 Dust/Clay			- T 104 Soundness	- TM 208 Degrade
TM 227 Cleanness		1	CA: PA:	
TM 229 Elong pcs			1.5-3/4:	1
T 308 Incin A/C			3/4-3/8-	
Total A/C				Crae Ht:
Retention		, , , , , , , , , , , , , , , , , , ,	#4 - #8:	P20:
T 329 Moisture				Fine Ht:
т 27/11 Sieve	WEIGHTER	1.000 CM 200	416-#30:	120:
2.5"	Passing	Passing	#30 #50:	
2.5"		100 %	- T 96 Abrasion	- T 21 Impurity -
1.5		100 K 94 %		Plate #:
1.5		94 s 84 %	T 335 Fracture	m 110 mminhlon
3/4		75 %	DF: 1.0:	Wt'd Avg :
1/2		53 %		1.5 3/4:
3/8		57 %	1/2	3/4-3/8-
1/4		49.8	±72.	3/4-3/8: 3/8-#4: #4 #16:
-/- # 4		45 1	SF: #8:	44 116-
# 8		37 8	- T 113 Lightweight -	TM 225 Woodwaste
# 10			Coarse:	Lab-
# 16		30 1	Coarse: Pine:	Field:
# 30		21 %		
# 40		2. SSL01 21		
4 50		14 %	T 327 Mi	cro Deval
#100		11 %	S1 0.2202 0.0000 0.000 0.000 0.000 0.000 0.000000	oss: %
		7.7 %		

3 @ t27 3 @ t11	=\$ 47.00 ≠ 23.00	NSM = Not Sufficient Material REMARKS: INFORMATION ONLY	TOTAL CHARGES: \$ 210.00
		REPORT SHALL NOT BU RUPROUTLE INTERT IN FULL ATTROUT	HY - LABORATORY SERVICES MANAGER

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C: FILES ; CADMAD-CAME: , 3 CIESLAK + ACCRECATE (4102)

		MATERIALS LA	F TRANSPORTATION ABORATORY SALEM, OR 97301-4792	Page 1 of 1 (503)986-3000 FAX(503)986-3096
Contract No.: PRIV	ATE	EA No.: 1	PRIVATE TESTING_ Lab	No.: 18-003506
Project: PRIVATE A Highway.				
Contractor CADMAN-CAL	JEV.	councy,	Data Sheet FA No.	NO.:
Project Manager: Supmitted By: KURT SE	121	Org Unit:	Bid Item N	
Supmitted By: KURT SE	LOPE LEC	Gra Unit: 0	CC Sample Nc.	
Material Cources /111	BY TOCATION		ALL HARLING	Litter and L
Sampled At - CANBY LOCA	AFRON	Sampled By	sted 18/10/30 Date	ssed By:
Class/Type: QUALITY CO	ONTROL		Use: CE18-8 17-18'	FINE AC AGGR
Q OF G:	AGGREGA	TE LABORATORY 1	REPORT - FACAG S	ize:
T 176 S F	- Field	Lab	T 84 F. Grav.	T 85 C. Grav.
T 89 L.L.			8u1k   S.S.D	D116:
T 50 P.1				Appar.
T 115 Ttl Frac.		1	Approp	Absorp
TM 226 Dusr/Clay			- T 104 Soundness -	- TM 208 Degrade
TM 127 Cleanness		1	CA. 7A.	I
TM 129 Elong pcs '			1 5-3/4	1
T 308 Incin A/C		1	3/4-3/8	1
Total A/C			3,/8 #÷:	Crse Ht.
Retention		1	1 44- #8	P20
T 329 Noisture			48 #16	Fine Ht
T 27/11	CONSISTING CONSIST	March	#16-#30	P2D -
Sieve	Passing	Passing	#30-#50	
2.5*			- T 96 Abrasion	T 21 Impurity
1.5		100 %		FIALE #
1		200 k 96 k	- T 335 Fracture	T 112 Eriables
3/4			DF: 1.0	Wrid Lya
1/2		84 %	1/4:	

82 1

1 68

29 %

78 %

16 1

22 1

69 1

63 1

51.1.8

1/8

114

4 4 # H h 10

4 16

4 30 # 4.C # 5C

#100

#200

\_\_\_\_\_

1.1

SF

Cearse.

Fine

Grading:

44 :

45:

- T 327 Micro Deval -

Loss: \$

- T 113 Lightweight -

3-4-3/8:

3/8- #4:

#4 #16

Lat

Field

- TM 225 Woodwaste -

-						
3	2 627	+\$ 47	00 NSM -	Not Sufficient	Material	TOTAL CHARGES: \$ 210.00
3	& t11	- 23	00 REMARKS: INFORMAT:	ION ONLY		
					KEVIN BRC	PHY - LABORATORY SERVICES MANAGE
			REPORT SYALE SO	T ST PEPENDOCED IN	(PT 18 10).1. SPI+ 05	T RECITED ANTHINKS THEN LANCEATERS
Ċ1	11165	- THAN TANK	· STREAM A			

OREGON DEPARTMENT OF TRANSPORTATION MATERIALS LABORATORY 800 AIRPORT RD. SE SALEM, OR 97301-4792 Page 1 of 1 (503)986-3000 FAX(503)986-3096

Contract No.: PRIV Project: PRIVATE A	ATE GGREGATE TE	EA No.: ESTING - CAD	PRIVATE TESTING_ Lab N MAN-CANBY	lo.: 18-003507
ighway	7.000.000.000.000.000.000.000.000.00	County:	Data Sheet N	0
ONLINCION: CADMAN CAL	BY	a source for	FA No. :	
		Org Units		£3
roject Manager. Lomitted By KURT SET aterial Source: CANE	GERIED	Org Unit: Org Unit.	CC Sample No.:	
aterial Source: CANE	Y LOCATION	1.1.9	Qty Represen	led-
ampled At: CANBY LOCA	TION	Sampled By	: Witness	ed By
ATE-Sampled	Received	19/16/25 Te	sred 18/10/30 Date	Penorted 18/10/21
lass/Type: QUALITY CC	NTROL		Use: CE18-8 18-33' F	INE AC AGGR
or G:	AGGREGA	Laboratory	REPORT - FACAG Siz	
Test	- Field	Lah	— 1 84 F. Grav.	
· · · · · · · · · · · · · · · · · · ·			Dor Life 1	Bulk.
789 LL.			S.S.D.:	5 S.D.;
7 90 PI.			Appar.	Appar
T 335 Tt1 Frac.			Absorp :	Absorp.:
TM 206 Dust/Clay			🛏 T 104 Soundness ——	- TM 208 Degrade -
TM 227 Cleanness			I CA: FA:	
TM 229 Elong pcs			1.5-3/4	İ
T 3CB Incin A/C			1/1-3/8:	1
TOLAL A/C		i	3/8- #4:	Crsc Ht
Retention		i	#4 - #8 :	E20
T 329 Moisture		i	#8-#.6-	Fine Ht.
— т 27/11			#16-#35	P20:
Sieve	Passing	Passing	#30 #50-	
2.5*	0.00409103008	100 %	- T 96 Abrasion	T 21 Impurity
2		96 \$		Plate #:
1.5		93 1	1	
1		86 1	- T 335 Fracture	T 112 Friables
3/4		76 1	1 07 1.0:	Wt'd Ava
1/2		66 1	3/4:	1 * 1/4
3/8		60 1	1/2	3/4-3/8
1/4		53 1	1 14 :	3/8 49.
# 4		45 1	57: \$8	14-#15
# 3		42 1	T 113 Lightweight -	
# 12			Coarse	Lat:
# 16		38 5	Fulle	Field:
# 30		30 1		1
# 40				
# 50		15 N	T 127 MIC	to Deval
# 100		10		55: 1
		10 K K		

3 @ t27 T\$ 47.00 NSM = Not Sufficient Material TOTAL CHARGES: \$ 210.00 3 @ t11 = 23.00 REMARKS: INFORMATION ONLY Fator: SUBLU NOT SCREEPEDDOCCO (SCREEPEDDOCCO (SCREEPED

C FILES CADMAR-CANBY IS STEELAN AT REPAIT OF 20

	ON DEPARTMENT OF TR MATERIALS LABORA 00 AIRPORT RD. SE SALE	TORY	Page 1 of 1 (503)986-3000 FAX(503)986-3096
Contract No.: PRIVATE Project: PRIVATE ACGREGAT	EA No.: PRIV E TESTING - CADMAN-	ATE TESTING_ Lab CANBY	No.: 18-003508
Highway:	county.		No.:
Contractor: CADMAN-CANBY		FA NO. :	
Project Manager	Org Unit:	Bic Item No	
Submitted Hy - KURT SEIGERIED	org unit et	Sample No.:	
Material Source: CANBY LOCATIO	ON	QLY Represe	ntec:
Sampled At, CANBY LOCATION	Sampled By	Witnes	sed By
DATE-Sampled Receiv	ved: 18/10/25 Costed.	18/10/29 Date	Reported. 18/10/29
Class/Type: CUALITY CONTROL		Use: CE18-10 10-12.5	FINE AC AGGR
Test         Field           T 136         S.E.           T 89         L.L.           T 90         D.1.           T 335         Tr1 Frac.           TM 228         Fuist Clay           TM 229         Cleanness           TM 229         Elong pcs		- T 84 F. Grav Bulk: S.S.D.: Appar.: Absorp.: T 104 Soundness C A F A 1.5-3/4	ze: T 85 C. Grav. Hulk S.S.D.: Appar: Absorp.: TM 208 Degrade
T 308 Incin A/C		3/4 3/6	1
lotal A(C	1 1 1	3 百一 年4 :	Cise Ht :
Retention	3 6 6	#4- BE.	Pro.
T 129 Moisture	1 1	#9-#35	Eand H:

1365100

100 %

97 % 96 %

93 8

87 %

83 1

60 1

78 1

75 1

Passing

\$16-\$30.

430-450.

- T 96 Abrasion

- T 335 Fracture

1.0.

3/4 :

1/2

24

#8

- T 113 Lightweight ----- TM 225 Woodwaste

DF

SF:

PZO:

Wt'd Avg

1 5 3/4

3/4-51B:

1/8· #1. #4·#15

Plate 4:

- T 21 Impurity -

T 112 Friables

4 1 # 3	U	72 8 64 8	Coarse: Fine:	lab: Field:
# 4 # 5 #10 #20		45 <b>%</b> 37 <b>%</b> 28 7 <b>%</b>	Grading: T 32	27 Micro Deval
	=\$ 47.00 = 23.00	CALLER CONTRACTORS	ateriai TOI	TAL CHARGES: \$ 210 00
		EFINE AFAIA, NOT DE DETAL -1 - FS	KEVIN BROPHY - LJ	ABORATORY SERVICES MANAGER

TARMAN PANER CTULERE A DREGATE FIDEN C) FILES

T 27/11

Sieve

2 5"

1 5

3/4

1/2

318

1/4 # 1

¥ 8

2

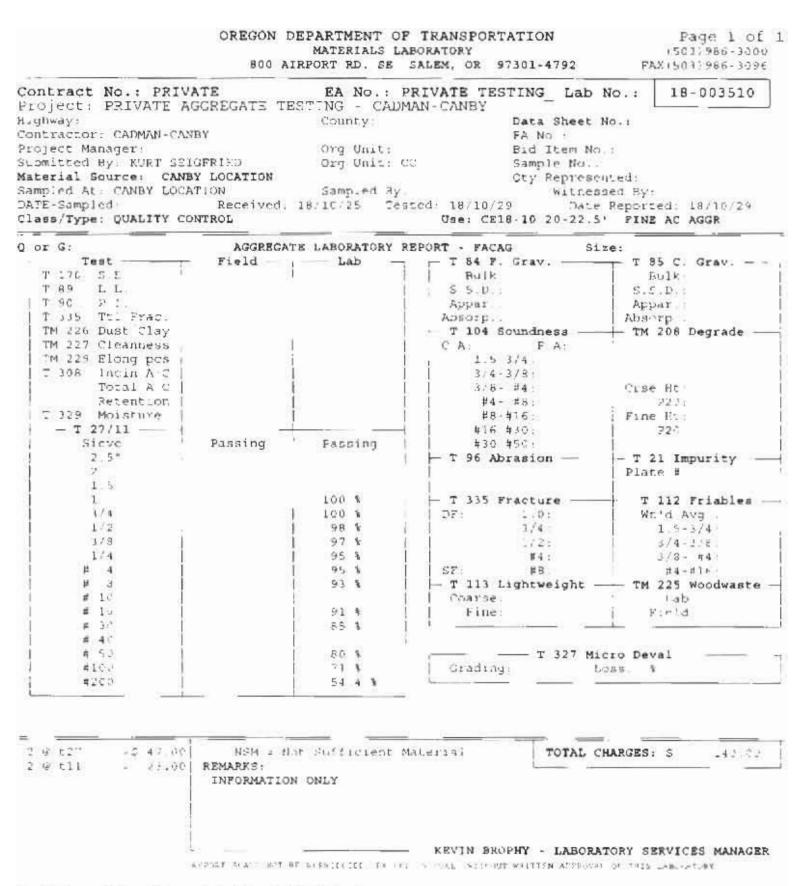
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		MATERIALS LA	F TRANSPORTATION ABORATORY SALEM, OR 97301-4792	Page 1 of (503)986-3000 FAX(503)986-3096
Ontract No.: PRIV roject: PRIVATE A ighway: ontractor: CADMAN-CA roject Manager: ubmitted By: KURT SE aterial Source: CAN ampled At: CANBY LOC ATE-Sampled: lass/Type: QUALITY C	AGGREGATE TE NBY IGFRIED BY LOCATION ATION Received:	STING - CADI County: Org Unit: Org Unit: (	Data Sheet N FA No.: Bid Item No. Sample No.: Qty Represer Witness sted: 18/10/30 Date	No.: .: .: nted: sed By: Reported: 18/10/31
or G:	AGGREGA	TE LABORATORY	REPORT - FACAG Siz	te:
T 176 S.K. T 89 J.L. T 90 P.1. T 335 Ttl Frac. TM 226 Dust/Clay TM 227 Cleanness TM 229 Elong pcs T 308 Incin A/C Total A/C Retention T 329 Moisture T 27/11			T 104 Soundness C A: F A: 1.5-3/4: 3/4-3/8: 3/8-#4: #4-#8: #8-#15: #16-#30:	T 85 C. Grav. Bulk: S.S.D.: Absorp.: TM 208 Degrade — Crse Ht: P20. Fine Ht: P20:
Sieve 2.5" 2 1.5 1 3/4 1/2 3/8 1/4 # 4 # 4 # 10 # 16 # 30	Passing	Passing 100 % 92 % 79 % 70 % 60 % 55 % 49 % 46 % 39 % 32 % 32 %	#30-#50: - T 96 Abrasion	Wt'd Avg : 1.5-3/4: 3/4-3/8: 3/8- #4: #4-#16:
# 40 # 50 #100 #200		17 % 13 % 9.4 %	Grading: T 327 Mic	cro Deval oss: %

e					1	- H	Destroy and the			\$11211		21	
3	0	£27	= \$	47.00	NSM =	Nol.	Sufficient	Material	TOTAL	CHARGES:	\$	210.00	ţ
З	۲	t11	=	23.00	REMARKS :				5.5		1945 <u>-</u>		_
					INFORMATI	ION (	ONLY						

REPORT SWALL NOT DE REPRODUCEE, EXCEPT IN FULL, MITHOUT MRITTEN ASPROVAL OF THIS LABORATORY.

