

**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. 117th Avenue
Vancouver, Washington 98662**

Project #Y184200

August 12, 2019

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**To: Cadman Materials, Inc.
Attn: Mr. Noel Barnett
8705 N.E. 117th Avenue
Vancouver, Washington 98662**

**Subject: Aggregate Resource Evaluation and
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Cadman Expansion Properties – Canby Phase 4
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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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Dear Mr. Barnett:

1.0 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.”

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 (<https://websoilsurvey.sc.egov.usda.gov>) 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 5,244,140 cubic yards (8,075,977 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/yd³ (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 (<https://websoilsurvey.sc.egov.usda.gov>) 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.

Gray, J. J., Allen, G. R., and Mack, G. S., Rock material resources of Clackamas, Columbia, Multnomah, and Washington Counties, Oregon: Oregon Department of Geology and Mineral Industries, Special Paper 3, 54 p., map.

Hampton, E. R., 1963, Records of wells, water levels and chemical quality of groundwater in the Molalla-Salem slope area, Northern Willamette Valley, Oregon: USGS, State of Oregon, Ground Water Report No. 2, 174 p., map.

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,

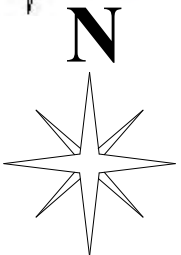
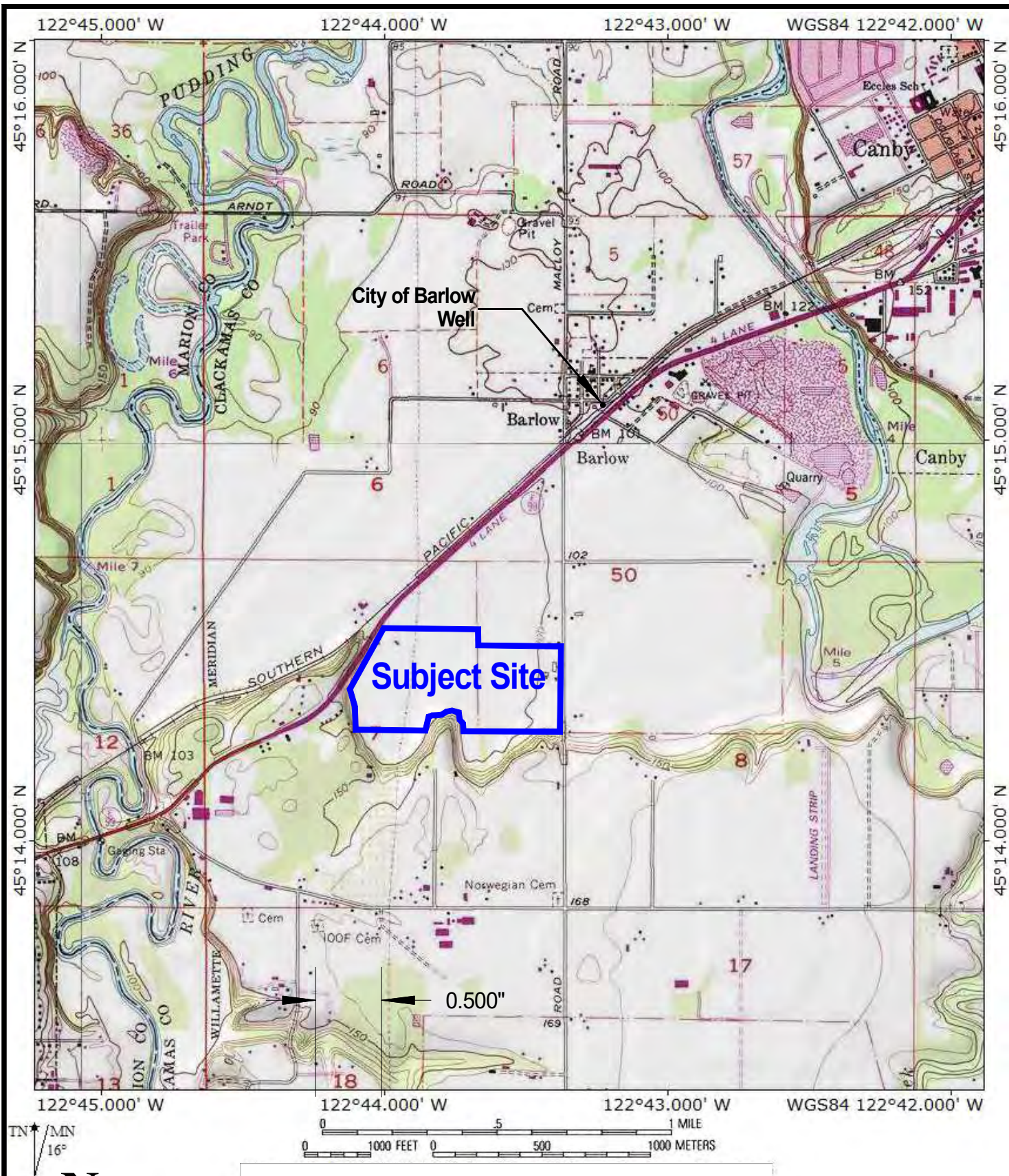
H.G. SCHLICKER AND ASSOCIATES, INC.




EXPIRES: 10/31/2019

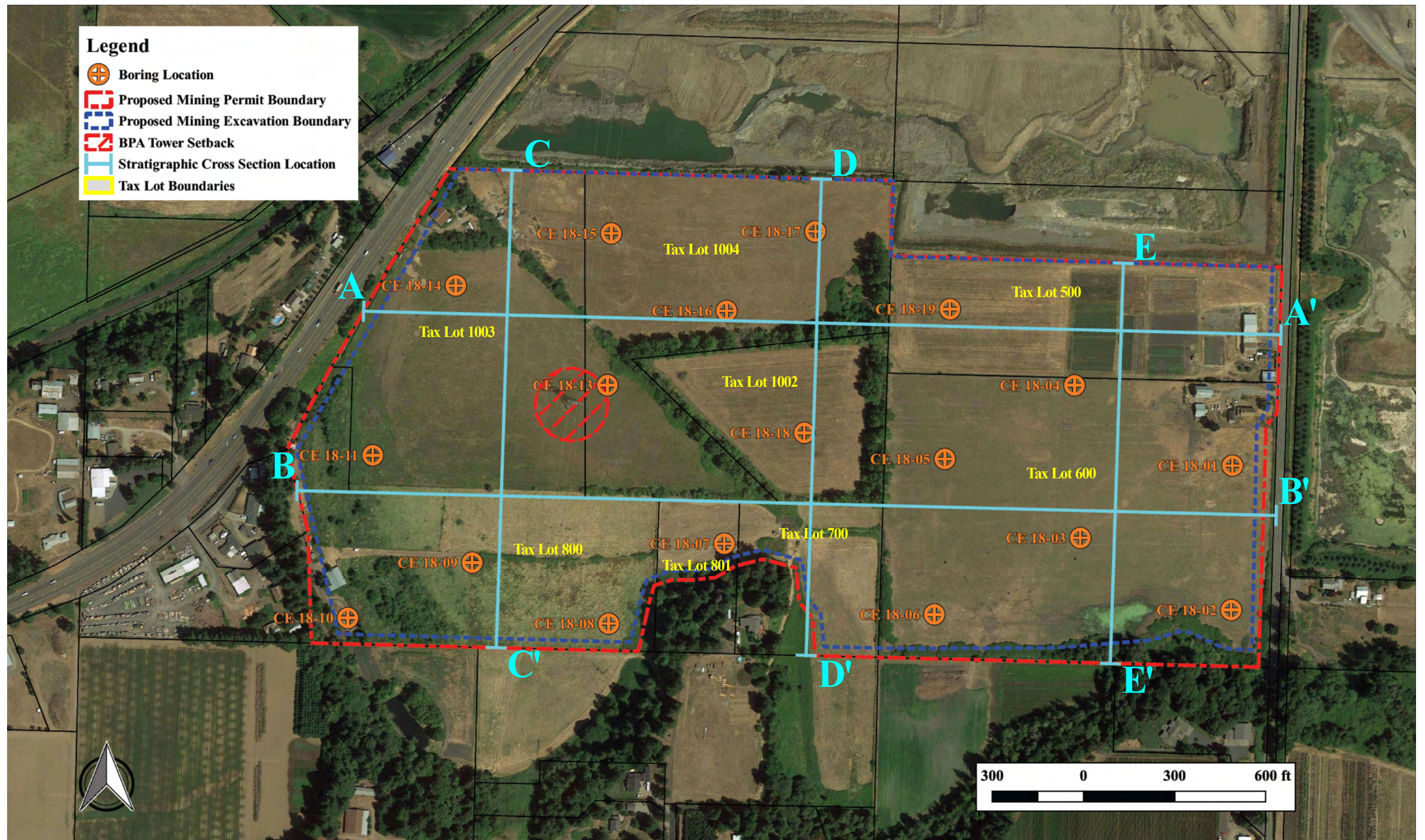
J. Douglas Gless, MSc, RG, CEG, LHG
President/Principal Engineering Geologist

JDG:aml



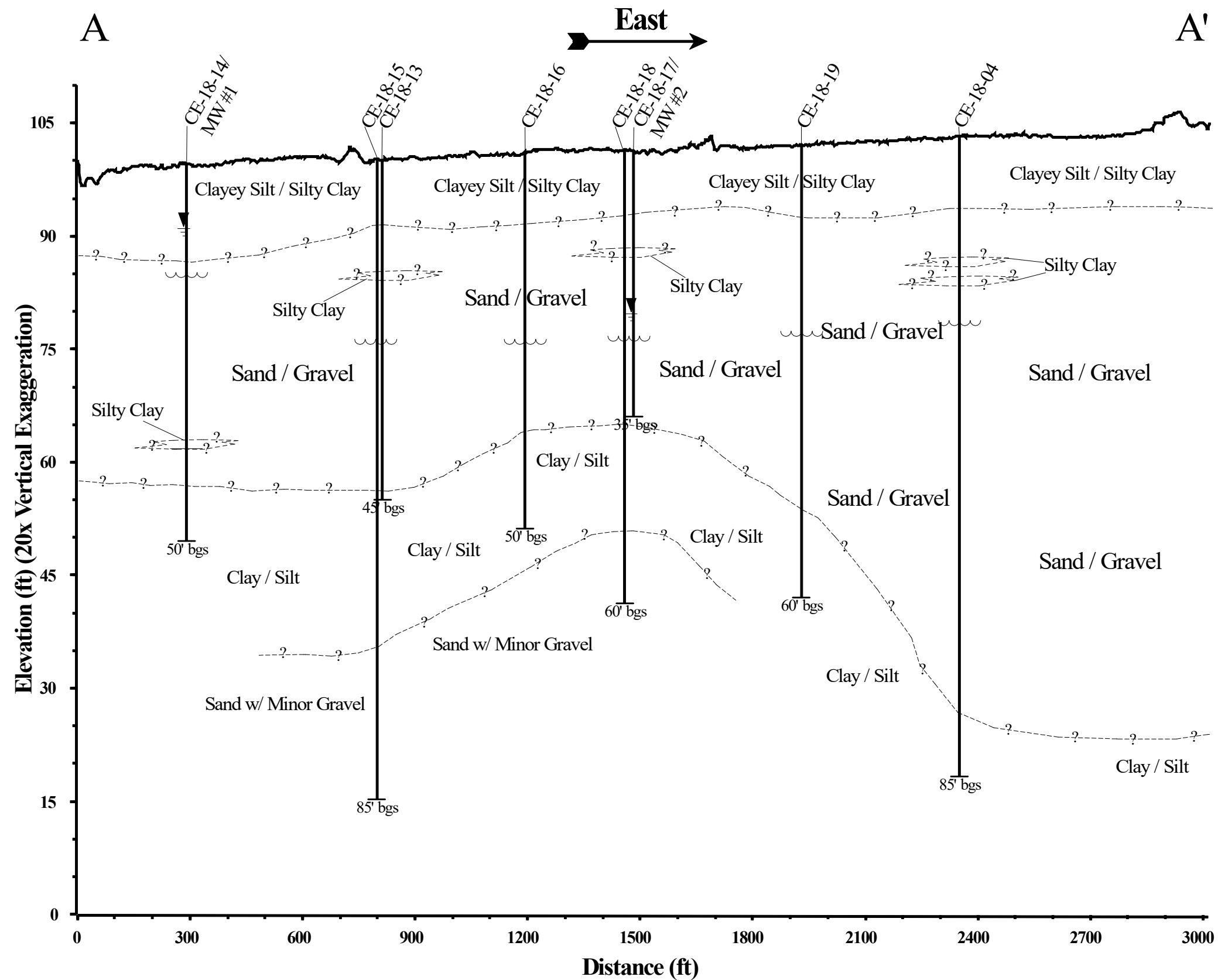
All locations and dimensions are approximate.

Date: 08/12/2019	Project #Y184200	Prepared by: AML
Scale: 1" = 2,000'		Approved by: JDG
Location Map Cadman Expansion Properties - Canby Phase 4 Clackamas County, Oregon		
 H.G. Schlicker & Associates, Inc.		Figure 1



Note: CE-18-12 was planned but not completed due to active agricultural activities and is not shown. See Appendix D.

Imagery provided by Google, 2018. All locations and dimensions are approximate.



-----?---?--- = Approximate inferred geologic contact
Queried where uncertain




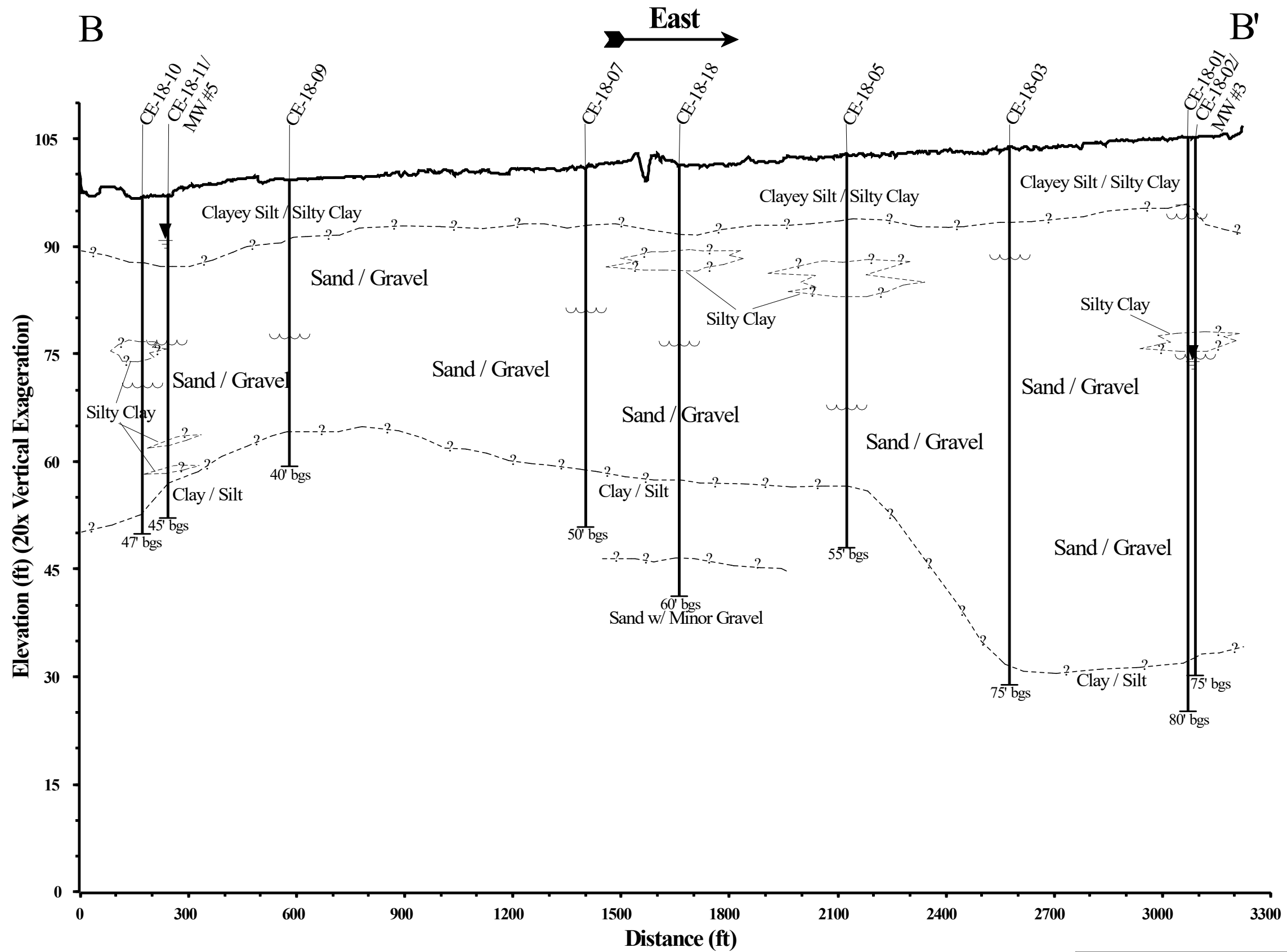
= Static Water Level
Measured 01/17/2019



= Estimated Groudwater Level
At Time Of Drilling

Based on drilled boring data.
Refer to Figure 2 for plan view of site, cross section trend lines, and boring locations.
All locations and dimensions are approximate.

Date: 08/12/2019	Project #Y184200	Prepared by: AML
Scale: As Shown		Approved by: JDG
Stratigraphic Cross Section A-A' Cadman Expansion Properties - Canby Phase 4 Clackamas County, Oregon		
 H.G. Schlicker & Associates, Inc.		Figure 3