C1 FILES . CADWAN-CANBY ... J CIESLAR - AGGREGATE 181023



C) FILES (ATWAS ANY) JULIAR AGREGATE 18 of

in the second 
	DEPARTMENT OF TRA MATERIALS LABORAT IRPORT RD. SE SALEM	ORY	Page 1 of 1 (503)986-3000 FAX(503)986-3095
Contract No.: PRIVATE Project: PRIVATE AGGREGATE TI	EA No.: PRIVA ESTING - CADMAN-C	TE TESTING_ Lab No.: ANBY	18-003511
Highway	County:	Data Sheet No.:	
Contractor, CADMAN-CANBY	10	FA NO.	
Froject Manager:	Org Unit:	Bid Icem No	
Submitted By FURT SEIGFRIED	Org Unit: CC	Sample No.:	
Material Source: CANBY LOCATION	111/0	Oty Represented.	
Sampled AL CANBY LOCATION	Sampled By:	Witnessed B	ν.
DATE-Sampled Received:	18/10/25 Tested:	18/10/31 Dare Kebo	
Class/Type: QUALITY CONTROL		se: CE18-10 22.5-30' PI	

or G:		TE LABORATORY I		
Test	Field	I Lab	T 84 F. Grav.	
T 176 S.F.			Bulk	Balk:
1 89 1.1			SSE.	5.5 C.,
T 9C P.I			Appa:	Appa:
T 335 fel Frac			Absorp. :	Absorp :
TM 226 Dust/Clay			- T 104 Soundness	- TM 208 Degrade -
TM 227 Cleanness			ICA SA	1
TM 229 Eleng pes			1 5-3/4	
T 308 Incin A/C		ì	3/4-3/8:	i
Total A/C		1	3/8-#4:	Crse Ht:
Retention			#4 - #8.	P20:
T 329 Moisture			#8 #16 -	Fine Ht:
T 27/11			#16-#30:	P2C:
Sieve	Passing	Passing	#30-#50.	
2.5"	0.554.85 0.00943	100 1	- T 96 Abrasion	- T 21 Impurity
2		28 1		Plate #:
1.5		89 1	r F	Ť.
2		74 1	- T 335 Fracture	- T 112 Friables -
3/4		64 1	DF: 1.0.	WL'd Avg :
1/2		53 1	3/4	1.5-3/4.
3/8		45 A	1/3	3/4-3/8:
2/4		31 %	N4:	3/8 #4:
# 4		1 31 3	SF: Na:	#4-#1G:
# 8		1 27.3	- T 113 Lightweight -	TM 225 Woodwaste
# 10			Coarse	Lab
# 16		2.7 1	. Sine:	Fleid:
# 30		18 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	hard and a second second second second
# 40				
# 50		9 8	T 327 Mie	tro Deval
#100		6 8	BOLD STOLE AND A CONTRACT OF A DESCRIPTION OF A DESCRIPA DESCRIPTIONO OF A DESCRIPTIONO OF A DESCRIPANO O	333: 3
#200		4.1 4	A CANADA	1944-1917 - 944 

@ t27 @ -11	=\$ 47.00 - 23.00	NSM = Not Sufficient Material REMARKS:	TOTAL CHARGES: 5 10.00
	-contribution of	INFORMATION ONLY	
	1		
		KEVIN BR	OPHY - LABORATORY SERVICES MANAGE
	3	PS 332" SHALL NOT BE REPRODUCED, EXCEPT N TODAL & THTO	승규는 방법이 다 집안 이렇게 집안하는 것이 가지 않는 것이 가지 않는 것이 많이 가지 않는 것이 없다.

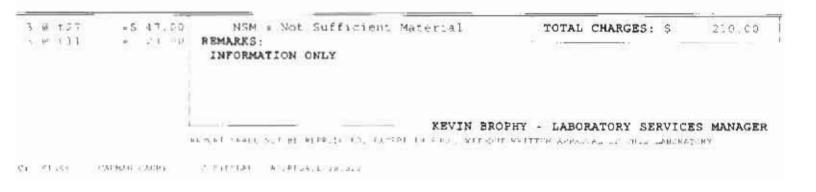
C: 711CS , CADRAM CANE: , J CLASSES : ACCRECATE 181023

	JON DEPARTMENT OF MATERIALS LA		Page 1 OI 1 1503/985-3000 FAN/501/985-3006
Contract No.: PRIVATE		PRIVATE TESTING Lab	
Project: PRIVATE AGCREGAT			NO.: 18-003512
Highway:	County:	Data Sheet 1	
Contractor CADMAN-CANBY	C Starrey .	FA No	
Froject Manager:	Org Unit:	Traditional Contractions and the	2019 B
Submitted By: KURT SEIGFRIED	Org Unit: C		0.2
Material Source: CANEY LOCAT	TON SES OTHER S	Cly Represen	ated
Sampled At: CANEY LOCATION DATE-Sampled: Rece	ived 18/10/25 Tes	red: 18/10/10 Date	Reported: 18/10/35
Class/Type: QUALITY CONTROL	and any and any and	Use: CE18-10 30-40'	FINE AC AGGR
Q or G: AG	SREGATE LABORATORY R	EPORT - FACAG Si	
Test Field	d Lab	- T 84 F. Grav	- T 85 C. Grav
T 176 S 2.	1 1	Bulk:	Bulk:
T 89 L.L.	1	S.S.D.:	5 5 E . :
T 90 P.1.	1	Appar	Appar.:
7 005 "Itl Frac		Absolp	Absorp.
TM 206 Dust/Clay		- T 104 Soundness	- TM 208 Degrade
TM 207 Cleanness	it I	CA: FA:	
TM 229 Elong pcs	1	1.5 374	1
T 3CB Incin A.C	1 1	3/4-3/8-	1
Tetal A'C	1 1	3/8- #4:	Crse Ht
Retention	1 1	件令 单位 -	120
T 319 Molecule	1 1	#8-#16:	Fine Ht.
т 27/11	+	#16-#30	P2.0
Sieve Passi	ng Passing	# 3 U - # 5 O .	
. 2.5"		- T 96 Abrasion	- T 21 Impurity -
2			Plate #
1.5	100 1		V PERSONAL DE SPORTE
1	85 1	- T 335 Fracture	+ T 112 Friables -
3/4	1 74 M	DF: 1 C:	Wt'd Avg :
1/2	59 1	3/4.	1.5-3.4.
1 5/8	51.8	1/2	1/4-1/8
1/4	42 4	#4.	378 - ⊭4 -
4 -i	1 38 1	SF1 #81	#4-#16:
<b>3</b> B	32 %		- TM 225 Woodwapte -
# 10	1	Coarse	Lab.

# 10		Coarse:	Lab:
# 14	2.7 %	Fine:	Field
# 30	22 1		
# 4C			
# 5C	9 K	T 327	Micro Deval —
\$10G	5 1	Grading:	1-055: 1
\$200 L	4.1.3		

5	4	t.27	= \$	47.001	NSM	a Not	Sutficie	nt Mat	erla_	TOTAL C	HARGES :	\$	210.00
3	$\dot{w}$	111	=	23 991	REMARKS								
					INFORM	ATION	ONLY						
				1									
				1									
				1									
									KEVIN BROPH	Y - LABORA	TORY SE	RVICES	MANAGER
				10	REPORT SMALL	VT 45	120100020	X)	FULL MEDHOND WH	ITTEN ARES	L = 7637 (	LAD "TAT OF	2
£3.	T+	LES	, CACZAN - 4	ANRY	J	AUGRED	ATT INT						

		MATERIALS L.	F TRANSPORTATION ABORATORY SALEM, OR 97301-4792	Page 1 of (501)986-3000 FAX(501)986-3096		
ontract No.: PRIV roject: PRIVATE A			PRIVATE TESTING Lat	No.: 18-003513		
ighway		County	Data Sheet	No.:		
ONTENTOT CAEMAN-CAU	NBY		FA No.			
coject Manager:		Org Unit	Bid Item 8	5 - C·F		
comitted By. KURT SE	IGFRIED	org Unit:	Bid Item b CC Sample No	iπ		
aterial Source: CAN	BY LOCATION	Sec. 1	Qty Repres : Witne sted: 18/15/31 Dat	sented		
INCLEA AL CAMER DOG	Noneverel	Sampled Hy	Withe	essed Hy		
lass/Type: QUALITY C	NUCCIVES:	10/12/20 18	Use: CE18-10 40-44	re Reported. 18/10/31		
she firm the set of th						
or G:	AGGREGAT	TE LABORATORY	REPORT - FACAG 5 T 84 F. Grav	Size:		
T 176 S F	Field	Lap	Dulk.	Built		
T 89 L.L.			Duss;	9 5 5		
T 30 P.1.	2		Accar	S S D Appai Absorp TM 208 Degrade		
T 335 Ttl Frac.			Absorp			
TM 226 Dust/Clay		1	T 104 Soundness -			
TM 227 Cleanness	13		CA FA-			
TM 229 Elong pes	9		1 5 3/4			
T 308 Incin A/C			3/4-3/8			
Total A/C	1		7/8- #4	Crse Ht		
Retention			84 44	P20		
T 329 Moisture			#8 #16	Fine Ht 520		
— T 27/11 —		1920 H Thebase	N16-#30	5.2.0		
Steve	Passing	Passing	\$30-#S6			
2.5*			T 96 Abrasion -	T 21 Impurity		
1.5	33	100 1		Place 4		
1.5	30	89 1	T 335 Fracture	T 112 Friables -		
1/4	2	78 %	DF: 10	Wrid Avg		
1.2	3	1.6 1	1.4	1 5 4		
1 'B		50 1	1 1/2	3 4-3/8		
1 4		40 %	#-i	1/5 - #4		
# 4	20	27 L	1 BE: #8	#4 #16		
4 9	1	51 8	T 113 Lightweight	TM 225 Woodwaste		
# TC	5		COALSE:	Lat:		
<b>\$</b> 16		27 1	Fine	Tield:		
4 30	1	23 1				
1 4C		13.3	C C C C C C C C C C C C C C C C C C C			
\$ 50 L			T 327 Micro Deval			
€10C €20C		8 %	Grading:	Loss: %		
F 4 V 2		5 K M				



		DEPARTMENT OF 7 MATERIALS LABO AIRPORT RD, SE SA		Page 1 of 1 (503)986-3000 FAX(503)986 3095
	No.: PRIVATE PRIVATE AGGREGATE			No.: 18-003514
Highway:		County	Data Sheet	No.:
Contractor:	CADMAN - CANBY		FA No. :	
Froject Man	lager:	Org Unit.	Bid Item N	lo
Submitted B	By: KURT SEIGFRIED	Org Unit - CC	Sample No	
Material So	urce: CANBY LOCATION		Qty Repres	ented:
Sampled At:	CANBY LOCATION	Sampled By:	Witne	ssed By:
LATE-Sample	d: Receive	d: 18/10/25 Teste	d: 18/11/ 9 Dat	e Reported: 18/11/ 9
	COMPLIANCE		Use: CE18-10 12.5-4	
Q or G:	AGGRE	GATE LABORATORY REP	ORT - FACAG S	Size:
	- Test	Lab ,	- T 84 F. Grav	- T 85 C. Grav
	T 176 S.E.		Bulk: 2.462	
	T 89 L.L.		S.S.D.: 2.554	S.S.D. : 2.610
	T 90 P.I.	1	Appar.: 2.712	Appar.: 2.689
	T 335 Ttl Frac	1	Absorp : 3.74 \$	Abscrp : 1.84 %

		## #D; 11,0 %	F20. 10.4 N
T 329 Moisture	in the second second second	#9-#16. 7.8 %	Fine Ht :
T 27/11	27 - 11 -	#16-#30 4.2 %	P20
Sieve	Passing	#30-#50: 4.3 %	
2.5"		- T 96 Abrasion	- T 21 Impurity -
1 2		17.9.1	Plate #
1.5	1	Type A	1
1		- T 335 Fracture	- T 112 Friables
3/4	[	DF: 1.0	WL'd Avg
1/2	1	3/4 ;	1.5-3/4:
3/8	1	1/2:	3/4-3/8:
1/4		#4:	3/8 #4:
6 4	1	SF: #8	#4-#16:
B 4		- T 113 Lightweight -	TM 225 Woodwaste
# 10		Coarse:	Lab:
# 16	1	Fine:	Field:
# 30	1	L	1
# 40			
# 50			ro Deval
#100 #200	4	Grading: Lo	SE: *

T 104 Soundness

CA: 78 FA: 88

1.5-3/4: 1.7 1

3/4-3/8: 7.8 1 3/8 #4: 12.6 % #4-#8: 17.0 % TM 208 Degrade

Crse Ht: 0.8 in

P20: 10.4 %

1	團	T-84	=\$	57	.001	NSM = Not Sufficient Material TOTAL CHARGES: \$ 476.00
1	3	T-85		45	00	REMARKS:
1	*	T-96	=	97	.001	INFORMATION ONLY
7	æ	T-104	*	29	00	
1		TM 208A		74	00	
						KEVIN BROPHY - LABORATORY SERVICES MANAGER
						REPORT SHALL NOT BE REPRODUCED. EXCEPT IN FULL NUTHING APPRICAL OF THIS LAW BATTLES

C; 71.23 CAPHAN CANBY . . CIESCAN - AGGREGATE IFICEL

T 335 Ttl Frac TM226 Dust/Clay

TM227 Cleanness

TM229 Elong pcs

Uncomp Volds

T 19 Unit Wt T 329 Moisture

T 304

	MATERIALS LA	TRANSPORTATION BORATORY SALEM, OR 97301-4792	Page 1 of (503)986-3000 FAX(503)986-3096
Contract No.: PRIVATE Project: PRIVATE TESTING Highway: Contractor: Project Manager: Submitted By: KURT SEIGFRIED Material Source: 03-108-1 CANE Sampled At: DATE-Sampled: Recei Class/Type: MISC. TESTING	- CADMAN, CANBY County. Org Unit: Org Unit: C	Data Sheet D FA No.: Bid Item No Sample No.:	No.:
	REGATE LABORATORY R		ze:
T 176 S.E. T 89 L.L. T 90 P.I. T 335 Ttl Frac. TM226 Dust/Clay TM227 Cleanness TM229 Elong pcs T 304 Uncomp. Voids T 19 Unit Wt. T 329 Meisture T 27/11 Sieve 2.5* 2 1.5 1 3/4 1/2 3/8 1/4 # 4 # 8 # 10 # 16 # 30 # 40 # 50	27	Bulk: S.S.D.: Appar.: Absorp.: - T 104 Soundness C A: F A: 1 5-3/4: 3/4-3/8. 3/8- #4: #4 #8: #8-#16: #16-#30: #30-#50: - T 96 Abrasion - T 335 Fracture DF: 1 0: 3/4: 1/2: #4: SF: #8: - T 113 Lightweight Coarse: Pine: T 327 Mi Grading: L	Wt'd Avg : 1 5-3/4: 3/4-3/8: 3/8- #4: #4-#16: TM 225 Woodwaste Lab: Field:

	t27 t11	=\$47. = 23	Construction of the second se second second sec	Material I	TOTAL CHARGES: \$ 210.00
			REP RT SHALL N.T BE REPR DUCED. EXCE		LABORATORY SERVICES MANAGE
C F	ILE5	CONTR -	CIESLAR AS	GRETIATE	

OREGON DEPARTMENT OF TRANSPORTATION Page 1 of 1 (503) 986 - 3000 MATERIALS LABORATORY 800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX (503) 986-3096 Contract No.: PRIVATE EA No.: PRIVATE TESTING: Lab No.: 18-003599 Project: PRIVATE TESTING - CADMAN, CANBY - BORING HOLES Highway: County: Data Sheet No .: Contractor: FA No .: Bid Item No.: Fronect Manager: Org Unit: Submitted By: KURT SEIGFRIED Org Unit: CC Sample No.: Material Source: 03-108-1 CANBY PIT Qty Represented: Sampled At: Sampled By: Witnessed By: Received: 19/11/1 Tested: 18/11/13 Date Reported. 18/11/14 DATE-Sampled: MISC. TESTING Class/Type: Use: CE18-13 20'-26' MISCELLANEOUS \_\_\_\_\_ Q or G: GRAVEL AGGREGATE LABORATORY REPORT - CACAG Size: Test -- T 84 F. Grav. -- T 85 C. Grav. -Lab \_\_\_\_\_ T 176 S.E. Bulk: Bulk: T 89 L.L. S.S.D. : S.S.D.: T 90 P.I. Appar : Appar . T 335 Ttl Frac Absorp. : Absorp .: TM226 Dust/Clay - TM 208 Degrade ----- T 104 Soundness -TM227 Cleanness CA: FA: TM229 Elong pcs 1 5-3/4: T 304 3/4-3/8: 3/8- #4: Uncomp. Voids Crse Ht: T 19 Unit Wt. #4 - #8: P20: T 329 Moisture #8 #16: Fine Ht: - 27 --- 11 -#16-#30: T 27/11 ----P20: Sieve #30-#50: Passing 2.5" - T 96 Abrasion -T 21 Impurity -2 92 % Plate #: 1.5 90 \$ 1 81 % - T 335 Fracture -- T 112 Friables -3/4 Wt'd Avg : 74 % DF: 1.0: 1/2 63 % 3/4: 1.5-3/4: 3/8 56 % 1/2: 3/4-3/8: 1/4 48 % 3/8- #4: #4: SF: #4-#16: # 4 44 4 #8. # 8 34 % T 113 Lightweight -- TM 225 Woodwaste -# 10 Coarse: Lab: # 16 26 8 Fine Field: # 30 18 % # 40 # 50 10 1 - T 327 Micro Deval -#100 7 1 Grading: Loss: \*

	627 611	≥\$47. = 73.	사건에	TOTAL CHARGES: \$ 210.00
			KEVIN B	ROPHY - LABORATORY SERVICES MANAGER
			AND RT SHALL W T BE REPRODUCED EXCEPT IN FULL WITH	NONT WRITTEN APPR/VAL P THIS LABORATORY
C1 P .	E	CONTR	: d CIESLAR AGGELGATE	

5.1 %

#200

OREGON DEPARTMENT OF TRANSPORTATION Page 1 of 1 MATERIALS LABORATORY (\$03)986-3000 800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX (503) 986-3096 EA No.: PRIVATE TESTING: Lab No.: Contract No.: PRIVATE 18-003597 Project: PRIVATE TESTING - CADMAN, CANBY - BORING HOLES Highway: County: Data Sheet No .: Contractor: FA No. : Bid Item No.: Froject Manager: Org Unit: Submitted By: KURT SEIGFRIED Org Unit: CC Sample No : Material Source: 03-108-1 CANBY PIT Oty Represented: Sampled At: Sampled By: Witnessed By: Received: 18/11/ 1 Tested: 18/11/25 TATE-Sampled: Date Reported: 18/11/26 MISC. TESTING Class/Type: Use: CE18-13 9.5'-26' MISCELLANEOUS Q OF G: GRAVEL AGGREGATE LABORATORY REPORT - CACAG Size: - T 84 F. Grav. ------ T 85 C. Grav. ------ Test ----\_\_\_\_ Lab \_\_\_\_\_ -----T 176 S.E. Bulk: 2 478 Bulk: 2.551 S.S.D.: 2.582 S.S.D.: 2.612 T 89 L.L. Appar.: 2.715 T 90 P.I. Appar.: 2.766 T 335 Tti Frac. Absorp.: 4 20 % | Absorp.: 2.36 % TM226 Dust/Clay - T 104 Soundness ----- TM 208 Degrade -TM227 Cleanness CA: 12% FA: 15% TM229 Elong pcs 1.5-3/4: 2.7 % T 304 3/4-3/8: 13.3 % 3/8- #4: 19.4 % Uncomp. Voids Crse Ht: 0.7 in #4 #8: 26.1 % T 19 Unit Wt. P20: 11.3 % T 329 Moisture #8 #16: 15.8 % Fine Ht: - 27 - 11 -- T 27/11 -----#16-#30: 9.6 % P20: Sieve #30-#50: 6.5 % Passing 2.5" - T 96 Abrasion ------ T 21 Impurity -14 2 Plate #: 19.4 \$ 1.5 Type A - T 112 Friables -- T 335 Fracture -1 1.0: WE'd Avg : 3/4 DF · 1/2 3/4: 1.5-3/4: 3/8 1/2: 3/4-3/8: 1/4 #4: 3/8- #4: # 4 #8: #4-#16. SF: - TM 225 Woodwaste # 8 - T 113 Lightweight -# 10 Coarse: Lab: # 16 Fine: Field: # 30

1	ē	t84	=\$	57.00	NSM = Not Sufficient Material	TOTAL CHARGES: S	534.00
1	ŵ,	L85	=	45 00	REMARKS:		
1	ē.	£96	-	97.00	INFORMATION ONLY		
9	6	£104	=	29.00			
1	6	Cni208	÷.	74.00			
				19 - 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1. 19 1			

#### KEVIN BROPHY - LABORATORY SERVICES MANAGER

SEP OF SHALL N I HE REPORTS WITH TO WEITTEN APPROVAL OF THIS LABORAT BY

CI FRIES ... C NTS

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J CLESLAR - AVGREGATE

OREGON	DEPART	MEN	TÓ	F TRAN	SPO	RTATION
	MATI	SRIAN	LS L	ABORATO	RY	
800	AIRPORT	RD.	SE	SALEM,	OR.	97301-4792

Page 1 of 1 (5031986 :000 PAX(5031986-3056

ubmitted By: KURT aterial Source: C ampled At: CANBY L ATE-Sampled lass/Type: QUALITY	ANBY LOCATION		CC Sample No.	
aterial Source: C ampled At: CANBY L ATE-Sampled	ANBY LOCATION			
ATE-Sampled	OCATION		Qty Represen	ited-
lass/Type: QUALITY		Sampled By	- Withese	red By
rappithe. Anumini	CONTRAL	18/10/25 Te:	Use: CE18-14 13-20'	FINE AC ACCP
20	CONTROL			1116 0. ASSA
or G:			REPORT - FACAG S12	
- Test -	Field -	Lab	- T 84 F. Grav	
T 176 S.E.			Bulk	Bulk
T 89 1. L			SSD	S.S.D.::
T 90 F 1			Appar	Appar
T 335 TLL Frac.			Absorp.: T 104 Soundness	Absorp.
TM 226 Dust/Clay				<ul> <li>TM 208 Degrade -</li> </ul>
TM 227 Cleanness			CA FA:	
T 108 Incin A/G			1.5 3/4 3/4-3/8	
Tota' A/C			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Crse II:
Releation			1 375~ 84 ; #4 #8.:	P2C
T 329 Moisture			##**#a: #8-#16:	Fine Ht
- T 27/11			#16.#30:	P20
Sieve	Passing	Passing	#30 #50:	PAG
2.5*	rassing	100 %	- T 96 Abrasion	T 21 Impurity -
2		62 1	1 yo not coron	Plate #.
1.5		81 <b>k</b>	1 1	Exercise day
1		21.1	T 335 Fracture -	T 112 Friables
3/4		64 \$	0F 10-	Wrid Avg
1/2		55 \$	3745	1 5 3/4
1/8		50 %	1/22	1/4-3/A
174		45 1	L-11	3/8- #4
¥ 4		41 \$	SF: #8	#4 #16
8 4	1	5 8 8	- T 113 Lightweight -	+- TM 225 Woodwaste
# 1C	1		Coarses	Lab
# 16		3 d 1	Fine:	Field:
# 30	1	26.8		
# 41				
a 50	1	14 %	- T 327 Mic	ro Deval
#100	1	5 %	Srading Lo	DAS: \$
「非父母生」	1	5.2 8		

3 S t27 =\$ 47.00 NSM = Not Suffreient Material TOTAL CHARGES: \$ 210.00 3 S t11 = 23.00 REMARKS: INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

TE PLIES (MARKH-LANES ) - LEDLAR (ALWELATE 1811)

OREGON DEPARTMENT OF TRANSPORTATION Page 1 of 1 MATERIALS LABORATORY 15031986-3065 800 AIRPORT RD. SE SALEM. OR 97301-4792 FAX (501) 986 3096 Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18-003516 Project: PRIVATE AGGREGATE TESTING · CADMAN-CANBY H. ghway Data Sheet No .: County: Contractor, CADMAN CANBY FA No. : Ore Unit Project Manager: Bid Item No. Submitted By: KURT SEIGFEIRD Org Unit IC Sample No. Material Source: CANBY LOCATION Cty Represented: Witnessed By: Sampled At: CANBY LOCATION Sampled By Date Reported: 18/10/30 Received: 18/10/25 [] Tested. .8/10/30 DATE Sampled Class/Type: QUALITY CONTROL Use: CE18-14 13-34' FINE AC AGGR 0 or G: AGGREGATE LABORATORY REPORT - FACAG Size: Lab -----T 84 F. Grav. - Test Field ----T 85 C. Grav. --10 T 176 S.E Bulk: Bulk: T 89 S. L. S.S.C 5 3 3 P. ... T 90 Acpar. Appar, T 335 TL. Frac Absorp . Absot n -TH 226 Dust/Clay T 104 Soundness - TM 208 Degrade -CA FA. IM 207 Cleanness 1 5-3/4. TM 329 Elocy pes T 308 Incin A/C 3/4 3/8 Tota: A/C 3/8- #4. Cree Ht: Retention #4- #1. P20: T 329 Moisture #B-#16. Fine Ht : T 27/11 -416-#30 P20: Sieve Passing Passing \$35 #50 ··· 1.5" - T 96 Abrasion - - T 21 Impurity -2 100 1 rlate # 95 1 1 5 - T 335 Fracture -T 112 Friables -1 86 1 3/4 28 1 1561 1 0: WL'd Avg : :12 66 \$ 3/4 1 5-3/4 3/5 39 8 1/4: 3/4-3/8: 1:4 50 % #4: 3/8- #4 SF-1 4 45 4 #8 : #4-#16: # 6 - T 113 Lightweight -37 1 - TM 225 Woodwaste # 10 Coarse Lab: # 10 32 1 Fine Field: # 30 26 \$ # 40 £ 50 14 1 - T 327 Micro Deval ---

	1			
2 ⊕ t.27	-\$ 47.00[	NSM = Not Sufficient Material	TOTAL CHARGES: \$	210.00
) w t11	- 23 0C]	REMARKS:		
	1	INFORMATION ONLY		

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KEVIN BROPHY - LABORATORY SERVICES MANAGER

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Loss: ¥

TO THESE \_ CADMASE PANAL J CILISMA AUGPESATE FORTH

\$160

\$200

800	MATERIALS LABORATORY AIRPORT RD. SE SALEM, OR	97301-4792	(503)986 3000 FAX(50)986-3096
Contract No.: PRIVATE Project: FRIVATE AGGREGATE		TESTING Lab No.: Y	18-003517
Highway.	County	Data Sheet No.	
Contractor: CADMAN CANBY		FA NC. :	
Project Manager:	Org Unit	Bid Item No.:	
Submitted By, KORT SEIGFRIED	Org Unit FF	Sample No.	

OREGON DEPARTMENT OF TRANSPORTATION

 Material Source:
 CANBY LOCATION
 Qty Represented:

 Sampled At:
 CANBY LOCATION
 Sampled By
 Witnessed By:

 DATE-Sampled:
 Received:
 18/10/25
 Tested:
 19/10/30
 Date Reported:
 18/10/20

 Class/Type:
 QUALITY CONTROL
 Use:
 CE18-14
 20-30'
 FINE AC AGGR

or G:	AGGREGA	TE LABORATORY	REPORT - FACAG Siz	1e:
Test	Field	Lab	7 84 F. Grav.	T 85 C. Grav
T 176 S.E.			,   Bulk:	1 5.18
T 89 L.L.		1	S.S.D.	1 5.5 5
T 90 P.T.			Appar	Appar
T 335 Ttl Frac		1	Absorp	Absorp.
TM 226 Dust/Clay			- T 104 Soundness	+ TM 208 Degrade
TM 227 Cleanness		]	CA FA:	
TM 229 E.ong pcs		1	1-5-3/4:	
T 308 Incln A/C			3/4-3/8-	
Total A/C			3/8- #4:	Crae NC
Retention		1	44 #8	P20
T 129 Moisture		1	48-#16-	Fine Ht.
— т 27/11 — +			-l #1€∘#30	P20:
Sieve	Passing	Passing	#30-#50:	li .
7 5*		105 1	, T 96 Abrasion	+ T 21 Impurity -
2		95 A	4 E	plate #
1.5		99 1	and the second sec	5
1		74 %	- T 335 Fracture	T 112 Friables
3/4 [		59 \$	1 DE 2 6:	WE'd Avg
1.4.2		18 4	1 1/4	1.5-1/4
578		42.3	1/2	324 375
1/4		16 4	: PH	5/8 44.
⊯ 4 ]		2.3 5	GF1 #8	#4-#16
8 4		27 1	T 113 Lightweight -	- TM 225 Woodwaste
# 10			Coarse;	Lab
# 16		25 1	Fine -	Field.
# 3C		22 1		
# 4C		1000	257 (1972-1973) 257 (1972-1973)	222 12
¥ 50		16 %		cro Deval
#100		9.1	Grading: Lo	055: 1
#200		5.4 %	· · · · · · · · · · · · · · · · · · ·	

3 & t27 =\$ 4 / 00 3 & t11 + 23.00	NSM - Nor Sufficient Material REMARKS: INFORMATION DNLY	TOTAL CHARGES: 5	210 00
PI	ETORY ANALY MET IN SUBJECT OF ANY	PHY - LABORATORY SERVICES	

COLORISES - CADMAN CANRY - COLORED FOR SETATION, 02.

Page 1 of 1 scalage 10co

		MATERIALS LAB	TRANSPORTATION ORATORY ALEM. OR 97301-4792	Page 1 of (5031986-3000 FAX(5031986-3596
Contract No.: PRIV Project: PRIVATE A Highway: Contractor: CADMAN.CAP Project Manager:	GGREGATE TE	EA NO.: PR STING - CADMA County: Ore Unit	IVATE TESTING Lab I N-CANBY Data Sheet N FA No. Bid Item No.	No.:
ubmitted By: KURT SE Material Source: CAN Ampled At: CANBY LOCH	ATION	Org Vnitt CC Sampled By:	Sample No : Oty Represen Witness	sted. Sed By
ATE-Sampled: lass/Type: QUALITY CO	NTROL	18/10/25 Test	ed: 18/10/31 Date Use: CE18-14 30-34'	PINE AC AGGR
or G:	AGGREGAT	E LABORATORY RE	PORT - FACAG Si:	28:
Test   T 176 S.E   T 89 L.1.   T 95 P.I. T 125 Ttl Frac.	Field -	Lab	- T 84 F. Grav. Bulk S S.D : Ampar Absoirt.	T 85 C. Grav Bulk S.S.D : Appar. Absorp
TM 226 Dust-Clay TM 227 Clearness TM 229 Elong pcs   T 308 Incin A/C		10 11	- T 104 Soundness	TM 208 Degrade —
Total A/C Retention T 329 Moisture T 27/11 Sieve	Fassing	Passing	3/8- ≢4; #4- #8: #8-#16: #16 #30: #30-#50:	Crse Ht: P20 Vine Ht: P20:
2 5*		100 % 95 % 85 %	T 96 Abrasion	→ T 21 Impurity —   Plate #:   T 112 Friables -
3/4 2/2 3/6 2/4		77 % 65 % БЛ % БЛ %	DF: 1 C - 3 / 4 : 1 / 2 - # 4	Wt'd Avg 1.5 5/4 3/4-3/9- 3/8- #4
5 4 4 8 5 10 5 16		52 1 55 1 57 1	SF: 42: T 113 Lightweight Coa:se. Fine	H4 #14 TM 225 Woodwaste Lab. Field
4 30 4 40 4 50		40 % 11 %	T 327 Mi	cro Deval
4100 4200		6 N 4 7 N	l Grading: L	000 1

- 31 - 92	t.27 -5 47. t1) = 23	60 REMARKS:
		INFORMATION ONLY
		KEVIN BROPHY - LABORATORY SERVICES MANAGER
		NUMBER, ANALS NOT BE PERPENDED. FORTE IN FILM MITPOUT METTERS ANALYZE OF THIS LASERATORY
er n	LES . CRIMAN CARAT	U.S. C. ALCONFIGMENT AND ADDREED AND ADDREED ADDRE