-----?---?--- = Approximate inferred geologic contact
Queried where uncertain




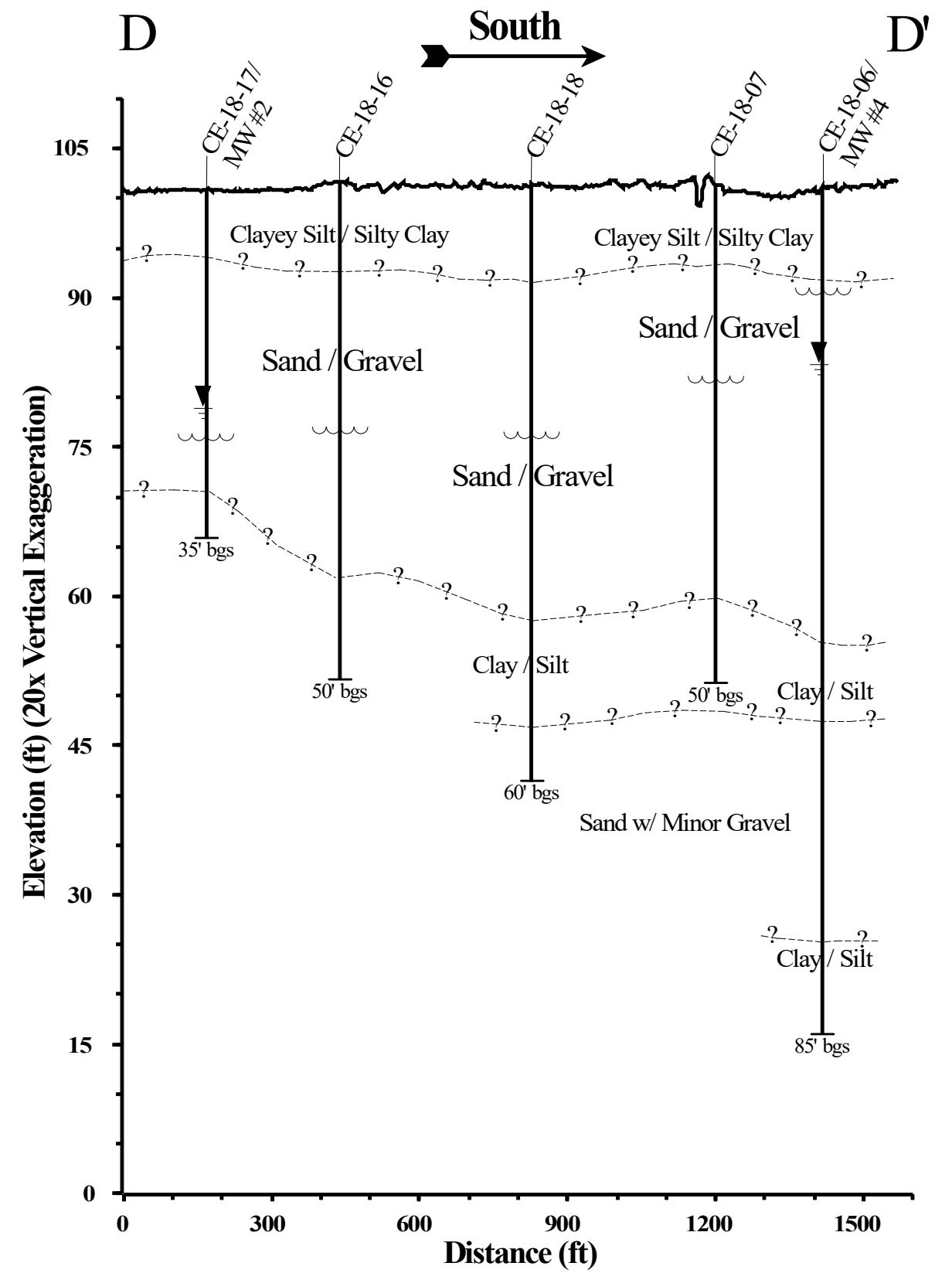
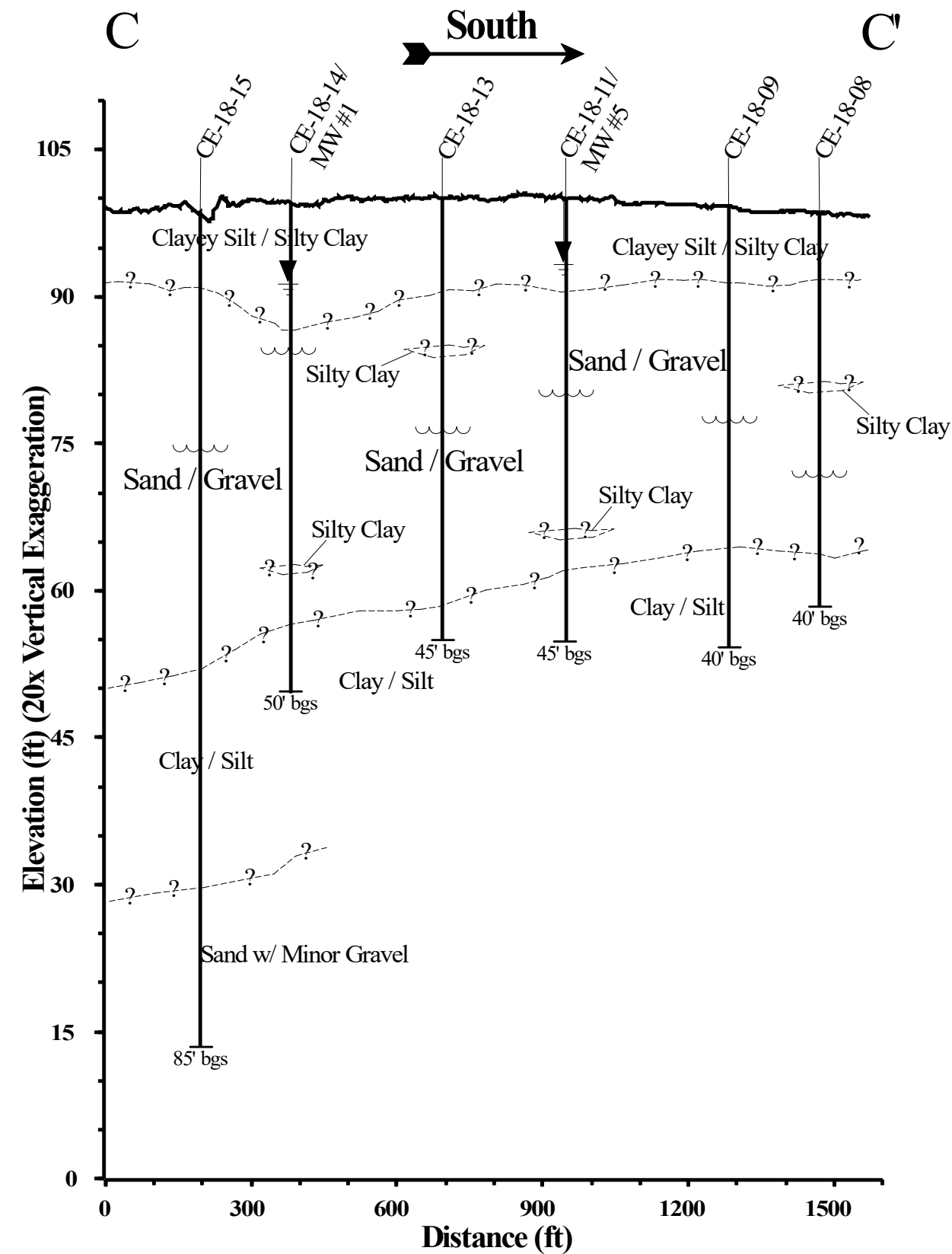
= Static Water Level
Measured 01/17/2019



= Estimated Groudwater Level
At Time Of Drilling

Based on drilled boring data.
Refer to Figure 2 for plan view of site, cross section trend lines, and boring locations.
All locations and dimensions are approximate.

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Scale: As Shown		Approved by: JDG
Stratigraphic Cross Section B-B' Cadman Expansion Properties - Canby Phase 4 Clackamas County, Oregon		
 H.G. Schlicker & Associates, Inc.		Figure 4