	DEPARTMENT OF TRANSPOR MATERIALS LABORATORY AIRPORT RD. SE SALEM, OR	(503)986-3000
Contract No.: PRIVATE Project: PRIVATE AGGREGATE	EA No.: PRIVATE TH TESTING - CADMAN-CANBY	ESTING_ Lab No.: 18-003519
Highway:	County	Data Sheet No .:
Contractor: CADMAN CANBY		FA No.:
Project Manager:	Org Unit	Bid Item No.:
Submitted By: KURT SEIGFRIED	Org Unit: CC	Sample No
Material Source: CANBY LOCATION		Oty Represented:
Sampled At: CANBY LOCATION	Sampled By:	Witnessed By
DATE-Sampled: Received	1, 18/10/25 Tested 18/11	/ 9 Date Reported 18/11/ 9
Class/Type: COMPLIANCE		818-14 13-34' FINE AC AGGR

or G:	AGGRE	GATE LABORATORY R	EPORT - FACAG Siz	e:
	Test	Lab	- T 84 F. Grav	T 85 C. Grav
	T 176 S.E.		Bulk: 2 480	Bulk: 2.565
	T 89 L.L.		S.S.D.: 2.575	S.S.D.: 2.614
	T 90 P.I.		Appar.: 2.740	Appar.: 2.698
	T 335 Ttl Frac		Absorp.: 3.82 \$	Absorp.: 1.91 %
	TM226 Dust/Clay		- T 104 Soundness	TM 208 Degrade
	TM227 Cleanness		CA: 9% FA: 114	
	TM229 Elong pcs	1	1.5-3/4: 8.0 1	
	T 304	1	3/4-3/8: 7.1 1	
	Uncomp. Voids		3/8 #4: 12.3 %	Crse Ht: 1.0 in
	T 19 Unit Wt.	1	#4- #8: 18.5 \$	P20: 14 4 %
	T 329 Moisture		#8-#16: 10.2 %	Fine HL:
	T 27/11	_ 27 11	#16 #30: 7.5 \$	P20-
	Sieve	Passing	#30 #50: 6.8 \$	
	2.5"		- T 96 Abrasion	T 21 Impurity
	2		19.4 1	Plate #:
	1.5		Type B	
	1		- T 335 Fracture	T 112 Friables -
	3/4		DF, 1.0:	WE'd Avg
	1/2		3/4	1 5-3/4
	3/8		1/20	3/4-3/8:
	1/4		#4	3/8- #4:
	8 4		SF: #8:	#4-#16
	# 8		- T 113 Lightweight -	TH 225 Woodwaste
	# 10		Coarse	Lab:
	# 16		Fine	Field:
	# 3C		· · ····	
	# 40			
	# 50		T 327 Mic	ro Deval
	#100			is: 1
	#200		sandang. Jo	an ne i 🖷

			-	- C - M	00	NSM = Not Sufficient Material	TOTAL CHARGES: \$ 476.00
T	е.	T-85		45	00	REMARKS :	
1	Θ.	T 96	=	97	00	INFORMATION ONLY	
7	ê	T-104		29	00		
1	0	TM 208A		74	.00		
					1		
					1	KEVIN BRC	OPHY - LABORATORY SERVICES MANAGER
					4	TPORT SHALL HOP BE REPRODUCED. EXCEPT IN FULL WITHOUT	I WROTTEN APPROVAL OF THIS LAB WAT BE

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	MATERIALS LAP	TRANSPORTATION BORATORY BALEM, OR 97301-4792	Page 1 of 1 (503)986-3000 FAX(503)986-3096
Contract No.: PRIVATE Project: PRIVATE TESTING Highway: Contractor: Project Manager: Submitted By: KURT SEIGFRIED Material Source: 03-108-1 CANES Sampled At: DATE-Sampled: Receiv Class/Type: MISC. TESTING	- CADMAN, CANBY County: Org Unit: Org Unit: CC Y PIT Sampled By: ved: 18/11/1 Test	Data Sheet M FA No.: Bid Item No Sample No.: Qty Represe Witnes	No.: nted: sed By: Reported: 18/11/14
Q OF G: GRAVEL AGG	REGATE LABORATORY RE	PORT - CACAG SI	ze:
Test T 176 S.E. T 89 L.L. T 90 P.I. T 335 Ttl Frac. TM226 Dust/Clay TM227 Cleanness TM229 Blong pcs T 364 Uncomp. Voids T 19 Unit Wt. T 329 Moisture T 27/11 Sieve 2.5" 2 1.5	27 — 11 — Passing	- T 84 F. Grav. Bulk: S.S.D.: Appar.: Absorp.: - T 104 Soundness C A: F A: 1.5-3/4: 3/4-3/8: 3/4-3/8: 3/8-#4: #4-#8: #8-#16: #16-#30: #30-#50: - T 96 Abrasion	T 85 C. Grav. Bulk: S.S.D.: Appar.: Absorp.: TM 208 Degrade Crse Ht: P20: Fine Ht: P20: T 21 Impurity Plate #:
1.3 1 3/4 1/2 3/8 1/4 # 4 # 8 # 10 # 16 # 30 # 40 # 50 # 100 # 200	72 % 66 % 57 % 51 % 45 % 42 % 35 % 30 % 25 % 20 % 16 % 12 7 %	Coarse: Fine: T 327 Mi	Wt'd Avg : 1.5-3/4: 3/4 3/8: 3/8- #4: #4-#16: TN 225 Woodwaste — Lab: Field:

	回 t: @ t:		= \$ =	47. 23	00	NSM = Not Sufficient REMARKS: INFORMATION ONLY	Material	TOTAL CHARGES: \$ 210.00	
						INFORMATION UNDI			
								Y - LABORATORY SERVICES MANAGER	2
						REP RT SHALL WOT BE REPRODUCED; EXU	ERI IN EVERY WITHOUT WI	RITTEN APPERIVAL OF THIS LAS PATCRY.	
C i	FILES	- CCN	TR			, J CIESLAK A	GRE ATE		

Q or G: GRAVEL       AGGREGATE LABORATORY REPORT - CAC         T 176 S.E.       Lab       T 84 F         T 176 S.E.       Lab       T 84 F         T 190 P.1.       Appar.         T 335 Ttl Frac.       Appar.         T 104       S.S.D.         T 26 Dust/Clay       - T 104         TM226 Dust/Clay       - T 104         TM227 Clearness       C A:         T 19 Unit Wt.       - T 104         T 329 Moisture       - 3/4         T 19 Unit Wt.       - T 27/11       - 27 - 11         Sieve       Passing       - T 96 A         2       90 %       - T 96 A         1.5       85 %       - T 335         3/4       58 %       DF:         1/2       50 %       - T 335         3/4       58 %       DF:         3/8       47 %       - T 335         3/8       47 %       - T 335	97301-4792	(503)9E6-3000 MAX (503)986-3096
Test       Lab       T 84 F         T 176 S.E.       Bulk         T 89 L.L.       Appar.         T 335 Ttl Frac.       Appar.         T 335 Ttl Frac.       Absorp.         TM226 Dust/Clay       T 104         TM227 Clearness       1.5         T 304       J/4         Uncomp. Voids       1.5         T 27/11       27       11         Sieve       Passing       #16         2.5"       90 %         1.5       85 %         1       67 %         2       90 %         3/4       58 %         1       67 %         2       90 %         3/4       58 %         1       67 %         1/2       50 %         3/8       47 %         1/4       41 %         # 4       38 %         # 4       38 %         # 4       38 %         # 10       57 113	HOLES Data Sheet No.: FA No.: Bid Item No.: Sample No.: Qty Represented Witnessed 1	: By: orted: 18/11/14
Test       Lab       T 84 F         T 176 S.E.       Bulk         T 89 L.L.       Pole         T 335 Ttl Frac.       Appar.         T 335 Ttl Frac.       Absorp.         TM226 Dust/Clay       T 104         TM227 Clearness       1.5         T 304       3/4         Uncomp. Voids       1.5         T 27/11       27       11         Sieve       Passing       #16         2.5"       90 %         1.5       85 %         1       67 %         2       90 %         3/4       58 %         1       67 %         1/2       50 %         3/8       47 %         1/4       41 %         # 4       38 %         # 4       38 %         # 10       33 %	AG Size:	
T 89 L.L.       S.S.D.         T 90 P.I.       Appar.         T 335 Ttl Frac.       Absorp.         TM226 Dust/Clay       T 104         TM227 Clearness       1.5         T 304       3/4         Uncomp. Voids       3/4         T 19 Unit Wt.       3/8         T 27/11       27       11         Sieve       Passing       # 30         2.5"       90 %         1.5       85 %         1       67 %       T 335         3/4       58 %       DF:         1/2       50 %       DF:         3/8       47 %       T 335         1/4       41 %       SF:         # 8       33 %       T 113         # 10       Coarse       Coarse	. Grav '	T 85 C. Grav Bulk:
T 90 P.1.       Appar.         T 335 Ttl Frac.       Absorp.         TM226 Dust/Clay       T 104         TM227 Clearness       1.5         TM229 Flong pcs       1.5         T 304       3/8         Uncomp. Voids       3/4         T 329 Moisture       44         T 329 Moisture       430         T 27/11       27       11         Sieve       Passing       430         2.5"       90 %       430         1.5       85 %       1         1.5       85 %       1         1.5       85 %       1         1.4       67 %       T 335         3/4       56 %       DF:         1/2       50 %       1         3/8       47 %       1         1/4       41 %       5F:         # 8       33 %       T 113         # 10       Coarse       Coarse		S.S.D.:
T 335 Ttl Frac.       Absorp.         TM226 Dust/Clay       T 104         TM227 Clearness       1.5         T 304       3/4         Uncomp. Voids       3/8         T 19 Unit Wt.       3/8         T 27/11       27       11         Sieve       Passing       #30         2.5"       90 %         1.5       85 %         1       67 %       T 335         3/4       58 %       DF:         1/2       50 %       DF:         3/8       47 %       1/4         # 4       38 %       SF:         # 8       33 %       T 113         # 10       Coarse       Coarse	7 F. 3	Appar.:
TN226 Dust/Clay TM227 Clearness TM229 Flong pcs T 304     - T 104       Uncomp. Voids T 19 Unit Wt.     1.5       T 27/11     27       T 27/11     27       1.5     85 %       1.5     85 %       1     67 %       1.5     85 %       1     67 %       1.4     58 %       1.5     85 %       1     67 %       1.4     58 %       1.5     85 %       1     67 %       1.4     58 %       1.5     85 %       1     67 %       1.4     58 %       1.5     85 %       1     67 %       1.4     58 %       1.5     85 %       1.4     58 %       1.4     58 %       1.4     58 %       1.4     58 %       1.4     58 %       1.4     58 %       1.4     58 %       1.4     58 %       1.4     58 %       1.4     58 %       1.4     58 %       1.5     57:       1.6     58 %       1.7     50 %       1.7     50 %       1.8     33 %       1.9		bsorp.:
TM227 Clearness       C A:         TM229 Flong pcs       1.5         T 304       3/4         Uncomp. Voids       3/8         T 19 Unit Wt.       #4         T 329 Moisture       #16         Sieve       Passing         2       90 %         1.5       85 %         1       67 %         2       90 %         1.5       85 %         1       67 %         2       90 %         1.5       85 %         1       67 %         1/2       50 %         3/4       58 %         1/2       50 %         3/8       47 %         1/4       41 %         # 4       38 %         # 4       38 %         # 4       33 %         # 10       Coarse		TM 208 Degrade -
T 304       3/4         Uncomp. Voids       3/8         T 19 Unit Wt.       #4         T 329 Moisture       #16         Sieve       Passing         2.5"       90 %         1.5       85 %         1       67 %         1/2       50 %         3/4       58 %         1       67 %         1/2       50 %         3/8       47 %         1/4       41 %         # 4       38 %         SF:       33 %         # 10       Coarse	FA:	in the sugard
T 304       3/4         Uncomp. Voids       3/8         T 19 Unit Wt.       #4         T 329 Moisture       #16         Sieve       Passing         2.5"       90 %         1.5       85 %         1       67 %         1/2       50 %         3/4       58 %         1       67 %         1/2       50 %         3/8       47 %         1/4       41 %         # 4       38 %         SF:       33 %         # 10       Coarse	- 3/4:	
T 19 Unit Wt.       #4         T 329 Moisture       #16         Sieve       Passing         2.5"       90 %         1.5       85 %         1       67 %         3/4       58 %         1/2       50 %         3/8       47 %         1/4       41 %         # 4       38 %         SF:       # 10	-3/8:	
T 329 Moisture       #8         T 27/11       27       11         Sieve       Passing       #30         2.5"       90 %         1.5       85 %         1       67 %       T 335         3/4       58 %       DF:         1/2       50 %       DF:         3/8       47 %       SF:         1/4       41 %       SF:         # 4       38 %       SF:         # 8       33 %       T 113         Coarse       Coarse		rse Ht:
T 27/11     27     11     #16       Sieve     Passing     #30       2.5"     90 %       1.5     85 %       1     67 %     T 335       3/4     58 %       1/2     50 %       3/8     47 %       1/4     41 %       # 4     38 %       SF:     # 8       33 %     T 113       Coarse	- #8:	P20:
Sieve     Passing     #30       2.5"     90 %       1.5     90 %       1.5     85 %       1     67 %       3/4     58 %       1/2     50 %       3/8     47 %       1/4     41 %       # 4     38 %       # 4     38 %       # 4     38 %       Joint Coarse	-#16: F	ine Ht:
2.5"       90 %         1.5       85 %         1       67 %         3/4       58 %         1/2       50 %         3/8       47 %         1/4       41 %         # 4       38 %       SF:         # 8       33 %       T 113         # 10       Coarse	-#3C:	F20:
2     90 %       1.5     85 %       1     67 %       3/4     58 %       1/2     50 %       3/8     47 %       1/4     41 %       # 4     38 %       # 4     38 %       # 4     38 %       # 10     Coarse	- #SC:	
1.5     85 %       1     67 %       3/4     58 %       1/2     50 %       3/8     47 %       1/4     41 %       # 4     38 %       # 4     38 %       # 4     33 %       # 10     Coarse		T 21 Impurity -
1     67 %     T 335       3/4     58 %     DF:       1/2     50 %     1/2       3/8     47 %     1/4       1/4     41 %     1/4       # 4     38 %     SF:       # 8     33 %     T 113       # 10     Coarse	P	late #:
3/4     58 %     DF:       1/2     50 %     47 %       3/8     47 %     41 %       1/4     41 %     58 %       # 4     38 %     5F:       # 8     33 %     T 113       # 10     Coarse	1	
1/2 50 % 3/8 47 % 1/4 41 % # 4 38 % SF: # 8 33 % T 113 # 10 Coarse	Fracture — —	
3/8     47 %       1/4     41 %       # 4     38 %       # 8     33 %       # 10     Coarse	1.0:	Wt'd Avg :
1/4 41 % # 4 38 % SF: # 8 33 % T 113 # 10 Coarse	3/4:	1.5-3/4:
# 4 38 % SF: # 8 33 % - T 113 # 10 Coarse	1/2:	3/4-3/8:
# 8 33 % - T 113 # 10 Coarse	#4:	3/8 #4:
# 10 Coarse	#9:	#4-#16:
	Lightweight —	
		Lab:
	-	Field:
# 30 24 %		
# 40 20 %	m 107 W/	Devel
	T 327 Micro 1	
#100 17% Gradin #200 12.9%	g: Loss:	5

	2733	t27 t11		REMARKS:
				REP.KT SHALL NOT BE REPRODUCED. EXCEPT IN FULL, WITHOUT WELTTEN APPH WAL OF THIS LAB RATORY
Ct	FL	LES	: TINTE	. J CLESLAK ADOREGATE

OREGO	Page 1 of (503)986-3000 FAX(503)986-3096								
Contract No.: PRIVATEEA No.: PRIVATE TESTING: Lab No.:18-003603Project: PRIVATE TESTING - CADMAN, CANBY - BORING HOLESData Sheet No.:18-003603Highway:County:Data Sheet No.:18-003603Contractor:FA No.:Data Sheet No.:18-003603Project Manager:Org Unit:Data Sheet No.:18-003603Submitted By: KURT SEIGFRIEDOrg Unit:Bid Item No.:18-003603Material Source:03-108-1 CANBY PITSampled No.:000000000000000000000000000000000									
Q or G: GRAVEL AGGR	EGATE LABORATORY RE	(A)							
Test T 176 S.E. T 89 L.L. T 90 P.I. T 335 Tt1 Frac. TM226 Dust/Clay TM227 Cleanness TM229 Elong pcs T 304 Uncomp. Voids T 19 Unit WL. T 329 Moisture T 27/11 Sieve 2.5" 2 1.5 1 3/4 1/2 3/8 1/4 # 4 # 8 # 10 # 16 # 30	Lab 	<pre>- T 84 F. Grav Buik: S.S.D.: Appar.: Absorp.: - T 104 Soundness C A: F A: 1.5-3/4: 3/4-3/8: 3/8- #4: #4- #8: #8-#16: #16-#30: #30-#50: - T 96 Abrasion - T 335 Fracture DF: 1.0: 3/4: 1/2: #4: SF: #8: - T 113 Lightweight Coarse: Fine:</pre>	Bulk: S.S.D. Appar.: Absorp.: TM 208 Degrade Crse Ht: P20: Fine Ht: P20: T 21 Impurity Plate #: T 112 Friables Wt'd Avg : 1.5-3/4: 3/4-3/8: 3/8 #4: #4-#16:						
# 40 # 50 #100 #200	11 % 6 % 4.6 %	21 AS (224) (122)	cro Deval						

	9 t27 9 t11		47.00 23.00	REMARKS:		Sufficient	Material	TOTAL	CHARGES: 0	č.	210.00
				INFORMA	TION	ONLY					
			l		_		- KEVIN BI	ROPHY - LABOR	ATORY SERV	TICES	MANAGER
			)4	RIP RT SHALL	NOT 35	REPRODUCED, EX F	PT IN FOLL, WITH	UT WRITTEN APPRO	AL OF THIS LAN	POSVENDAA	5
7	21.15	ONTR-		5	1.01	A CTERLAR AC	ORZUATE				

	MATERIALS LA	TRANSPORTATION BORATORY SALEM, OR 97301-4792	Page 1 of . (503)986-3000 FAX(503)986-3096
Contract No.: PRIVATE Project: PRIVATE TESTING Highway: Contractor: Project Manager: Submitted By: KURT SEIGFRIED Material Source: 03-108-1 CANBY Sampled At: DATE-Sampled: Class/Type: MISC. TESTING	- CADMAN, CANBY County: Org Unit: Org Unit: C	Data Sheet No FA No.: Bid Item No. C Sample No.:	0.:
	REGATE LABORATORY R		
T 176 S.E.	Lab		- T 85 C. Grav
T 89 L.L. T 90 P.1. T 335 Ttl Frac. TM226 Dust/Clay TM227 Cleanness TM229 Elong pos T 304 Uncomp. Voids T 19 Lnit Wt. T 329 Moisture T 27/11 Sieve 2.5" 2 1 5 1 3/4 1/2 3/8 1/4 # 4 # 8 # 10 # 16 # 30	— 27 <u>— 11 —</u> Passing	#16-#30: 8.3 % #30-#50: 6.2 % T 96 Abrasion 18.8 % Type A	TM 208 Degrade Crse Ht: 0.8 in P2C: 11.9 % Fine Ht: P2C: T 21 Impurity Plate #: T 112 Friables Wt'd Avg : 1.5-3/4: 3/4-3/8: 3/8- #4: #4-#16:
# 40 # 50 #100 #200			ro Deval

1	3	t84	=\$	57.00	NSM = Not Sufficient Materia:   TOTAL CHARGES: \$	534.00
1	8	t85	=	45.00	REMARKS:	
1	G,	t96	*	97.00	INFORMATION ONLY	
9	6	t104	-	29.00		
1	9	tm208	=	74.00		
				4		
				1	KEVIN BROPHY - LABORATORY SERVI	CES MANAGER
				8	REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITH UT WRITTEN APPR UNL OF THIS LAB S	LAT 'RY

C: FILES , CONTE

, J CLESLAR - ROGREGATE

		MATERIALS LA	F TRANSPORTATION BORATORY SALEM, OR 97301-4792	Page 1 of (503)986-3000 FAX(503)986-3096
Contract No.: PRIVA Project: PRIVATE AC		EA No.: I	PRIVATE TESTING Lab I	No.: 18-003520
ighway:	1977 - FRANK STRANS	County:	Data Sheet M	10.:
ontractor: CADMAN-CAN	BY	ALL DEPENDENCIALIST AND ALL AND A	FA No.:	
roject Manager:		Org Unit:	Bid Item No.	242
ubmitted By: KURT SEL	GER LED	Org Unit: C		
aterial Source: CANB	Y LOCATION	1777. 1899-1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1	Qty Represe:	ited:
ampled At: CANBY LOCA	LION	Sampled By:	Witness sted: 18/10/30 Date	sed By:
ATE-Sampled:	Received:	18/10/25 Tes	sted: 18/10/30 Date	Reported: 18/10/31
lass/Type: QUALITY CO			Use: CE18-19 10-20'	SLAMON AN MARKEN
or G: Test	AGGREGA	TE LABORATORY F	EPORT - FACAG Siz	te:
T 176 S.3.	- Field	Lab	Bulk:	- 1 85 C. Grav
T 89 L.L.			S.S.D.:	
T 90 P.I.			Appar.:	S.S.D.: Appar.:
T 335 Ttl Frac.		i i	Absorp -	Absorn
TM 226 Dust/Clay			Absorp.: — T 104 Soundness ——	TM 208 Degrade -
TM 227 Cleanness			CA: PA:	
TM 229 Elong pcs			1.5 3/4:	1
T 308 Incin A/C		1	3/4-3/8:	
Total A/C		1	3/8- #4:	Crse Ht:
Retention			#4 #8:	P20:
T 329 Moisture		[	#8 #16:	Fine Ht:
T 27/11	A 100 100 100 100 100	- Antonio anto	#16-#30:	120.
Sieve 2.5"	Passing	Passing	430-#S0;	
2.5"		100 %	T 96 Abrasion -	T 21 Impurity
2.5		99 %		FLACE #
2		93 %	T 335 Fracture	T 112 Erisbles
3/4		85 %	DF: 1.0:	WE'd Avg :
1/2		77 %	3.14	1.5-3/4:
3/8		73 1	1/2	3/4-3/8:
1/4		67 %	#4:	3/8- 44:
# 4		64 %	SF: #8:	#4-#16:
# 8		59 %	T 113 Lightweight -	
# 10			Coarse:	Lab:
# 16		54 %	Fine:	Field:
# 30		49 %	-	
# 40		10000		0 X
# 50		32 %	T 327 Mi	
#100		16 %	Grading. Lo	ມສະ: ໂ
#200		9.7 %		8

KEVIN BROPHY - LABORATORY SERVICES MANAGER

 $\sigma_{T} = \texttt{FILES} \quad \pm \texttt{CAPMAN}(\texttt{CARBY}) \quad = \texttt{J}(\texttt{CIESLAK}) + \texttt{APSPEGATE}(\texttt{TRIO23})$ 

OREGON DEPARTMENT OF TRANSPORTATION MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Contract No.: PRIVATE		E TESTING_ Lab No.:   18-003521
Project: PRIVATE AGGREG	ATE TESTING - CADMAN-CA	NBY L
Highway:	County:	Data Sheet No.:
Contractor: CADMAN-CANBY		FA No.:
Project Manager:	Org Unit:	Bid Item No.:
Submitted By: KURT SEIGFRIED	Org Unit: CC	Sample No.:
Material Source: CANBY LOCA	TION	Qty Represented:
Sampled At: CANBY LOCATION	Sampled By:	Witnessed By:
DATE-Sampled: Rec	eived: 18/10/25 Tested: 18	8/10/29 Date Reported: 18/10/30
Class/Type: QUALITY CONTROL	Use	e: CE18-19 20-30' FINE AC AGGR

Q or G:	AGGREGAT	TE LABORATORY	REPORT - FACAG Siz	ze:
Test	Field —	Lab		
T 176 S.E.			Bulk:	Bulk:
T 89 L.L.			S.S.D.:	S.S.D.:
T 90 P.I.			Appar.:	Appar.:
T 335 Ttl Frac.			Absorp.:	Absorp.:
TM 226 Dust/Clay			- T 104 Soundness	- TM 208 Degrade
TM 227 Cleanness			CA: FA:	-
TM 229 Elong pcs			1.5-3/4:	
T 308 Incin A/C			3/4-3/8:	
Total A/C			3/8- #4:	Crse Ht:
Retention			#4- #8:	P20:
T 329 Moisture			#8-#16:	Fine Ht:
— т 27/11 —		-	#16-#30:	P20:
Sieve	Passing	Passing	#30-#50:	
2.5"			- T 96 Abrasion	- T 21 Impurity
2		100 %		Plate #:
1.5		90 %		
1		77 %	- T 335 Fracture	- T 112 Friables -
3/4		69 %	DF: 1.0:	Wt'd Avg :
1/2		60 %	3/4:	1.5-3/4:
3/8		56 %	1/2:	3/4-3/8:
1/4		50 %	#4:	3/8- #4:
# 4		47 %	SF: #8:	#4-#16:
# 8		41 %	- T 113 Lightweight -	
# 10			Coarse:	Lab:
# 16		35 %	Fine:	Field:
# 30		30 %	L	
# 40				
# 50		25 %		cro Deval —
#100		19 %	Grading: Lo	DSS: 8
#200		14.2 %	L	
L	L		-J	

2 @ t27 =\$ 47.00 2 @ t11 = 23.00			<b>TOTAL CHARGES:</b> \$ 140.00
•		INFORMATION ONLY	
		<b>KEVIN BROPHY</b> REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTE	- LABORATORY SERVICES MANAGER IN APPROVAL OF THIS LABORATORY.
c: FILES ; C	CADMAN-CANBY	; J CIESLAK - AGGREGATE 181023	

OREGON DEPARTMENT OF TRANSPORTATION MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Contract No.: PRIVATE	EA No.: PRIVATE I	ESTING_ Lab No.:   18-003522
Project: PRIVATE AGGREGATE T	ESTING - CADMAN-CANBY	/
Highway:	County:	Data Sheet No.:
Contractor: CADMAN-CANBY		FA No.:
Project Manager:	Org Unit:	Bid Item No.:
Submitted By: KURT SEIGFRIED	Org Unit: CC	Sample No.:
Material Source: CANBY LOCATION		Qty Represented:
Sampled At: CANBY LOCATION	Sampled By:	Witnessed By:
DATE-Sampled: Received:	18/10/25 Tested: 18/10	0/29 Date Reported: 18/10/30
Class/Type: QUALITY CONTROL	Use: (	CE18-19 30-40' FINE AC AGGR

110010001		EPORT - FACAG Siz	2e.
— Field —	Lab	_— Т 84 F. Grav. ———	Т 85 С. Grav. ——
		Bulk:	Bulk:
		S.S.D.:	S.S.D.:
		Appar.:	Appar.:
		Absorp.:	Absorp.:
		- T 104 Soundness	- TM 208 Degrade
		CA: FA:	
		1.5-3/4:	
		3/4-3/8:	
			Crse Ht:
		#4- #8:	P20:
		#8-#16:	Fine Ht:
		#16-#30:	P20:
Passing	Passing	#30-#50:	
2	-	- T 96 Abrasion	T 21 Impurity
	100 %		Plate #:
	97 %		
	85 %	- T 335 Fracture	- T 112 Friables —
	76 %	DF: 1.0:	Wt'd Avg :
	66 %	3/4:	1.5-3/4:
	60 %	1/2:	3/4-3/8:
	52 %	#4:	3/8- #4:
	48 %	SF: #8:	#4-#16 <b>:</b>
	42 %	- T 113 Lightweight -	
		Coarse:	Lab:
	37 %	Fine:	Field:
	31 %		
	22 %	Г Т 327 Міс	cro Deval ————
	16 %	Grading: Lo	DSS: 8
		-	
	Field Passing	Passing Passing 100 % 97 % 85 % 76 % 66 % 60 % 52 % 48 % 42 % 37 % 31 % 22 %	Passing       Passing         100 %       97 %         85 %       76 %         76 %       3/4:         60 %       1/2:         52 %       #4:         48 %       22 %         22 %       T 327 Mic

2 @ t27 2 @ t11	=\$ 47.00 = 23.00		<b>TOTAL CHARGES:</b> \$ 140.00		
_ 0 0		INFORMATION ONLY			
		KEVIN BROPHY REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTE	- LABORATORY SERVICES MANAGER N APPROVAL OF THIS LABORATORY.		
C: FILES ; C		; J CIESLAK - AGGREGATE 181023			

OREGON DEPARTMENT OF TRANSPORTATION MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Contract No.: PRIVATE	EA No.: PRIVATE	TESTING_ Lab No.: 18-003523
Project: PRIVATE AGGREGATE 1	'ESTING - CADMAN-CANB'	Y – L
Highway:	County:	Data Sheet No.:
Contractor: CADMAN-CANBY		FA No.:
Project Manager:	Org Unit:	Bid Item No.:
Submitted By: KURT SEIGFRIED	Org Unit: CC	Sample No.:
Material Source: CANBY LOCATION		Qty Represented:
Sampled At: CANBY LOCATION	Sampled By:	Witnessed By:
DATE-Sampled: Received	: 18/10/25 Tested: 18/1	Date Reported: 18/10/30
Class/Type: QUALITY CONTROL	Use:	CE18-19 40-47' FINE AC AGGR

Q or G:	AGGREGA	TE LABORATORY	REPORT - FACAG Si	ze:
Test —	Field	Lab	¬ г 84 F. Grav. ——	
T 176 S.E.			Bulk:	Bulk:
T 89 L.L.			S.S.D.:	S.S.D.:
T 90 P.I.			Appar.:	Appar.:
T 335 Ttl Frac.			Absorp.:	Absorp.:
TM 226 Dust/Clay			- T 104 Soundness	
TM 227 Cleanness			CA: FA:	
TM 229 Elong pcs			1.5-3/4:	
T 308 Incin A/C			3/4-3/8:	
Total A/C			3/8- #4:	Crse Ht:
Retention			#4- #8:	P20:
T 329 Moisture			#8-#16 <b>:</b>	Fine Ht:
— т 27/11 —			#16-#30:	P20:
Sieve	Passing	Passing	#30-#50:	
2.5"			- T 96 Abrasion	T 21 Impurity
2		100 %		Plate #:
1.5		98 %		
1		90 %	- T 335 Fracture	- T 112 Friables -
3/4		81 %	DF: 1.0:	Wt'd Avg :
1/2		72 %	3/4:	1.5-3/4:
3/8		67 %	1/2:	3/4-3/8:
1/4		62 %	#4:	3/8- #4:
# 4		60 %	SF: #8:	#4-#16:
# 8		54 %	- T 113 Lightweight -	
# 10			Coarse:	Lab:
# 16		49 %	Fine:	Field:
# 30		39 %	L	
# 40				
# 50		29 %	-	cro Deval
#100		22 %	Grading: L	oss: %
#200		17.8 %	L	
		L		

2 @ t27 2 @ t11	1		TOTAL CHARGES: \$ 140	0.00
2 0 011	20.00	INFORMATION ONLY		
	I	<b>KEVIN BROPHY</b> REFORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTE	- LABORATORY SERVICES MAN N APPROVAL OF THIS LABORATORY.	IAGER
C: FILES	; CADMAN-CANBY	; J CIESLAK - AGGREGATE 181023		

OREGON DEPARTMENT OF TRANSPORTATION MATERIALS LABORATORY 800 AIRPORT RD. SE SALEM, OR 97301-4792

EA No.: PRIVATE T ESTING - CADMAN-CANBY	
County:	Data Sheet No.:
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	PA NO ::
Org Unit:	Bid ltem No.:
Org Unit CC	Sample No :
	Qry Represented:
Sampled By:	Witnessed By:
18/10/25 Tested: 18/11	1/ 9 Date Reported: 18/11/13
Use: C	CE18-19 10-47' FINE AC AGGR
	ESTING - CADMAN-CANBY County: Org Unit: Drg Unit: CC Sampled By: 18/10/25 Tested: 18/1.