-----?---?--- = Approximate inferred geologic contact
Queried where uncertain

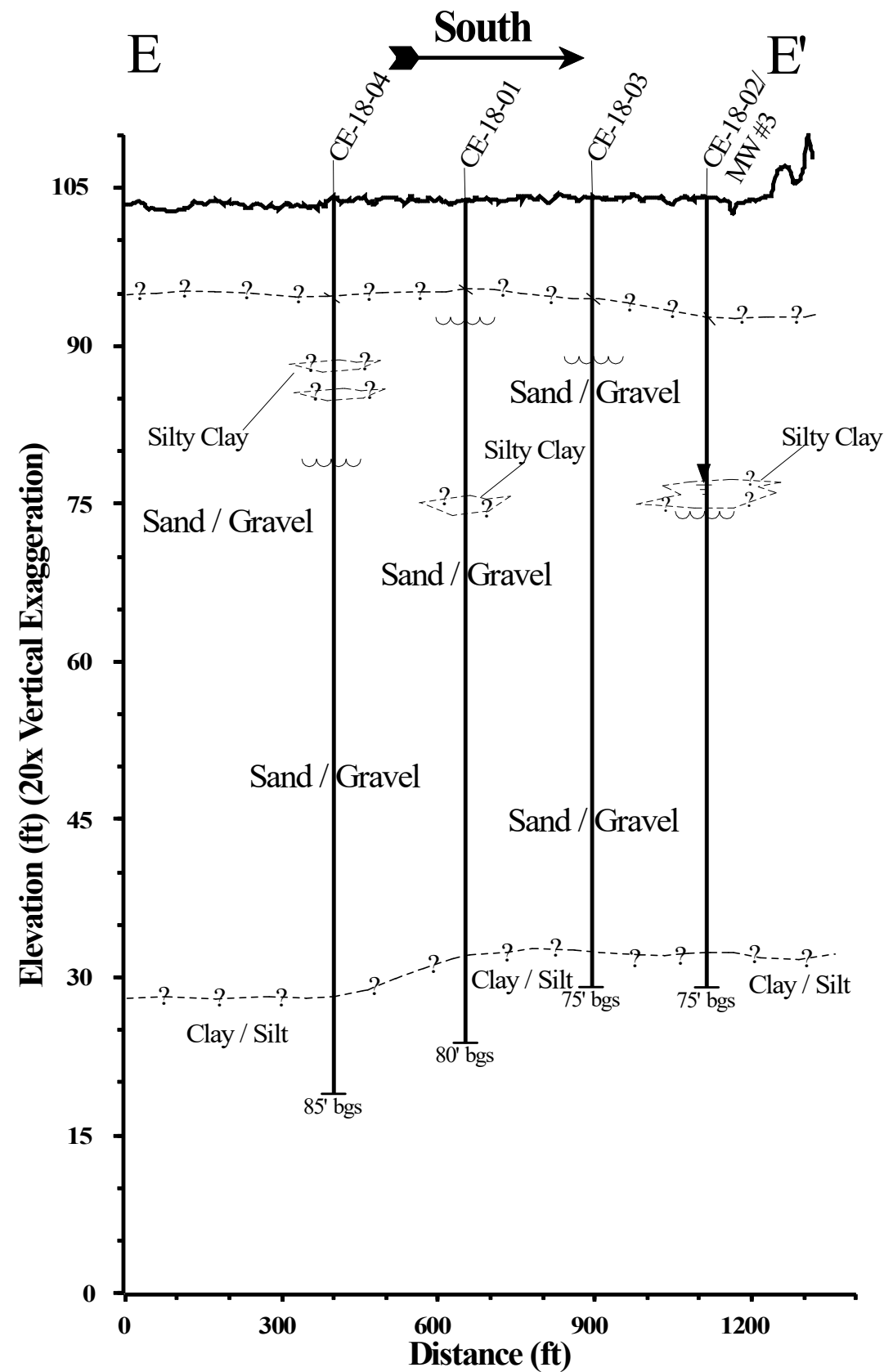
▼ = Static Water Level, Measured 01/17/2019

~~~~~ = Estimated Groudwater Level  
At Time Of Drilling

Based on drilled boring data.  
Refer to Figure 2 for plan view of site, cross section trend lines, and boring locations.  
All locations and dimensions are approximate.

|                                                                                                                                    |                         |                  |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------|
| Date: 08/12/2019                                                                                                                   | <b>Project #Y184200</b> | Prepared by: AML |
| Scale: As Shown                                                                                                                    |                         | Approved by: JDG |
| <b>Stratigraphic Cross Sections C-C' and D-D'</b><br>Cadman Expansion Properties - Canby Phase 4<br>Clackamas County, Oregon       |                         |                  |
|  <b>H.G. Schlicker &amp; Associates, Inc.</b> |                         | <b>Figure 5</b>  |





-----?---?--- = Approximate inferred geologic contact  
Queried where uncertain




= Static Water Level, Measured 01/17/2019



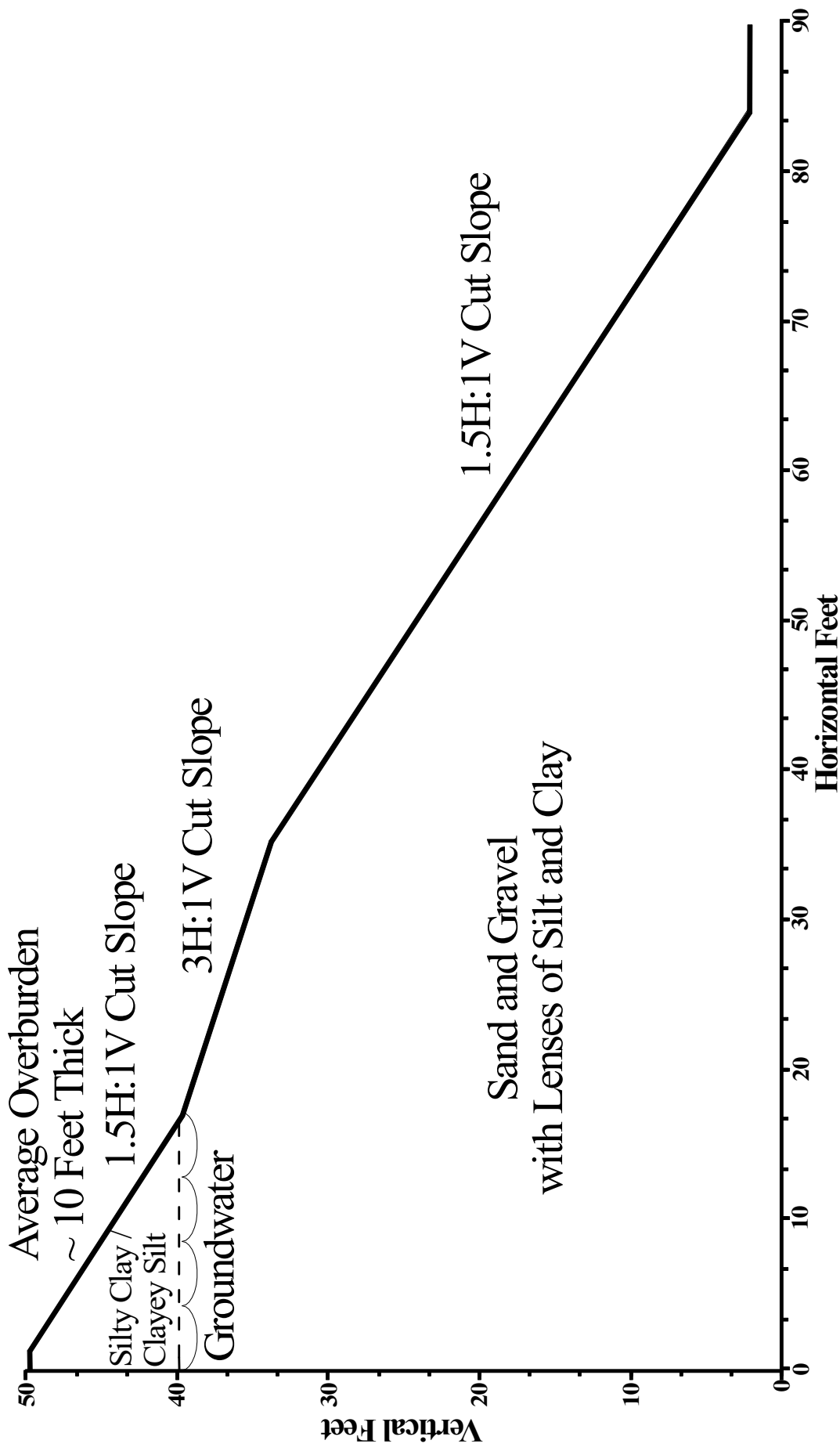
= Estimated Groudwater Level  
At Time Of Drilling

Based on drilled boring data.  
Refer to Figure 2 for plan view of site, cross section trend lines, and boring locations.  
All locations and dimensions are approximate.

|                                                                                                                                    |                         |                  |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------|
| Date: 08/12/2019                                                                                                                   | <b>Project #Y184200</b> | Prepared by: AML |
| Scale: As Shown                                                                                                                    |                         | Approved by: JDG |
| <b>Stratigraphic Cross Sections E-E'</b><br>Cadman Expansion Properties - Canby Phase 4<br>Clackamas County, Oregon                |                         |                  |
|  <b>H.G. Schlicker &amp; Associates, Inc.</b> |                         | <b>Figure 6</b>  |







Date: 08/12/2019

Scale: 1" = 10'

Prepared by: AML

Approved by: JDG

**Project #Y184200**

**Mine Slope Configuration**  
Cadman Expansion Properties - Canby Phase 4  
Clackamas County, Oregon

 **H.G. Schlicker & Associates, Inc.**

**Figure 7**



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'.



Project #Y184200

Appendix B  
– NRCS Custom Soil Resource Report –







United States  
Department of  
Agriculture

**NRCS**

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**



August 12, 2019

# 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](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

## Custom Soil Resource Report

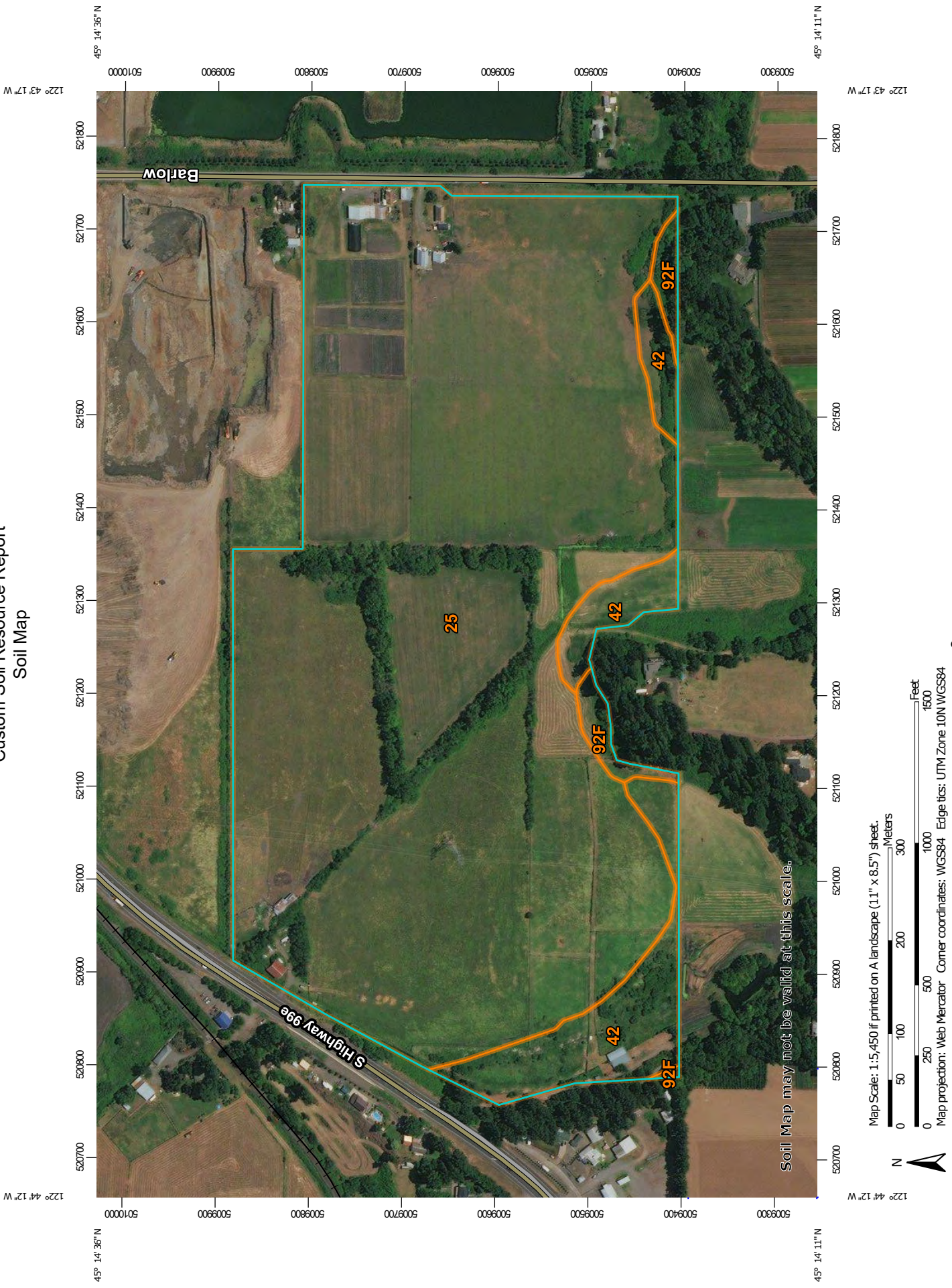
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# 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.

Custom Soil Resource Report  
Soil Map



MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)

**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

**Water Features**

 Streams and Canals

**Transportation**

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

**Background**

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Clackamas County Area, Oregon  
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 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,<br>very steep | 1.6          | 1.6%           |
| <b>Totals for Area of Interest</b> |                                             | <b>99.8</b>  | <b>100.0%</b>  |

## 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



## Custom Soil Resource Report

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

## Custom Soil Resource Report

*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*

## Custom Soil Resource Report

*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)

## Custom Soil Resource Report

### **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.

## Custom Soil Resource Report

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.

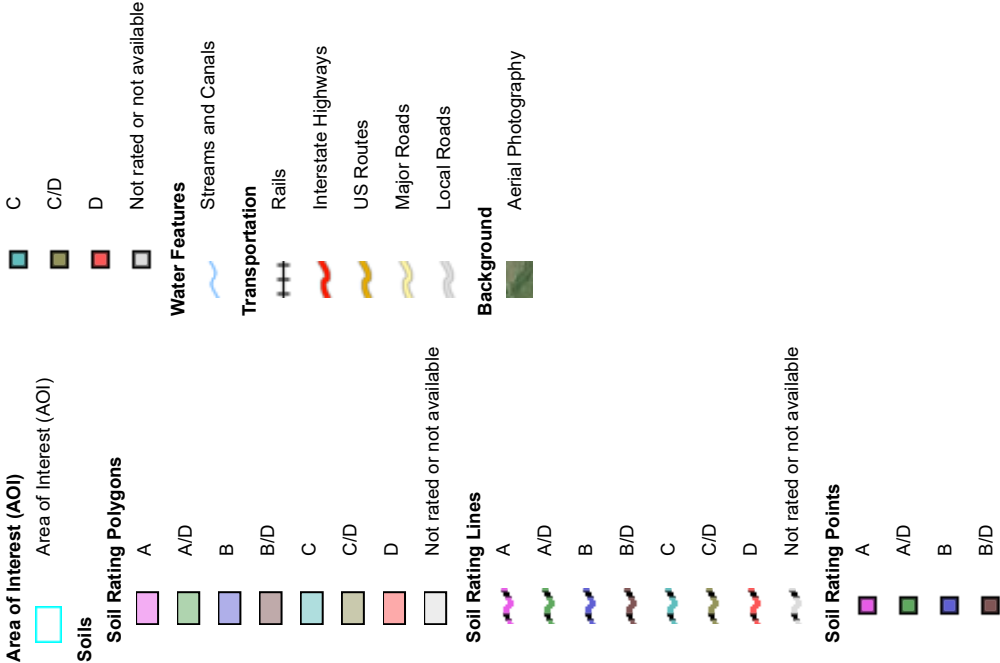
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



Custom Soil Resource Report  
Map—Hydrologic Soil Group



MAP LEGEND



MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Clackamas County Area, Oregon  
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.

**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<br>Haploxerolls, very<br>steep | B      | 1.6          | 1.6%           |
| <b>Totals for Area of Interest</b> |                                                |        | <b>99.8</b>  | <b>100.0%</b>  |

**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.

## Custom Soil Resource Report

- 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, 2*e*. 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.

## Report—Land Capability Classification

| Land Capability Classification—Clackamas County Area, Oregon |                  |                    |                          |           |
|--------------------------------------------------------------|------------------|--------------------|--------------------------|-----------|
| Map unit symbol and name                                     | Pct. of map unit | Component name     | Land Capability Subclass |           |
|                                                              |                  |                    | Nonirrigated             | 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                       | —         |

# References

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- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
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- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>



## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

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Project #Y184200

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 CE-18-1

Name Lee

Address 25351 S Barlow Rd

City Aurora State OR Zip 97002

**(2) TYPE OF WORK**

☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

**(3) CONSTRUCTION METHOD:**

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other Sonic

**(4) TYPE OF HOLE:**

☐ Uncased Temporary ☒ Cased Temporary  
☐ Uncased Permanent ☐ Slope Stability ☐ Other

**(5) USE OF HOLE:** Soil Sampling

**(6) BORE HOLE CONSTRUCTION:**

Special Standard ☐ Yes (attach copy) Depth of Completed Hole 80 ft.

| HOLE     |      |    | SEAL       |      |    | Amount | Sacks or lbs |
|----------|------|----|------------|------|----|--------|--------------|
| Diameter | From | To | Material   | From | To |        |              |
| 7"       | 0    | 80 | Bent chips | 3    | 80 |        | 25           |
|          |      |    |            |      |    |        |              |
|          |      |    |            |      |    |        |              |
|          |      |    |            |      |    |        |              |
|          |      |    |            |      |    |        |              |

Backfill placed from 3 ft. to 80 ft. Material Bent chips

Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

**(7) CASING/SCREEN:**

|         | Diameter | From | To | Gauge | Steel                    | Plastic                  | Welded                   | Threaded                 |
|---------|----------|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| Casing: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Screen: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Slot Size \_\_\_\_\_

**(8) WELL TEST:**

☐ Pump ☐ Baller ☐ Air ☐ Flowing/Artesian

Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_

Conductivity \_\_\_\_\_ PH \_\_\_\_\_

Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.

Water water analysis done? ☐ Yes ☐ No

By whom? \_\_\_\_\_

Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Remarks: \_\_\_\_\_

**(9) LOCATION OF HOLE (legal description)**

County Clackamas Twp 4 N of S Range 1 E or W W.M.

Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41E071800

Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_

Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Street Address of Well (or nearest address) 25351 Barlow Rd  
Aurora, OR

Map with location identified must be attached

**(10) STATIC WATER LEVEL:**

\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_

Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

**(11) SUBSURFACE LOG:**

Ground Elevation \_\_\_\_\_

| Material Description    | From | To | SWL |
|-------------------------|------|----|-----|
| silt                    | 0    | 10 |     |
| sandy gravels           | 10   | 25 |     |
| silty sands some gravel | 25   | 35 |     |
| silty gravels sands     | 35   | 50 |     |
| gravels sand            | 50   | 67 |     |
| sandy silt              | 67   | 75 |     |
| gray clay               | 75   | 80 |     |
|                         |      |    |     |
|                         |      |    |     |
|                         |      |    |     |

Date Started 10-16-18 Date Completed 10-16-18

**(12) ABANDONMENT LOG:**

| Material Description | From | To | Sacks or Pounds |
|----------------------|------|----|-----------------|
| Bent chips           | 3    | 80 | 25              |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |

Date Started 10-16-18 Date Completed 10-16-18

**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

Signed [Signature] Date 10-16-18

Affiliation Holt Services

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

ORIGINAL - WATER RESOURCES DEPARTMENT

FIRST COPY - CONSTRUCTOR

SECOND COPY - CUSTOMER

Revised 01/02/09

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 CE 18-3  
Name Lee  
Address 25551 S Barlow Road  
City Aurora State OR Zip 97002

(2) TYPE OF WORK  
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION METHOD:  
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other Soil

(4) TYPE OF HOLE:  
☐ Uncased Temporary ☒ Cased Temporary  
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: Soil Sample

(6) BORE HOLE CONSTRUCTION:  
Special Standard ☐ Yes (attach copy) Depth of Completed Hole 75 ft.

| HOLE     |         | SEAL     |         | Amount | Sacks or lbs |
|----------|---------|----------|---------|--------|--------------|
| Diameter | From To | Material | From To |        |              |
| 7"       |         |          | 3       | 75     |              |
|          |         |          |         |        |              |
|          |         |          |         |        |              |
|          |         |          |         |        |              |
|          |         |          |         |        |              |
|          |         |          |         |        |              |
|          |         |          |         |        |              |

Backfill placed from 3 ft. to 75 ft. Material Bent chips  
Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

(7) CASING/SCREEN:

|         | Diameter | From | To | Gauge | Steel                    | Plastic                  | Welded                   | Threaded                 |
|---------|----------|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| Casing: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Screen: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Slot Size \_\_\_\_\_

(8) WELL TEST:  
☐ Pump ☐ Bailer ☐ Air ☐ Flowing/Artesian  
Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM  
Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
Water analysis done? ☐ Yes ☐ No  
By whom? \_\_\_\_\_  
Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Remarks: \_\_\_\_\_

(9) LOCATION OF HOLE (legal description)  
County CLATSOP Twp 4 N or S Range 1 E or W W.M.  
Sec 7 SE 1/4 of the N6 1/4 Tax Lot 416070600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Street Address of Well (or nearest address) 25551 Barlow Road  
Aurora, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:  
\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) SUBSURFACE LOG:  
Ground Elevation \_\_\_\_\_

| Material Description             | From      | To        | SWL |
|----------------------------------|-----------|-----------|-----|
| <u>silt</u>                      | <u>0</u>  | <u>10</u> |     |
| <u>med-fine sand</u>             | <u>10</u> | <u>20</u> |     |
| <u>silty gravels &amp; sands</u> | <u>20</u> | <u>35</u> |     |
| <u>gravelly sands</u>            | <u>35</u> | <u>55</u> |     |
| <u>med-fine sand</u>             | <u>55</u> | <u>74</u> |     |
| <u>some gravel</u>               |           | <u>74</u> |     |
| <u>grey clay</u>                 | <u>74</u> | <u>75</u> |     |

Date Started 10-17-18 Date Completed 10-18-18

(12) ABANDONMENT LOG:

| Material Description | From     | To        | Sacks or Pounds |
|----------------------|----------|-----------|-----------------|
| <u>Bent chips</u>    | <u>3</u> | <u>75</u> | <u>20</u>       |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |

Date Started 10-17-18 Date Completed 10-18-18

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.

Signed [Signature] License or Registration Number 10609  
Date 10-18-18  
Affiliation Holt Services

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

ORIGINAL - WATER RESOURCES DEPARTMENT FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER

Revised 01/02/09

# 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:

Name Lee Hole Number CE-18-4  
Address 25351 S Barlow Road  
City Aurora State OR Zip 97002

## (2) TYPE OF WORK

☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

## (3) CONSTRUCTION METHOD:

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other Soil

## (4) TYPE OF HOLE:

☐ Uncased Temporary ☒ Cased Temporary  
☐ Uncased Permanent ☐ Slope Stability ☐ Other

## (5) USE OF HOLE: Soil Sample

## (6) BORE HOLE CONSTRUCTION:

Special Standard ☐ Yes (attach copy) Depth of Completed Hole 85 ft.

| HOLE     |      |    | SEAL     |      |    | Amount | Sacks or lbs |
|----------|------|----|----------|------|----|--------|--------------|
| Diameter | From | To | Material | From | To |        |              |
| 7"       |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_

Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

## (7) CASING/SCREEN:

|         | Diameter | From | To | Gauge | Steel                    | Plastic                  | Welded                   | Threaded                 |
|---------|----------|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| Casing: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Screen: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Slot Size \_\_\_\_\_

## (8) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing/Artesian  
Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM  
Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
Water water analysis done? ☐ Yes ☐ No  
By whom? \_\_\_\_\_  
Depth of strata analyzed, From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Remarks: \_\_\_\_\_

## (9) LOCATION OF HOLE (legal description)

County Clackamas Twp 4 N of S Range 1 E or W W.M.  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41ED70600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_

Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Street Address of Well (or nearest address) 25351 Barlow Rd  
Aurora, OR

Map with location identified must be attached

## (10) STATIC WATER LEVEL:

\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_

Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

## (11) SUBSURFACE LOG:

Ground Elevation \_\_\_\_\_

| Material Description | From | To | SWL |
|----------------------|------|----|-----|
| fill                 | 0    | 5  |     |
| stiff sand           | 5    | 10 |     |
| gravelly sands       | 10   | 35 |     |
| med - fine sand      | 35   | 40 |     |
| gravelly sands       | 40   | 60 |     |
| sandy gravels        | 60   | 78 |     |
| clay                 | 78   | 85 |     |

Date Started 10.19.18 Date Completed 10.19.18

## (12) ABANDONMENT LOG:

| Material Description | From | To | Sacks or Pounds |
|----------------------|------|----|-----------------|
| Bent chips           | 0    | 85 | 25              |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |

Date Started 10.19.18 Date Completed 10.19.18

## 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.

Signed J. G. M. License or Registration Number 10609  
Date 10.19.18  
Affiliation H/S H Services

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

ORIGINAL - WATER RESOURCES DEPARTMENT

FIRST COPY - CONSTRUCTOR

SECOND COPY - CUSTOMER

Revised 01/02/09



**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:**

Name Lee Hole Number 62-18-5  
Address 25351 S Barlow Road  
City Aurora State OR Zip 97002

**(2) TYPE OF WORK**

☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

**(3) CONSTRUCTION METHOD:**

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other Sonic

**(4) TYPE OF HOLE:**

☐ Uncased Temporary ☒ Cased Temporary  
☐ Uncased Permanent ☐ Slope Stability ☐ Other \_\_\_\_\_

**(5) USE OF HOLE:**

Soil Boring

**(6) BORE HOLE CONSTRUCTION:**

Special Standard ☐ Yes (attach copy) Depth of Completed Hole 55 ft.

| HOLE     |      |    | SEAL     |      |    | Amount | Sacks or lbs |
|----------|------|----|----------|------|----|--------|--------------|