Q or G:	AGGRI	GATE LABORATORY	REPORT - FACAG Sis	
	Test	- Lab	- T 84 F. Grav	- T 85 C. Gray
	T 176 S.E.		Bulk: 2.439	Bulk. 2.594
	T 82 L.L.		S.S.D. : 2 547	1 S.S.D : 2.638
	T 90 P I.		Appar : 2 735	Appar : 2.714
	T 335 Ttl Frac.		Absorp.: 4.44 %	Absorp.: 1.70 \$
	TM226 Dust/Clay		- T 104 Soundness	TM 208 Degrade
	TM227 Cleanness		CA 5% FA: 9%	and the second sector in the
	TM229 Elong pcs		1 5-3/4: 2.0 1	
	T 304		3/4-3/8: 5.2 1	
	Uncomp. Voids		3/8- #4 8.9 1	Crse Ht 1.0 in
	T 19 Unit WE.		#4 #8. 14 1 %	P20 12 2 %
	T 329 Mcisture		#B-#16-7) N	Fine Ht:
	- T 27/11	- 27 - 11 -	#16-#30 6.7 \$	P20
	Sieve	Passing	#30-#50. 6.2 1	A - Chan - Market
	2.5"	Acceler Course	- T 96 Abrasion	T 21 Impurity -
	2		18.0 1	Plate #1
	1.5		Type A	
	1		- T 335 Fracture	T 112 Friables -
	3/4		DF: 1.0;	WE'd Avg
	5/2		3/4:	1.5-3/4:
	3/6		1/2:	3/4-3/8:
	1/4		84	3/8- #4
	# 4		SF: #8	#4-#16
	# 8		- T 113 Lightweight -	- TM 225 Woodwaste -
	# 10		Coarse:	Lab:
	# 16		Fine:	Field:
	# 30			
	# 40			
	# 50		T 327 Mie	ro Deval
	#100			555: 1
	#200			

1.0	T-84	=\$	1.7.2.1	00	NSM - Nor Sufficient Material	TOTAL CHARGES: \$ 476 DD
1 @	T-85		45	.00	REMARKS :	
1 6	T-96		97	00	INFORMATION ONLY	
7 @	T-104		29	00		
1 @	TM208A		74	00		
				1		
				- 1	KEVIN BROPH	Y - LABORATORY SERVICES MANAGER

ontract No.: PRIV roject: PRIVATE A ighway: ontractor: H.G. SCHL roject Manager: DOUG ubmitted By: ADAM LAJ aterial Source: ampled At:	GGREGATE T ICKER & ASSOC GLESS RGE	ESTING - CAD County: IATES Org Unit: Org Unit:	Data Sheet N FA No.: Bid Item No.	io.: : 4-20-30 ited:
or G:	ÇE		Use: AGGREGATE BASE	Reported: 19/ 3/20
Test T 176 S.E. T 89 L.L. T 90 P.I. T 335 Ttl Frac. TM 226 Dust/Clay TM 227 Cleanness TM 229 Elong pcs T 304 Uncomp. Voids T 19 Unit Wt. T 329 Moisture		Lab —	T 84 F. Grav. Bulk: S.S.D.: Appar.: Absorp.: T 104 Soundness C A: 10% F A: 10% 1.5-3/4: 3.6 % 3/4-3/8: 14.9 % 3/8- #4: 12.6 % #4- #8: 18.9 % #8-#16: 9.7 %	T 85 C. Grav. Bulk: S.S.D.: Appar.: Absorp.: TM 208 Degrade Crse Ht: 0.7 in P20: 16.4 % Fine Ht:
T 27/11 Sieve 2.5 2 1.5 1 3/4 1/2 3/8 1/4 # 4 # 8 # 10 # 16 # 30 # 40 # 50 #100 # 200	Passing Passing		<pre>#16-#30: 5.6 % #30-#50: 5.1 % - T 96 Abrasion</pre>	P20: T 21 Impurity Plate #: T 112 Friables
			Deval ===> Grading:	Loss: ¥
1 @ t96 =\$125.00 9 @ t104 = 38.00 1 @ tm208 = 96.00	REMARKS :	ot Sufficient	Material TOTAL CH	HARGES: \$ 563.00

C: FILES : PROJ MCR: DOLES CLESS ; H.G. SCHLICKER & ASSOCIATES ; J CIESLAK - ACCREGATE HOSAGTELEPORT.COM

Contract No.: PRIV Project: PRIVATE A Sighway: Contractor: H.G. SCHL Project Manager: DOUG Ubmitted By: ADAM LAN Caterial Source: ampled At: ATE-Sampled:	GGREGATE TI ICKER & ASSOC GLESS RGE RCEived:	ESTING - CADN County: IATES Org Unit: Org Unit: Sampled By:	Data Sheet N FA No.: Bid Item No. Sample No.: Qty Represen Witness sted: 19/ 3/20 Date	<pre>// .: : 4-30-40 .ced: ed By: Reported: 19/ 3/20</pre>
lass/Type: COMPLIANO or G:		TE LABORATORY F		e: 3" - 0
Test T 176 S.E. T 89 L.L. T 90 P.I. T 335 Ttl Frac. TM 226 Dust/Clay TM 227 Cleanness TM 229 Elong pcs T 304 Uncomp. Voids T 19 Unit Wt. T 329 Moisture T 27/11	— Field —	Lab	T 84 F. Grav. Bulk: S.S.D.: Appar.: Absorp.: T 104 Soundness C A: 9% F A: 14% 1.5-3/4: 2.7 % 3/4-3/8: 11.2 % 3/8- #4: 12.2 % #4- #8: 24.1 % #8-#16: 17.5 % #16-#30: 9.0 %	Bulk: S.S.D.: Appar.: Absorp.: TM 208 Degrade Crse Ht: 1.5 in P20: 15.5 % Fine Ht:
Sieve 2.5 2 1.5 1 3/4 1/2 3/8 1/4 # 4 # 4 # 10 # 16 # 30 # 40 # 50 #100 # 200	Passing Passing		<pre>#16-#30: 9.0 * #30-#50: 6.7 % - T 96 Abrasion</pre>	P20: T 21 Impurity Plate #: T 112 Friables Wt'd Avg : 1.5 3/4: 3/4-3/8: 3/8- #4: #4 #16: TM 225 Woodwaste Lab: Field: AASHTO T 267 Organic: AASHTO T 290 Sulfate:
1@t96 -\$125.00 9@t104 = 38.00 1@tm208 = 96.00	REMARKS :	ot Sufficient M	Deval ===> Grading: Material TOTAL CH	Loss: * MARGES: \$ 563.00

REPORT SMALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THIS LABORATORY

CI FILES : PROJ MGR: DOUG GLESS , H.G. SCHOICKER & ASSOCIATES . & CIESLAK AGGREGATE HGSA@TELEPORT.COM

Childer 1, 1, 3, Schlicker & ASSOCIATES       Org Unit:       Bid Item No.:         ubmitted By: ADAM LARGE       Org Unit:       Bid Item No.:         aterial Source:       Org Unit:       Sample By:       Witnessed By:         moled At:       Sampled By:       Witnessed By:       Witnessed By:         ATE-Sampled:       Received: 19/3/5       Tested: 19/3/20       Date Reported         Lass/Type:       COMPLIANCE       Use:       AGGREGATE BASE         or G:       AGGREGATE LABORATORY REPORT - BASEAG       Size: 3* -         T 176       S.S.       T       84 F. Grav.       T 84 S.S.D.:         T 30 P.I.       Appar.:       Appar.:       Appar.:         T 329 Blong pcs       T 104 Soundness       T N 20         T 304       JAC-1/8: 15.9 %       JAC-3/8: 15.9 %         Uncomp. Voids       JAC-1/8: 15.9 %       JAC-3/8: 15.9 %         2.5       2       P       #8-#16: 13.0 %       Pine H         1.5       1.5       T 13       JAC-3 %       Pilate         1.4       J/4       J/4:       J/4:       J/4:       J/4:         1.4       JA       JAC       JAC       JAC       JAC         1.5       1.5       T 13       JAC </th <th>19-000665</th> <th>- L-</th> <th>IBY -</th> <th>MAN - C</th> <th>County:</th> <th>GGREGATE TE</th> <th>ontract No.: PRIV coject: PRIVATE A ghway:</th>	19-000665	- L-	IBY -	MAN - C	County:	GGREGATE TE	ontract No.: PRIV coject: PRIVATE A ghway:
Starting     City Represented:       mpled A:     Sampled By:     Witnessed By:       TE-Sampled:     Received: 19/3/5     Tested: 19/3/20     Date Reported       ass/Type:     COMPLIANCE     Use:     AGGREGATE LABORATORY REPORT - BASEAG     Size: 3" -       or G:     AGGREGATE LABORATORY REPORT - BASEAG     Size: 3" -     T 84 F. Grav.     T 85 -       T 176     S.E.     Field     Lab     T 84 F. Grav.     T 85 -       T 305     T1 Frac.     Absorp.:     Absorp.     Absorp.       T 325     T0 P0 P.I.     Absorp.:     Absorp.     Absorp.       T 327 Teleanness     T 104 Soundness     T 20 Appart:     Appart:       T 304     Uncomp. Voids     J/A - 1/8: 15.9 %     S/A - 1/8: 15.9 %       T 329     Moisture     Fassing     Passing     Passing       2.5     2     1.5     130.4 Fine H     # 16.0 %       1.5     1     J/4:     Wt'd       1/2     1.3/4:     Wt'd       1/2     1.3/4:     Wt'd       1/4     # 4     # 10       # 10     H     Fine H       # 10     Fine H     Fine H       # 10     Fine H     Fine H       # 10     Fine H     Fine H       # 10 <th>0</th> <th></th> <th>FA No.: Bid Item No.</th> <th></th> <th>Org Unit:</th> <th>CKER &amp; ASSOC GLESS GE</th> <th>ntractor: H.G. SCHL oject Manager: DOUG bmitted By: ADAM LAN</th>	0		FA No.: Bid Item No.		Org Unit:	CKER & ASSOC GLESS GE	ntractor: H.G. SCHL oject Manager: DOUG bmitted By: ADAM LAN
Test         Field         Lab         T 84 F. Grav.         T 85 Bulk:           T 176 S.E.         Bulk.         Bulk:         Bulk:         Bulk:           T 90 P.I.         Japar.         Appar.         Appar.           T 335 Ttl Frac.         Appar.         Absorp.         T 20.5           T 304         Uncomp. Voids         T 19 Unit Wt.         T 19 Unit Wt.         T 19 Unit Wt.           T 27/11         Passing         Passing         Sieve         Passing         Passing           2.5         2         16.0 %         Plate         T 21           3/4         3/4         3/4:         Wtid           1/4         3/4         3/4:         3/4:         Wtid           1/4         # 4         # 10         T 132 Lightweight         T 228/289         AASHTO T 288/289           # 10         # 40         Plate         T 132 Lightweight         T 22           # 10         Plate         T 132 Lightweight         T 22.5         Plate           # 10         Plate         T 133 Lightweight         T 22.5         Plate           # 10         Plate         Plate         Plate         Plate           # 10         Plate         Plate		ed:	Qty Represen Witness 3/20 Date 1	: sted: 19		Received;	mpled At: TE-Sampled:
Test         Field         Lab         T 84 F. Grav.         T 85 Bulk:           T 176 S.E.         Bulk.         Bulk:         Bulk:         Bulk:           T 90 P.I.         Japar.         Appar.         Appar.           T 335 Ttl Frac.         Appar.         Absorp.         T 20.5           T 304         Uncomp. Voids         T 19 Unit Wt.         T 19 Unit Wt.         T 19 Unit Wt.           T 27/11         Passing         Passing         Sieve         Passing         Passing           2.5         2         16.0 %         Plate         T 21           3/4         3/4         3/4:         Wtid           1/4         3/4         3/4:         3/4:         Wtid           1/4         # 4         # 10         T 132 Lightweight         T 228/289         AASHTO T 288/289           # 10         # 40         Plate         T 132 Lightweight         T 22           # 10         Plate         T 132 Lightweight         T 22.5         Plate           # 10         Plate         T 133 Lightweight         T 22.5         Plate           # 10         Plate         Plate         Plate         Plate           # 10         Plate         Plate	- 0	: 3" - 0	ASEAG Siz	REPORT -	TE LABORATORY	AGGREGA	
T       89       L.L.       J.S.D.:       S.S.D.:       Appar.         T       335       Ttl Frac.       Absorp.:       Absorp.:       Absorp.:         T       335       Ttl Frac.       Absorp.:       Absorp.:       Absorp.:         T       226       Dust/Clay       TM       227       Cleanness       TM       208         TM       226       Dust/Clay       TM       207       Cleanness       TM       208         T       304       Uncomp. Voids       T       1.5-3/4: 8.5 %       J.4-3/8: 15.9 %       Uncomp.         T       19       Unit Wt.       T       3/4-3/8: 15.9 %       Uncomp.       Grade       Hatter       T.5.9 %       Uncomp.       Provide       Fine H       #4-#8: 25.2 %       P2       #8-#16: 13.0 %       Pine H       #4-#8: 25.2 %       P2       #8-#16: 13.0 %       Pine H       #16-#30: 6.9 %       P2       #830 #50: 4.5 %       P2       #30 #30 #       P1			F. Grav	TT	Lab	- Field	
T       90       P.I.       Appar.:       Appar.       Appar.         T 335       Ttl Frac.       Absorp.:       Absorp.:       Absorp.:       Absorp.:         TM 226       Dust/Clay       TM 207       Cleanness       TM 207       Cleanness       TM 207         TM 227       Cleanness       TM 207       Cleanness       TM 207       TM 207       TM 207         T 304       Uncomp. Volds       T 304       Sieve       Sieve       Passing       Passing       Appar.:       Absorp.:       TM 207         T 329       Moisture       T 27/11       Passing       Sieve       Passing       Passing       File       T 11       Sieve       Passing       Passing       T 3104       Pilate       T 21         2       1.5       T 96       Abrasion       T 21       Sieve       T 11       Sieve       T 11       Sieve       T 11       Sieve       T 3104       Plate       T 11       Sieve       T 11 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
TM 226 Dust/Clay							
TM 226 Dust/Clay		Abeam	D.:	Abs			
TM 229 Elong pcs       1.5-3/4: 8.5 %         T 304       Uncomp. Voids         T 19 Unit Wt.       3/8-#4: 17.3 %         Crse H       #4-#8: 25.2 %         Passing       Passing         Sieve       Passing         2.5       #30-#50: 4.5 %         2.5       #30-#50: 4.5 %         1.5       T 14         3/4       1.5         1.5       T 96 Abrasion       T 21         2       16.0 %       Plate         1.5       T 325 Fracture       T 11         3/4       1/2       1.3/4:       Wt'd         1/2       1/2:       1.         3/8       3/4:       Wt'd         1/4       # 4       # 10:       # 11         3/8       J/4:       Wt'd         1/2:       1.       3/4:       Wt'd         1/2:       1.       3/4:       Wt'd         1/4:       3/4:       Wt'd       1/2:         # 10:       # 4       # 20       Mt'd       1/4:         # 10:       # 11       J/4:       Mt'd         # 10:       # 11       Mt'd       1/2:       1.         # 10:       # 1	208 Degrade -	TM 208	Soundness	T	1		
T 304       3/4-3/8: 15.9 %         Uncomp. Volds       3/8-#4: 17.3 %       Crse H         T 19 Unit Wt.       #4-#8: 25.2 %       P2         T 329 Moisture       #8-#16: 13.0 %       Pine H         T 27/11       Passing       Passing       Passing         2.5       2.5       7 96 Abrasion       T 21         2       16.0 %       Plate         1.5       1       3/4:       Wt'd         3/4       3/4:       Wt'd       1/2:       1.         3/4       3/8:       3/4:       Wt'd       1/2:       1.         3/8       3/8:       3/4:       Wt'd       1/2:       1.         3/8       3/8:       3/4:       Wt'd       1/2:       1.         3/8       3/4:       Wt'd       1/2:       1.       3/4:       Wt'd         1/2       1.3       3/8:       3/4:       Wt'd       1/2:       1.         3/8       1/4:       Wt'd       1/4:       1/2:       1.       3/8:       3/4:         # 10       # 4       Fine:       Fine:       Fine:       Fine:       Fine:       Fine:       Fine:       Fine:       Fine:       Pit:       <				CA			
Uncomp. Voids       3/8-#4: 17.3 %       Crse H         T 19 Unit Wt.       #4-#8: 25.2 %       P2         T 329 Moisture       #8#16: 13.0 %       Fine H         T 27/11       Passing       Passing       P2         Sieve       Passing       Passing       T 21         2.5       16.0 %       Plate         1.5       16.0 %       Plate         1.4       3/4       3/8:       11         3/4       3/8:       3/8:       3/8:         1/4       3/8:       3/8:       3/8:         1/4       4       4:0:       4:0:         # 16       5:       1       1.1         3/8:       3/8:       3/8:       3/8:         1/4       4       4:0:       1/4:       3/8:         # 10       4:0:       4:0:       4:0:       4:0:         # 10:       # 10:       4:0:       5:0:       5:0:         # 10:       # 4:0:       5:0:       5:0:       5:0:         # 10:       # 20:0:       9:0:       5:0:       5:0:       5:0:         # 20:0:       10:0:       5:0:       5:0:       5:0:         # 20:0:       0							
T       19 Unit Wt.         T       329 Moisture         T       27/11         Sieve       Passing         2.5       30.4550:4.53         2.5       16.03         1.5       16.03         1.5       16.03         1.5       16.03         1.4       1/2         1.5       16.03         1.4       1/2         1.5       11         3/4       3/4         1/2       1/2         1/4       1/2         1/4       1/4         # 4       1/4         # 4       1/4         # 10       1/4         # 16       10         # 10       7113         Lightweight       TM 22         Coarse:       16         # 10       1/4         # 10       1/4         # 10       1/4         # 10       1/4         # 10       1/4         # 100       1/4         # 100       1/4         # 100       1/4         # 100       1/4         # 100       1/4         # 100 <td>Ht: 1.7 in</td> <td>Crse Ht</td> <td>/8- 14: 17.3 %</td> <td></td> <td></td> <td></td> <td>Uncomp. Voids</td>	Ht: 1.7 in	Crse Ht	/8- 14: 17.3 %				Uncomp. Voids
T 27/11       #16-#30: 6.9 %       P2         Sieve       Passing       Passing       #30.#50: 4.5 %         2.5       T 96 Abrasion       T 21         1.5       16.0 %       Plate         3/4       7/11       3/4:       Wt'd         1/2       3/8       7/14       3/4:       Wt'd         1/4       1/2:       1.       3/4:       Wt'd         1/4       1/4:       3/8:       3/8:       3/8:       3/8:         1/4       1/4:       1/4:       1/4:       3/8:	P20: 16.7 %	P2.0	#4- #8: 25.2 %				
Sieve         Passing         Passing         #30-#50: 4.5 %           2.5         - T 96 Abrasion         T 21           1.5         - T 96 Abrasion         T 21           1.5         - T 335 Fracture         - T 11           3/4         - T 335 Fracture         - T 11           3/4         - T 335 Fracture         - T 11           3/4         - T 335 Fracture         - T 11           3/8         T 336 Fracture         - T 11           3/8         T 336 Fracture         - T 11           3/8         T 113 Lightweight         - T 22           T 113 Lightweight         - T 22         - T 113 Lightweight           # 10         T 113 Lightweight         - T 12           # 16         - Fine:         - Fine           # 30			#8-#16: 13.0 %				and the second se
2.5       - T 96 Abrasion - T 21         1.5       16.0 % Plate         1.5       Type B         1       3/4         1/2       3/8         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4:       3/8:         1/4:       3/8:         1/4:       3/8:         1/4:       3/8:         1/4:       3/8:         1/4:       1/4:         16:       Fine:         16:       Fine:         17:       Fine:         18:       Organ         19:       PH:         10:       PH:         10:       PH:         10:       PH:         10:	P20:	P20			Dessing	Decaina	
2       16.0 %       Plate         1.5       Type B       T 11         3/4       3/4:       Wt'd         1/2       1/2:       1.         3/8       3/8:       3/4:         1/4       3/8:       3/8:         1/4       3/8:       3/8:         1/4       4       1/4:         # 4       4       1/4:         # 50       Fine:       Fine:         # 100       Fine:       Fine:         # 30       Fine:       Fine         # 40       Fine:       Fine         # 50       PH:       AASHTO T 288/289       AASHT         # 100       Fine:       Sulfa         # 200       File:       Sulfa	1 Tanaritar	- T 21 T		LT	Passing	rassing	
1.5       Type B         3/4       3/4         1/2       3/8         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       3/8:         1/4       1/4:         # 4       #10:         # 10       #16         # 16       Fine:         # 16       Fine:         # 16       Fine:         # 200       Organ         # 200       AASHTO T 288/289         AASHTO T 291       AASHT         #200       Chloride:		Plate #	16.0 %				
3/4       3/4:       Wt'd         1/2       1/2:       1.         3/8       3/8:       3/8:         1/4       3/8:       3/4:         # 4       3/8:       3/8:         # 10       #10:       #         # 16       Fine:       Image: Coarse:         # 16       Fine:       Fice         # 30       Prime:       Fice         # 40       Fine:       Fice         # 50       PH:       Organ         # 100       Fice       Sulfa			Туре В	11	1		
1/2       1/2:       1.         3/8       3/8:       3/         1/4       4       3/8:       3/         # 4       # 10:       #         # 8       # 10:       #         # 10       #       #         # 30       # 40       # Signature         # 40       # Signature       #         # 50       #       #         # 100       #       #         # 200       AASHTO T 288/289       AASHT         # 200       AASHTO T 291       AASHT				T			C
3/8       3/8:       3/8         1/4       1/4:       3/         # 4       4       #10:       #         # 8       - T 113 Lightweight - TM 22       Coarse:       1         # 16       - T 113 Lightweight - TM 22       Coarse:       1         # 30       - AASHTO T 288/289 - AASHT       Resist: Ω       Organ         # 50       pH:       - AASHTO T 291 - AASHT       PH:         # 100       - AASHTO T 291 - AASHT       Sulfa	'd Avg :						
1/4       1/4:       3/         # 4       #10:       #10:         # 10       T 113 Lightweight       TM 22         # 16       Coarse:       1         # 30       Fine:       Fie         # 40       Resist:       0         # 50       pH:       Organ         # 100       pH:       AASHTO T 291         # 50       pH:       Sulfa	1.5-3/4: 3/4-3/8:	3/4					
# 4       #10:       #10:       #         # 8       - T 113 Lightweight TM 22         # 10       Coarse:       I         # 16       Fine:       Fie         # 30       - AASHTO T 288/289 AASHT       Resist: Ω         # 40       pH:       Organ         # 50       pH:	3/8- #4:	3/8			1		
# 10       Coarse:       L         # 16       Fine:       Fie         # 30       AASHTO T 288/289       AASHT         # 40       Resist: Ω       Organ         # 50       pH:       Organ         # 100       pH:       AASHTO T 291         # 200       Sulfa	#4-#16:	#4		11			
# 16       Fine:       Fie         # 30       AASHTO T 288/289       AASHT         # 40       Resist: Ω       Organ         # 50       pH:       Organ         # 100       pH:       AASHTO T 291         # 200       Sulfa							
# 30 # 40 # 50 # 100 # 200	Lab: Field:						
# 40 # 50 #100 #200 #200 # 60 # 60 # 60 # 70 # 70 # 70 # 70 # 70 # 70 # 70 # 7	SHTO T 267				h		
#100 #200 AASHTO T 291 AASHT Chloride: Sulfa		Organi	st: Ω				
#200 Chloride: Sulfa	1043 10 10 10 10 10 10 10 10 10 10 10 10 10	Sec. 1					
	SHTO T 290						
	(race:	Sultar	C. Storage				#250
T 327 Micro Deval ===> Grading: Loss;	as; %	Loss;	Grading:	Deval ==	T 327 Micro		
@ t96 =\$125.00 NSM = Not Sufficient Material TOTAL CHARGES: \$	\$ 563.00	PAPE, é	TOTAL CH	Material	of Sufficient	NSM = N	@ t96 =\$125.00
@ t104 = 38.00 REMARKS:			- China Chi		or currection.		
@ tm208 = 96.00 INFORMATION ONLY					N ONLY	INFORMATION	@ tm208 = 96.00
							- (