| Diameter | From | To | Material | From | To |        |              |
| 7"       |      |    |          |      |    |        | 14           |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |

Backfill placed from 5 ft. to 55 ft. Material Ben. chks

Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

**(7) CASING/SCREEN:**

|         | Diameter | From | To | Gauge | Steel                    | Plastic                  | Welded                   | Threaded                 |
|---------|----------|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| Casing: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Screen: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Slot Size \_\_\_\_\_

**(8) WELL TEST:**

☐ Pump ☐ Baller ☐ Air ☐ Flowing/Artesian

Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_

Conductivity \_\_\_\_\_ PH \_\_\_\_\_

Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.

Water water analysis done? ☐ Yes ☐ No

By whom? \_\_\_\_\_

Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Remarks: \_\_\_\_\_

**(9) LOCATION OF HOLE (legal description)**

County Clackamas Twp 4 N of S Range 1 E of W W.M.  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41E070600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_

Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Street Address of Well (or nearest address) 25351 Barlow Rd  
Aurora, OR

Map with location identified must be attached

**(10) STATIC WATER LEVEL:**

\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_

Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

**(11) SUBSURFACE LOG:**

Ground Elevation \_\_\_\_\_

| Material Description | From | To | SWL |
|----------------------|------|----|-----|
| silt                 | 0    | 5  |     |
| sand med-fine        | 5    | 10 |     |
| gravelly sands       | 10   |    |     |
| some silts           |      | 45 |     |
| med-fine sand        | 45   | 50 |     |
| silty sand           | 50   | 55 |     |

Date Started \_\_\_\_\_ Date Completed \_\_\_\_\_

**(12) ABANDONMENT LOG:**

| Material Description | From | To | Sacks or Pounds |
|----------------------|------|----|-----------------|
| Ben chks             | 0    | 55 | 14              |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |
|                      |      |    |                 |

Date Started 10-18-18 Date Completed 10-18-18

**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

Signed \_\_\_\_\_ Date \_\_\_\_\_

Affiliation Holt Services

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

ORIGINAL - WATER RESOURCES DEPARTMENT

FIRST COPY - CONSTRUCTOR

SECOND COPY - CUSTOMER

Revised 01/02/09

# 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 CC-18-7

Name Lee  
Address 25351 S Barlow Road  
City Aurora State OR Zip 97002

(2) TYPE OF WORK

☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION METHOD:

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other SNL

(4) TYPE OF HOLE:

☐ Uncased Temporary ☒ Cased Temporary  
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: Soil Sample

(6) BORE HOLE CONSTRUCTION:

Special Standard ☐ Yes (attach copy) Depth of Completed Hole 50 ft.

| HOLE     |      |    | SEAL     |      |    | Amount | Sacks or lbs |
|----------|------|----|----------|------|----|--------|--------------|
| Diameter | From | To | Material | From | To |        |              |
| 7"       |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_

Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

(7) CASING/SCREEN:

|         | Diameter | From | To | Gauge | Steel                    | Plastic                  | Welded                   | Threaded                 |
|---------|----------|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| Casing: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Screen: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Slot Size \_\_\_\_\_

(8) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing/Artesian  
Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_  
Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
Water water analysis done? ☐ Yes ☐ No  
By whom? \_\_\_\_\_  
Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Remarks: \_\_\_\_\_

(9) LOCATION OF HOLE (legal description)

County Clackamas Twp. 4 N or S Range 1 E or W W.M.  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41E070600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_

Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Street Address of Well (or nearest address) \_\_\_\_\_

25351 Barlow Rd, Aurora, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:

\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_

Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) SUBSURFACE LOG:

Ground Elevation \_\_\_\_\_

| Material Description       | From      | To        | SWL |
|----------------------------|-----------|-----------|-----|
| <u>51 ft</u>               | <u>0</u>  | <u>5</u>  |     |
| <u>gravelly sands</u>      | <u>5</u>  | <u>10</u> |     |
| <u>gravelly silty sand</u> | <u>10</u> | <u>20</u> |     |
| <u>sandy gravels</u>       | <u>20</u> | <u>47</u> |     |
| <u>clay</u>                | <u>47</u> | <u>50</u> |     |
|                            |           |           |     |
|                            |           |           |     |
|                            |           |           |     |
|                            |           |           |     |

Date Started \_\_\_\_\_ Date Completed \_\_\_\_\_

(12) ABANDONMENT LOG:

| Material Description | From     | To        | Sacks or Pounds |
|----------------------|----------|-----------|-----------------|
| <u>Best chips</u>    | <u>0</u> | <u>50</u> | <u>15</u>       |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |

Date Started 10-23-18 Date Completed 10-23-18

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.

Signed [Signature] License or Registration Number 10609  
Date 10-23-18  
Affiliation Holt Services

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

ORIGINAL - WATER RESOURCES DEPARTMENT

FIRST COPY - CONSTRUCTOR

SECOND COPY - CUSTOMER

Revised 01/02/09

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 EC-18-8  
Name Lee  
Address 25351 S Barlow Road  
City Aurora State OR Zip 97002

(2) TYPE OF WORK  
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION METHOD:  
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other Sonic

(4) TYPE OF HOLE:  
☐ Uncased Temporary ☒ Cased Temporary  
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: Soil sample

(6) BORE HOLE CONSTRUCTION:  
Special Standard ☐ Yes (attach copy) Depth of Completed Hole 40 ft.

| HOLE     |      |    | SEAL     |      |    | Amount | Sacks or lbs |
|----------|------|----|----------|------|----|--------|--------------|
| Diameter | From | To | Material | From | To |        |              |
| 7"       |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |
|          |      |    |          |      |    |        |              |

Backfill placed from 0 ft. to 40 ft. Material Bent chips  
Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

(7) CASING/SCREEN:  
Diameter From To Gauge Steel Plastic Welded Threaded  
Casing: NA  
Screen: NA  
Slot Size \_\_\_\_\_

(8) WELL TEST:  
☐ Pump ☐ Bailer ☐ Air ☐ Flowing/Artesian  
Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_  
Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
Water water analysis done? ☐ Yes ☐ No  
By whom? \_\_\_\_\_  
Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Remarks: \_\_\_\_\_

(9) LOCATION OF HOLE (legal description)  
County Clatsop Twp 4 N of S Range 1 E of W W.M.  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41ED70X600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_

Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Street Address of Well (or nearest address)  
25351 Barlow Rd, Aurora, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:  
\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) SUBSURFACE LOG:  
Ground Elevation \_\_\_\_\_

| Material Description | From | To | SWL |
|----------------------|------|----|-----|
| silt                 | 0    | 5  |     |
| gravelly sand        | 5    | 10 |     |
| sandy gravel         | 10   | 35 |     |
| med-fine sand        | 35   | 37 |     |
| clay                 | 37   | 40 |     |

Date Started \_\_\_\_\_ Date Completed \_\_\_\_\_

(12) ABANDONMENT LOG:

| Material Description | From | To | Sacks or Pounds |
|----------------------|------|----|-----------------|
| Bent chips           | 0    | 40 | 15              |

Date Started 10-23-18 Date Completed 10-23-18

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  
Signed [Signature] Date 10-23-18  
Affiliation HAIT services

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

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Revised 01/02/09