			SALEM, OR 97301-4792	(503)986-300 FAX (503)986-309
	GGREGATE TH CKER & ASSOC GLESS GE Received:	County: County: IATES Org Unit: Org Unit:	Data Sheet No. FA No.: Bid Item No. Sample No.: !	5-12-20
or G:	AGGREGA	TE LABORATORY R	EPORT - BASEAG Size	a: 3" - 0
Test T 176 S.E. T 89 L.L. T 90 P.I. T 335 Ttl Frac. TM 226 Dust/Clay TM 227 Cleanness TM 229 Elong pcs T 304 Uncomp. Voids T 19 Unit WL. T 329 Moisture T 27/11	Field	Lab	T 84 F. Grav. Bulk: S.S.D.; Appar.: Absorp.: T 104 Soundness C A: 12% P A: 14% 1.5-3/4: 6.2 % 3/4-3/8: 11.1 % 3/8- #4: 19.0 % #4- #8: 28.4 % #8-#16: 14.5 % #16-#30: 8.2 %	Bulk: S.S.D.: Appar.: Absorp.: - TM 208 Degrade - Crse Ht: 2.4 in P20: 20.0 %
Sieve 2.5 2 1.5 1 3/4 1/2 3/8 1/4 # 4 # 8 # 10 # 16 # 30 # 40 # 50 #100 # 200	Passing	Passing	#30-#50: 6.7 % - T 96 Abrasion	T 21 Impurity - Plate #: T 112 Friables Wt'd Avg : 1.5 3/4: 3/4-3/8: 3/8- #4: #4 #16: TM 225 Woodwaste

1 @ t96 9 @ t104 1 @ tm208	=\$125.00 = 38.00 = 96.00	REMARKS :	TOTAL CHARGES: \$ 563.00
		KEVIN BRO	PHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE REPRODUCED, EXCEPT IN SHILL, WITHOUT WRITTEN APPROVAL OF THIS LABORATORY.

C: FILES : PROJ MGR. DOUG ELESS , H Q SCHELEPORT COM

OREGON DEPARTMENT OF TRANSPORTATION Page 1 of 1 MATERIALS LABORATORY (503) 986-3000 800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX (503) 986-3096 EA No.: PRIVATE TESTING Lab No.: 19-000667 Contract No.: PRIVATE Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY County: Highway: Data Sheet No .: Contractor: H.G. SCHLICKER & ASSOCIATES FA No .: Project Manager: DOUG GLESS Org Unit: Bid Item No .: Sample No.: 5-20-30 Submitted By: ADAM LARGE Org Unit: Material Source: Qty Represented: Sampled At: Sampled By: Witnessed By: Received: 19/ 3/ 5 Tested: 19/ 3/21 Date Reported: 19/ 3/21 DATE-Sampled: Use: AGGREGATE BASE Class/Type: COMPLIANCE ----AGGREGATE LABORATORY REPORT - BASEAG Q or G: Size: 3" - 0 Field -\_\_\_\_ Lab \_\_\_\_ - T 84 F. Grav. - T 85 C. Grav. -- Test -Bulk: T 176 S.E. Bulk: T 89 L.L. S.S.D.: S.S.D.: T 90 P.I. Appar .: Appar .: Absorp .: T 335 Ttl Frac. Absorp .: T 104 Soundness -- TM 208 Degrade -TM 226 Dust/Clay TM 227 Cleanness CA: 6% FA: 8% TM 229 Elong pcs 1.5-3/4: 4.0 % 3/4-3/8: 3.6 % T 304 Uncomp. Voids 3/8- #4: 10.2 % Crse Ht: 1.1 in T 19 Unit Wt. #4- #8: 16.1 % P20: 16.0 % T 329 Mcisture #B-#16: 9.4 % Fine Ht: - T 27/11 -#16-#30: 3.8 % P20: #30-#50: 2.8 % Sieve Passing Passing 2.5 T 96 Abrasion -- T 21 Impurity -Plate #: 2 16.3 \$ 1.5 Type A 1 T 335 Fracture -- T 112 Friables 3/4: 3/4 Wt d Avg : 1/2 1/2: 1.5-3/4: 3/B 3/8: 3/4-3/8: 1/4 1/4: 3/8- #4: #10: #4-#16: # 4 # 8 TM 225 Woodwaste T 113 Lightweight -# 10 Coarse: Lab: Fine: # 16 Field: AASHTO T 288/289 -# 30 AASHTO T 267 -# 40 Resist: n Organic: # 50 pH: AASHTO T 291 -#100 AASHTO T 290 -#200 Chloride: Sulface: T 327 Micro Deval ===> Grading: Loss: % =\$125.00 1 @ t96 NSM = Not Sufficient Material TOTAL CHARGES: S 563.00

 9 @ t104
 = 38.00
 REMARKS:

 1 @ tm208
 = 96.00
 INFORMATION ONLY

 KEVIN BROPHY - LABORATORY SERVICES MANAGER

 REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THIS LABORATORY.

C: FILES ; PROJ MGR. DOUG GLESS , H.G. SCHLICKER & ASSOCIATES . J CLESLAK : AGGREGATE HOSA@TELEPORT.COM

800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX (503) 986-3096 Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No .: 19-000668 Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY Highway: County: Data Sheet No .: Contractor: H.G. SCHLICKER & ASSOCIATES FA No .: Project Manager: DOUG OLESS Org Unit: Bid Item No .: Submitted By: ADAM LARGE Crg Unit: Sample No.: 5-30-40 Material Source: Qty Represented: Sampled At: Sampled By: Witnessed By: DATE-Sampled: Received: 19/ 3/ 5 Tested: 19/ 3/21 Date Reported: 19/ 3/21 Class/Type: COMPLIANCE AGGREGATE BASE Use: AGGREGATE LABORATORY REPORT - BASEAG Size: 3" - 0 Q or G:

OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

Test	- Field -	Lab	T 84 F. Grav	T 85 C. Grav
F 176 S.E.		1	Bulk:	Bulk:
T 89 L.L.			S.S.D.;	S.S.D.:
T 90 P.I.			Appar.:	Appar :
T 335 Ttl Frac.			Absorp.:	Absorp.;
TM 226 Dust/Clay			- T 104 Soundness	- TM 208 Degrade -
TM 227 Cleanness			CA: 7% FA: 7%	
TM 229 Elong pcs			1.5 3/4: 3.7 %	
T 304			3/4-3/8: 7.9 %	Anna an Anna
Uncomp. Voids			3/8- #4: 10.4 %	Crse Ht: 1.8 in
T 19 Unit WL,			₩4 #8: 14.5 %	P20: 16.7 %
T 329 Moisture			#8-#16: 8.2 ¥	Fine Ht:
— T 27/11 —		1	#16-#30: 4.6 %	P20:
Sieve	Passing	Passing	#30-#50: 2.5 %	the second states
2.5			- T 96 Abrasion	- T 21 Impurity -
2			16.5 %	Plate #:
1.5			Туре А	Contraction of the second
1			- T 335 Fracture	- T 112 Friables
3/4			3/4:	Wt'd Avg :
1/2			1/2:	1.5-3/4:
3/8			3/8:	3/4-3/B:
1/4		4	1/4:	3/8- #4:
# 4 # 8			#10;	#4 #16:
# 8 # 10			- T 113 Lightweight -	- TM 225 Woodwaste
# 16			Coarse:	Lab:
# 16 # 30			Fine:	Field:
# 40			AASHTO T 288/289	- AASHTO T 267
# 40			Resist: 2	Organic
#100		and the second s	pH:	
#200			- AASHTO T 291	- AASHTO T 290
#200			Chloride:	Sulfate:

T 327 Micro Deval ===> Grading: Loss: %

LUSS: \$

Page 1 of 1

(503)986-3000

 1 @ t96
 =\$125.00
 NSM = Not Sufficient Material
 TOTAL CHARGES: \$ 563.00

 9 @ t104
 = 38.00
 REMARKS:
 Important on only

 1 @ tm28
 = 96.00
 INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THIS LABORATORY

C: FILES | PROJ MGR: DOUG GLESS ; H C SCHLICKER & ASSOCIATES . J CIESLAX - AGGREGATE HOSAGTELEPORT COM

OREGON DEPARTMENT OF TRANSPORTATION Page 1 of 1 MATERIALS LABORATORY (503)986-3000 800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX (503) 986-3096 Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 19-000669 Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY Highway: County: Data Sheet No .: Contractor: H.G. SCHLICKER & ASSOCIATES FA No .: Project Manager: DOUG GLESS Org Unit: Bid Item No. : Submitted By: ADAM LARGE Org Unit: Sample No.: 7-17-30 Material Source: Qty Represented: Sampled At: Sampled By: Witnessed By: Received: 19/ 3/ 5 Tested: 19/ 3/21 DATE Sampled: Date Reported: 19/ 3/21 Class/Type: COMPLIANCE Use: AGGREGATE BASE AGGREGATE LABORATORY REPORT - BASEAG Size: 3" - 0 Q or G: Field \_\_\_\_ Lab \_\_\_\_ T 84 F. Grav. - T 85 C. Grav. -- Test -T 176 S.E. Bulk: Bulk: T 89 L.L. S.S.D.: S.S.D.: T 90 P.I. Appar .: Appar .: T 335 Ttl Frac. Absorp .: Absorp. : TM 226 Dust/Clay - T 104 Soundness -- TM 208 Degrade -TM 227 Cleanness CA: 12% FA: 13% TM 229 Elong pcs 1.5-3/4: 8.3 % T 304 3/4-3/8: 11.2 % Uncomp. Voids 3/8- #4: 17.3 % Crse Ht: 1.3 in T 19 Unit Wt. #4- #8: 24.0 % P20: 19.1 % T 329 Moisture #8-#16: 13.4 % Fine Ht: - T 27/11 -#16-#30: 7.2 % P20: #30-#50: 5.7 % Sieve Passing Passing 2.5 T 96 Abrasion -- T 21 Impurity -2 17.5 \$ Plate #: 1.5 Type A 1 T 335 Fracture -- T 112 Friables -WE'd Avg : 3/4 3/4: 1.5-3/4: 1/2 1/2: 3/8 3/8: 3/4 3/8: 1/4 1/4: 3/8- #4: # 4 #10: #4-#16: # 8 TM 225 Woodwaste -T 113 Lightweight -# 10 Coarse: Lab: # 16 Field: Fine: # 30 AASHTO T 288/289 -AASHTO T 267 # 40 Resist: Ω Organic:

| T 327 Micro Deval ===> Grading:

PH:

Chloride:

AASHTO T 291 -

# 50

#100

#200

Loss: 1

Sulfate:

- AASHTO T 290 -

1 @ t96 =\$125.00 9 @ t104 = 38.00 1 @ tm208 = 96.00 NSM = Not Sufficient Material REMARKS: INFORMATION ONLY KEVIN BROPHY - LABORATORY SERVICES MANAGER REPORT SKALL NOT HE REPRODUCED, EXCEPT IN FULL, WITHOUT MRITTEN APPROVAL OF THIS LABORATORY. C: FILES / PROC MOR LOUD GLESS | H.G. SCHLICKER & ASSOCIATES ; J CLESLAK - AGGREGATE HIGSANTELEPOPT.COM

		MATERIALS L.	F TRANSPORTATION ABORATORY SALEM, OR 97301-4792	(503) 986-3000
roject: PRIVATE A ighway: ontractor: H.G. SCHL roject Manager: DOUG ubmitted By: ADAM LA	AGGREGATE TH ICKER & ASSOC GLESS RGE RGE Received:	STING - CAD County: IATES Org Unit: Org Unit:	PRIVATE TESTING Lab N MAN - CANBY Data Sheet N FA No.: Bid Item No. Sample No.: Qty Represen Witness sted: 19/ 3/21 Date Use: AGGREGATE BASE	o.: 7-30-42 ted: ed By: Reported: 19/ 3/21
or G:				e: 3" - 0
Test T 176 S.E. T 89 L.L. T 90 P.I. T 335 Ttl Frac. TM 226 Dust/Clay TM 227 Cleanness TM 229 Elong pcs T 304 Uncomp. Voids T 19 Unit Wt. T 329 Moisture T 27/11	Field	Lab	Bulk:	Bulk: S.S.D.: Appar.: Absorp.: TM 208 Degrade Crse Ht: 1.6 in P20: 16.4 % Fine Ht:
Sieve 2.5 2 1.5 1 3/4 1/2 3/8 1/4 # 4 # 8 # 10 # 16 # 30 # 40 # 50 #200	Passing	Passing	#30-#50: 11.4 %	T 21 Impurity

1 @ t96 9 @ t10 1 @ tm2	4 = 38.00	TOTAL CHARGES: \$ 563.00
		HY - LABORATORY SERVICES MANAGER IRITTEN APPROVAL OF THIS LABORATORY.

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OREGON DEPARTMENT OF TRANSPORTATION Page 1 of 1 MATERIALS LABORATORY (503)986-3000 800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX(503)986 3096 EA NO .: PRIVATE TESTING Lab No .: 19-000671 Contract No.: PRIVATE Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY Data Sheet No .: Highway: County: Contractor: H.G. SCHLICKER & ASSOCIATES FA No. : Org Unit: Project Manager: DOUG GLESS Bid Item No .: Submitted By: ADAM LARGE Org Unit: Sample No.: 18-20-30 Material Source: Qty Represented: Sampled At: Sampled By: Witnessed By: Received: 19/ 3/ 5 Tested: 19/ 3/21 Date Reported: 19/ 3/21 DATE-Sampled: Use: AGGREGATE BASE Class/Type: COMPLIANCE AGGREGATE LABORATORY REPORT - BASEAG Size: 3" - 0 Q or G: - T 84 F. Grav. -Field -- Lab -- T 85 C. Grav. - Test -T 176 S.E. Bulk: Bulk: T 89 L.L. S.S.D. : S.S.D.: T 90 P.I. Appar .: Appar.: T 335 Ttl Frac. Absorp. : Absorp. : TM 226 Dust/Clay - T 104 Soundness ... - TM 208 Degrade -TM 227 Cleanness CA: 13% FA: 12% 1.5-3/4: 6.1 % TM 229 Elong pcs 3/4-3/8: 16.5 % T 304 3/8 #4: 15.4 % Crse Ht: 1.4 in Uncomp. Voids #4- #8: 21.2 \$ F20: 17.3 % T 19 Unit Wt. #8-#16: 11.5 % Fine Ht: T 329 Moisture T 27/11 -#16 #30: 6.6 % P20: #30-#50: 6.7 % Sieve Passing Passing T 96 Abrasion -T 21 Impurity -2.5 18.8 \$ Plate #: 2 Type A 1.5 T 335 Fracture -T 112 Friables -2 Wt'd Avg : 3/4 3/4: 1/2: 1.5-3/4: 1/2 3/B: 3/4 3/8: 3/8 3/8- #4: 1/4 1/4; #4-#16: # 4 #10: # 8 TM 225 Woodwaste T 113 Lightweight -

Coarse: Lab: # 10 Fine: Field: # 16 # 30 AASHTO T 288/289 -AASHTO T 267 Resist: Q Organic: # 40 # 50 pH: AASHTO T 291 -AASHTO T 290 -#100 Chloride: Sulfate: #200 Loss: & T 327 Micro Deval ===> Grading: =\$125.00 TOTAL CHARGES: \$ 563.00 1 @ t96 NSM = Not Sufficient Material

OREGON DEPARTMENT OF TRANSPORTATION Page 1 of 1 MATERIALS LABORATORY (503)986-3000 800 AIRPORT RD. SE SALEM, OR 97301-4792 FAX (503) 986-3096 Contract No .: PRIVATE EA No .: PRIVATE TESTING Lab No .: 19-000672 Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY Highway: County: Data Sheet No .: Contractor: H.G. SCHLICKER & ASSOCIATES FA NO. : Project Manager: DOUG GLESS Org Unit: Bid Item No .: Submitted By: ADAM LARGE Org Unit: Sample No.: 18-30-45 Material Source: Qty Represented: Sampled At: Sampled By: Witnessed By: Received: 19/ 3/ 5 Tested: 19/ 3/21 DATE-Sampled: Date Reported: 19/ 3/21 Class/Type: COMPLIANCE Use: AGGREGATE BASE Q or G: AGGREGATE LABORATORY REPORT - BASEAG Size: 3" - 0 - Test -Field ------ Lab - T 84 F. Grav. -- T 85 C. Grav. -T 176 S.E. Bulk: Bulk: T 89 L.L. S.S.D.: S.S.D.: T 90 P.I. Appar. : Appar .: T 335 Ttl Frac. Absorp .: Absorp. : TM 226 Dust/Clay - T 104 Soundness - TM 208 Degrade -TM 227 Cleanness CA: 10% FA: 13% TM 229 Elong pcs 1.5-3/4: 3.5 % T 304 3/4 3/8: 10.7 % Uncomp. Voids 3/8- #4: 15.6 % Crse Ht: 1.2 in T 19 Unit Wt. #4- #8: 20.6 \$ P20: 16.6 % T 329 Moisture #8-#16: 12.0 % Fine Ht: - T 27/11 -#16-#30: 8.8 % P20: Sieve #30-#50: 10.1 % Passing Passing 2.5 T 96 Abrasion -- T 21 Impurity 2 16.5 % Plate #: 1.5 Type A 1 T 335 Fracture -T 112 Friables 3/4 Wt'd Avg : 3/4: 1/2 1/2: 1.5-3/4: 3/8 3/8: 3/4-3/8: 1/4 1/4: 3/8- #4: # 4 #10: #4-#16: # 8 TM 225 Woodwaste T 113 Lightweight -# 10 Coarse: Lab: # 16 Fine: Field: # 30 AASHTO T 288/289 -AASHTO T 267 -# 40 Resist: G Organic: # 50 pH: #100 AASHTO T 291 -- AASHTO T 290 -#200 Chloride: Sulfate: T 327 Micro Deval ===> Grading: Loss: % 1 @ t96 =\$125.00 NSM = Not Sufficient Material TOTAL CHARGES: \$ 563.00 = 38,00 9 @ t104 REMARKS: = 96.00 1 @ tm208 INFORMATION ONLY KEVIN BROPHY - LABORATORY SERVICES MANAGER REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THIS LABORATORY. C: FILES : PROJ MGR: DOUG GLESS : H.G. SCHLICKER & ASSOCIATES : J CIESLAK - AGGREGATE HOSABTELEPORT.COM

Appendix F – Laboratory Test Summary Table – Phase 3 (Paradis) (From HGSA #Y083236)–



Boring (PDH)	Depth Interval	Combine Sample Bag(s) ID		les Abrasion M C 131	(	Oregon Air Degrada OSHD TM 208	tion	Sodium Sulfate Sour ASTM C 88	
or Test Pit (TP)				it: 35% maximum loss evolutions)	•	quirement: 30% max eve; maximum sedim		(ODOT Requirement for EAC a Aggregate: 12% maximum lo	
(18)					No. 20	Sediment			
			% Loss	Pass / Fail	Sieve	Height (in.)	Pass / Fail	% Loss	
PDH 1	7'-20'	A1 + A2	19.0	Pass	23.2	1.1	Pass	5.4	
PDH 1	20'-25'	A1 + A2 A3 + A4	16.8	Pass	17.3	0.9	Pass	2.5	
PDH 1	20-23 25'-30'	A5 + A4 A5 + A6	16.0	Pass	10.0	0.9	Pass	1.1	
PDHI	20-30	A3 + A0	10.0	Fass	10.0	0.9	Fd55	1.1	
PDH 2	5'-20'	B1 + B2	17.7	Pass	21.8	0.7	Pass	1.3	
PDH 2	25'-30'	B5 + B6	21.1	Pass	18.1	0.9	Pass	7.4	
PDH 2	30'-40'	B7 + B8	19.4	Pass	21.5	1.0	Pass	5.1	
	401.001	00 . 04	40.0	5	10.0		-		
PDH 3	10'-20'	C3 + C4	19.9	Pass	13.6	0.8	Pass	3.6	
PDH 3	22'-30'	C6 + C7	20.5	Pass	20.2	0.8	Pass	6.4	
PDH 3	30'-39'	C8 + C9	18.0	Pass	19.8	0.7	Pass	6.1	
PDH 4	5'-20'	D1 + D2	20.3	Pass	17.7	0.6	Pass	4.5	
PDH 4	27'-40'	D5 + D6	16.7	Pass	20.6	0.6	Pass	3.6	
PDH 4	40'-45'	D7 + D8	19.0	Pass	6.6	0.6	Pass	1.1	
PDH 5	5'-20'	E1 + E2	19.6	Deee	19.6	0.7	Pass	3.4	
				Pass					
PDH 5	26'-40'	E4 + E5	18.2	Pass	15.6	0.6	Pass	4.2	
PDH 6	15'-30'	F4 + F5	19.3	Pass	18.1	0.5	Pass	3.8	
PDH 6	30'-40'	F6 + F7	16.7	Pass	15.9	0.6	Pass	1.8	
PDH 6	50'-60'	F10 + F11	15.9	Pass	16.0	0.5	Pass	5.0	
TP 1	20'-22'	G3 + G4	17.7	Pass	20.4	1.6	Pass	3.0	
TP 2	13'-15'	H1 + H2	19.0	Pass	21.4	0.9	Pass	2.4	
TP 3	10'-12'	l1 + l2	17.7	Pass	24.1	1.2	Pass	2.0	
TP 4	21'-23'	J3 + J4	18.9	Pass	22.2	1.1	Pass	1.5	
TP 5	8'-10'	K1 + K2	20.5	Pass	11.5	1.2	Pass	1.9	
TP 5	20'-22'	K3 + K4	17.8	Pass	19.6	0.8	Pass	2.9	
						0.0		<b>_</b>	

# Appendix F - Laboratory Test Results Summary, 2010 Exploration Program (HGSA #Y083236) Pacific Rock Products–Paradis, Hatch and Gardner Properties

**Note:** 1) Sodium Sulfate Soundness Test not required for base rock, it is used for aggregates for paving rock and Portland Concrete.

ate Soundness M C 88 or EAC and PCC Coarse ximum loss at 5 cycles)	Soil Classification USCS
Pass / Fail Pass Pass Pass	GW-GM GW-GM SW-SM
Pass	GW-GM
Pass	GW-GM
Pass	GW-GM
Pass	GW
Pass	GW-GM
Pass	GW
Pass	GW
Pass	GW-GM
Pass	GW-SW
Pass	GW

Project #Y184200

Appendix G – Resource Volume Calculations –



## Appendix G - Resource Volume Calculations Cadman Materials - Canby Phase 4

#### Total volume of 98.5 acres:

	Average 33 feet thick resource		
	4,290,660 ft <sup>2</sup> area X 33 ft resource thickness	= 1	141,591,780 ft <sup>3</sup>
	(assuming vertical sidewall at property lines)	=	5,244,140 yd <sup>3</sup>
Res	ource to remain in setback area:		
1)	30 ft width along Highway 99E:		
	30 ft width X 33ft resource thickness X 1700 feet length	=	1,683,000 ft <sup>3</sup>
		=	62,333 yd <sup>3</sup>
2)	30 ft width plus 35 ft width LNG easement along Barlow Road:		
	30 ft width X 33 ft resource thickness X 1300 feet length	=	2,211,000 ft <sup>3</sup>
	+ 35 ft width X 33 ft resource thickness X 800 feet length	=	81,889 yd <sup>3</sup>
3)	30 ft width along southern property boundary:		
	30 ft width X 33 ft resource thickness X 3500 feet length	=	3,465,000 ft <sup>3</sup>

= 128,333 yd<sup>3</sup>



#### Resource to remain in slopes:

<ol> <li>along Highway 99E</li> </ol>
---------------------------------------

	1581.75 ft <sup>2</sup> resource X 1700 feet length	=	2,688,975 ft <sup>3</sup>
		=	99,592 yd <sup>3</sup>
2)	along Barlow Road:		
	1581.75 ft <sup>2</sup> resource X 1300 feet length	=	2,056,275 ft <sup>3</sup>
		-	76,158 yd <sup>3</sup>
3)	along southern property boundary:		
	1581.75 ft <sup>2</sup> resource X 3500 feet length	=	5,536,125 ft <sup>3</sup>
		=	205,042 yd <sup>3</sup>

### **Resource lost in Setbacks and Slopes**

Loss in setback along Highway 99E	=	62,333 yd <sup>3</sup>
Loss in setback along Barlow Road	=	81,889 yd <sup>3</sup>
Loss in setback along southern property boundary	=	128,333 yd <sup>3</sup>
Loss in slopes along Highway 99E	=	99,592 yd <sup>3</sup>
Loss in slopes along Barlow Road	=	76,158 yd <sup>3</sup>
Loss in slopes along southern property boundary	=	205,042 yd <sup>3</sup>
Total Resource Loss due to Setbacks and Slopes (exlusive of BPA tower requirements)	=	653,347 yd <sup>3</sup>



## Additional loss due to 2H:1V slope around BPA tower located in eastern portion of Tax Lot 1003. BPA required 100' setback from tower legs, which are 40 ft wide at base.

Resource to remain in BPA setback		=	1,492,885 ft <sup>3</sup>
		=	55,292 yd <sup>3</sup>
Resource to remain in 2H:1V slope around BPA setback		=	1,647,564 ft <sup>3</sup>
			61,021 yd <sup>3</sup>
Total Resource Loss due to BPA Setbacks and Slopes		=	116,313 yd <sup>3</sup>
<u>Total resource loss from setbacks, slopes and BPA setback</u> and slope requirements	=		769,660 yd <sup>3</sup>
Total resource on site	=		5,244,140 yd <sup>3</sup>
Resource lost to setbacks and slopes		-	769,660 yd <sup>3</sup>
Remaining resource available	=		4,474,480 yd <sup>3</sup>
<u>Using a conversion factor for cubic yards to tons of 1.54</u> tons/yd <sup>3</sup> , give a tonnage of:			
tons/ yu , give a tonnage of.			6,890,699 tons