**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 Ce-18-9  
Name Lee  
Address 25351 S Barlow Road  
City Aurora State OR Zip 97002

(2) TYPE OF WORK  
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION METHOD:  
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other Soil

(4) TYPE OF HOLE:  
☐ Uncased Temporary ☒ Cased Temporary  
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: Soil Samples

(6) BORE HOLE CONSTRUCTION:  
Special Standard ☐ Yes (attach copy) Depth of Completed Hole 46 ft.

| HOLE          |      |    | SEAL     |      |    | Amount | Sacks or lbs |
|---------------|------|----|----------|------|----|--------|--------------|
| Diameter      | From | To | Material | From | To |        |              |
| <u>7 1/4"</u> |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

(7) CASING/SCREEN:

|         | Diameter   | From | To | Gauge | Steel                    | Plastic                  | Welded                   | Threaded                 |
|---------|------------|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| Casing: | <u>N/A</u> |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Screen: |            |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |            |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |            |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |            |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Slot Size \_\_\_\_\_

(8) WELL TEST:  
☐ Pump ☐ Bailer ☐ Air ☐ Flowing/Artesian  
Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_  
Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
Water water analysis done? ☐ Yes ☐ No  
By whom? \_\_\_\_\_  
Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Remarks: \_\_\_\_\_

(9) LOCATION OF HOLE (legal description)  
County Clackamas Twp 4 N of S Range 1 E or W W.M.  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41E070600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Street Address of Well (or nearest address)  
25351 Barlow Rd, Aurora, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:  
\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) SUBSURFACE LOG:  
Ground Elevation \_\_\_\_\_

| Material Description  | From      | To        | SWL |
|-----------------------|-----------|-----------|-----|
| <u>silt</u>           | <u>0</u>  | <u>3</u>  |     |
| <u>Fine sands</u>     | <u>3</u>  | <u>8</u>  |     |
| <u>gravelly sand</u>  | <u>8</u>  | <u>20</u> |     |
| <u>silty gravel</u>   | <u>20</u> | <u>35</u> |     |
| <u>med-fine sands</u> | <u>35</u> | <u>40</u> |     |

Date Started 10-23-18 Date Completed 10-23-18

(12) ABANDONMENT LOG:

| Material Description | From     | To        | Sacks or Pounds |
|----------------------|----------|-----------|-----------------|
| <u>Bank chips</u>    | <u>0</u> | <u>40</u> | <u>15</u>       |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |

Date Started 10-23-18 Date Completed 10-23-18

**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.

Signed [Signature] License or Registration Number 10609  
Date 10-23-18  
Affiliation Holt Serv

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

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Revised 01/02/09

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

(1) OWNER/PROJECT Hole Number CO-18-10

PROJECT NAME/NBR: \_\_\_\_\_

First Name Lee Last Name \_\_\_\_\_

Company \_\_\_\_\_

Address 25351 3 Barlow Road

City Aurora State OR Zip 97002

(2) TYPE OF WORK ☒ New ☐ Deepening ☐ Abandonment  
☐ Alteration (repair/recondition)

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow stem auger  
☐ Rotary Mud ☐ Cable ☐ Push Probe  
☐ Other Seal

(4) TYPE OF HOLE:

☐ Uncased Temporary ☐ Cased Permanent  
☐ Uncased Permanent ☐ Slope Stability  
☐ Other  
Other: \_\_\_\_\_

(5) USE OF HOLE

Soil Samples

(6) BORE HOLE CONSTRUCTION Special Standard ☐ (Attach copy)

Depth of Completed Hole 47 ft.

| BORE HOLE |      |    | SEAL     |      |    | sacks/lbs |     |
|-----------|------|----|----------|------|----|-----------|-----|
| Dia.      | From | To | Material | From | To | Amt.      | lbs |
| 7         |      |    |          |      |    |           |     |
|           |      |    |          |      |    |           |     |
|           |      |    |          |      |    |           |     |

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

(7) CASING/SCREEN

| Casing                   | Screen                   | Dia. | + | From | To | Gauge | Stl                      | Pisto                    | Wld                      | Thrd                     |
|--------------------------|--------------------------|------|---|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |      |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |      |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |      |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |      |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(8) WELL TESTS

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

| Yield gal/min | Drawdown | Drill stem/Pump depth | Duration (hr) |
|---------------|----------|-----------------------|---------------|
|               |          |                       |               |
|               |          |                       |               |

Temperature \_\_\_\_\_ °F Lab analysis ☐ Yes By \_\_\_\_\_

Supervising Geologist/Engineer \_\_\_\_\_

Water quality concerns? ☐ Yes (describe below)

| From | To | Description | Amount | Units |
|------|----|-------------|--------|-------|
|      |    |             |        |       |
|      |    |             |        |       |

(9) LOCATION OF HOLE (legal description)

County Clackamas Tax 4 NE Range 1 B/W WM

Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41E070000

Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_

Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

☐ Street address of hole ☐ Nearest address

25351 Barlow Rd, Aurora, OR

(10) STATIC WATER LEVEL

| Date                         | SWL (psi) | + | SWL (ft) |
|------------------------------|-----------|---|----------|
| Existing Well / Predeepening |           |   |          |
| Completed Well               |           |   |          |

WATER BEARING ZONES

Flowing Artesian? ☐

Depth water was first found

| SWL Date | From | To | Est Flow | SWL (psi) | + | SWL (ft) |
|----------|------|----|----------|-----------|---|----------|
|          |      |    |          |           |   |          |
|          |      |    |          |           |   |          |
|          |      |    |          |           |   |          |

(11) SUBSURFACE LOG Ground Elevation

| Material              | From      | To        |
|-----------------------|-----------|-----------|
| <u>silts</u>          | <u>0</u>  | <u>8</u>  |
| <u>gravelly sands</u> | <u>8</u>  | <u>45</u> |
| <u>clay</u>           | <u>45</u> | <u>47</u> |
|                       |           |           |
|                       |           |           |

Date Started 10-23-18 Completed 10-23-18

(12) ABANDONMENT LOG:

| Material      | From     | To        | Amt | sacks/lbs |
|---------------|----------|-----------|-----|-----------|
| <u>Seal</u>   | <u>0</u> | <u>47</u> |     |           |
| <u>cl. P.</u> |          |           |     | <u>16</u> |
|               |          |           |     |           |
|               |          |           |     |           |

Date Started 10-23-18 Completed 10-23-18

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

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

License/Registration Number 10609 Date 10-23-18

First Name Joe Last Name San

Affiliation Holt San

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

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

(1) OWNER/PROJECT Hole Number CE 18-13

PROJECT NAME/NBR: \_\_\_\_\_

First Name LCC Last Name \_\_\_\_\_

Company \_\_\_\_\_

Address 25351 S. Barlow Rd.

City Aurora State OR Zip 97002

(2) TYPE OF WORK ☒ New ☐ Deepening ☐ Abandonment  
☐ Alteration (repair/recondition)

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow stem auger  
☐ Rotary Mud ☐ Cable ☐ Push Probe  
☐ Other Soil

(4) TYPE OF HOLE:

☐ Uncased Temporary ☐ Cased Permanent  
☐ Uncased Permanent ☐ Slope Stability  
☐ Other \_\_\_\_\_

(5) USE OF HOLE

Soil sample

(6) BORE HOLE CONSTRUCTION Special Standard ☐ (Attach copy)

Depth of Completed Hole \_\_\_\_\_ ft.

| BORE HOLE |      |    | SEAL     |      |    | sacks/<br>lbs |     |
|-----------|------|----|----------|------|----|---------------|-----|
| Dia       | From | To | Material | From | To | Amt           | lbs |
| 7"        | 0    | 45 |          |      |    |               |     |
|           |      |    |          |      |    |               |     |
|           |      |    |          |      |    |               |     |

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Filler pack from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

(7) CASING/SCREEN

| Casing                   | Screen                   | Dia | + | From | To | Gauge | Sd                       | Plste                    | Wld                      | Thrd                     |
|--------------------------|--------------------------|-----|---|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |     |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |     |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |     |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |     |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |     |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |     |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |     |   |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(8) WELL TESTS

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

| Yield gal/min | Drawdown | Drill stem/Pump depth | Duration(hr) |
|---------------|----------|-----------------------|--------------|
|               |          |                       |              |
|               |          |                       |              |

Temperature \_\_\_\_\_ °F Lab analysis ☐ Yes By \_\_\_\_\_

Supervising Geologist/Engineer \_\_\_\_\_

Water quality concerns? ☐ Yes (describe below)

| From | To | Description | Amount | Units |
|------|----|-------------|--------|-------|
|      |    |             |        |       |
|      |    |             |        |       |

(9) LOCATION OF HOLE (legal description)

County Clackamas 4 N/S Range 1 (E/W WM)

Sec 7 SE 1/4 of the NE 1/4 Tax Lot 47E071004

Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_

Lat \_\_\_\_\_ or \_\_\_\_\_ DMS or DD

Long \_\_\_\_\_ or \_\_\_\_\_ DMS or DD

☐ Street address of hole ☐ Nearest address

25351 Barlow Rd, Aurora, OR

(10) STATIC WATER LEVEL

| Date                         | SWL(psi) | + | SWL(ft) |
|------------------------------|----------|---|---------|
| Existing Well / Predeepening |          |   |         |
| Completed Well               |          |   |         |

Flowing Artesian? ☐

WATER BEARING ZONES Depth water was first found

| SWL Date | From | To | Est Flow | SWL(psi) | + | SWL(ft) |
|----------|------|----|----------|----------|---|---------|
|          |      |    |          |          |   |         |
|          |      |    |          |          |   |         |
|          |      |    |          |          |   |         |

(11) SUBSURFACE LOG Ground Elevation

| Material                   | From      | To        |
|----------------------------|-----------|-----------|
| <u>silt</u>                | <u>0</u>  | <u>3</u>  |
| <u>silty sand</u>          | <u>3</u>  | <u>8</u>  |
| <u>med-fine sand</u>       | <u>8</u>  | <u>10</u> |
| <u>gravelly sand</u>       | <u>10</u> | <u>25</u> |
| <u>gravelly silty sand</u> | <u>25</u> | <u>27</u> |
| <u>med-fine sand</u>       | <u>27</u> | <u>42</u> |
| <u>clay</u>                | <u>42</u> | <u>45</u> |

Date Started \_\_\_\_\_ Completed \_\_\_\_\_

(12) ABANDONMENT LOG:

| Material         | From     | To        | Amt | sacks/<br>lbs |
|------------------|----------|-----------|-----|---------------|
| <u>Ben chips</u> | <u>0</u> | <u>45</u> |     | <u>18</u>     |
|                  |          |           |     |               |
|                  |          |           |     |               |
|                  |          |           |     |               |
|                  |          |           |     |               |
|                  |          |           |     |               |

Date Started 10-25-18 Completed 10-25-18

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

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

License/Registration Number 10609 Date 10-25-18

First Name Jeff Last Name Jones

Affiliation Holt Services



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

(1) OWNER/PROJECT Hole Number CE 18-15

PROJECT NAME/NBR: \_\_\_\_\_

First Name \_\_\_\_\_ Last Name YODON

Company \_\_\_\_\_

Address 25490 S RIMM ROAD

City AURORA State OR Zip 97013

(2) TYPE OF WORK ☒ New ☐ Deepening ☐ Abandonment  
☐ Alteration (repair/recondition)

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow stem auger  
☐ Rotary Mud ☐ Cable ☐ Push Probe  
☐ Other Soil

(4) TYPE OF HOLE:

☐ Uncased Temporary ☐ Cased Permanent  
☐ Uncased Permanent ☐ Slope Stability  
☐ Other \_\_\_\_\_  
 Other: \_\_\_\_\_

(5) USE OF HOLE

Soil sample

(6) BORE HOLE CONSTRUCTION Special Standard ☐ [Attach copy]

Depth of Completed Hole 85 ft.

| BORE HOLE |      |    | SEAL     |      |    | sacks/ |     |
|-----------|------|----|----------|------|----|--------|-----|
| Dia       | From | To | Material | From | To | Amt    | lbs |
| 7"        | 0    | 85 | Best     |      |    |        |     |
|           |      |    |          |      |    |        |     |
|           |      |    |          |      |    |        |     |

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

(7) CASING/SCREEN

| Casing | Screen | Dia | + | From | To | Gauge | Stl | Plstc | Wld | Thrd |
|--------|--------|-----|---|------|----|-------|-----|-------|-----|------|
|        |        |     |   |      |    |       |     |       |     |      |
|        |        |     |   |      |    |       |     |       |     |      |
|        |        |     |   |      |    |       |     |       |     |      |
|        |        |     |   |      |    |       |     |       |     |      |
|        |        |     |   |      |    |       |     |       |     |      |
|        |        |     |   |      |    |       |     |       |     |      |
|        |        |     |   |      |    |       |     |       |     |      |

(8) WELL TESTS

☐ Pump ☐ Bailor ☐ Air ☐ Flowing Artesian

| Yield gal/min | Drawdown | Drill stem/Pump depth | Duration (hr) |
|---------------|----------|-----------------------|---------------|
|               |          |                       |               |
|               |          |                       |               |

Temperature \_\_\_\_\_ °F Lab analysis ☐ Yes By \_\_\_\_\_

Supervising Geologist/Engineer \_\_\_\_\_

Water quality concerns? ☐ Yes (describe below)

| From | To | Description | Amount | Units |
|------|----|-------------|--------|-------|
|      |    |             |        |       |
|      |    |             |        |       |

(9) LOCATION OF HOLE (legal description)

County CLATSOP Twp 4 N 6 Range 1 @ W W M

Sec 7 56 1/4 of the 1/8 1/4 Tax Lot 416070700

Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_

Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

☐ Street address of hole ☐ Nearest address

25490 S RIMM ROAD, AURORA, OR 97013

(10) STATIC WATER LEVEL

|                              | Date | SWL (psi) | + | SWL (ft) |
|------------------------------|------|-----------|---|----------|
| Existing Well / Predeepening |      |           |   |          |
| Completed Well               |      |           |   |          |

Flowing Artesian? ☐

WATER BEARING ZONES

Depth water was first found \_\_\_\_\_

| SWL Date | From | To | Est Flow | SWL (psi) | + | SWL (ft) |
|----------|------|----|----------|-----------|---|----------|
|          |      |    |          |           |   |          |
|          |      |    |          |           |   |          |
|          |      |    |          |           |   |          |
|          |      |    |          |           |   |          |

(11) SUBSURFACE LOG Ground Elevation \_\_\_\_\_

| Material                   | From      | To        |
|----------------------------|-----------|-----------|
| <u>Silt</u>                | <u>0</u>  | <u>8</u>  |
| <u>Med fine sand</u>       | <u>8</u>  | <u>10</u> |
| <u>gravelly sand</u>       | <u>10</u> | <u>15</u> |
| <u>gravelly silty sand</u> | <u>15</u> | <u>30</u> |
| <u>sandy gravel</u>        | <u>30</u> | <u>35</u> |
| <u>Med fine sand</u>       | <u>35</u> | <u>52</u> |
| <u>clay</u>                | <u>52</u> | <u>65</u> |
| <u>sand some gravel</u>    | <u>65</u> | <u>85</u> |

Date Started 10-25-18 Completed 10-25-18

(12) ABANDONMENT LOG:

| Material    | From | To | Amt | sacks/    |
|-------------|------|----|-----|-----------|
| <u>Best</u> |      |    |     | <u>25</u> |
| <u>clay</u> |      |    |     |           |
|             |      |    |     |           |
|             |      |    |     |           |
|             |      |    |     |           |
|             |      |    |     |           |
|             |      |    |     |           |
|             |      |    |     |           |

Date Started 10-25-18 Completed 10-25-18

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

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

License/Registration Number 10609 Date 10-25-18

First Name JEFF Last Name JAMES

Affiliation HAIT SERVICES

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

(1) OWNER/PROJECT Hole Number CC 18-16  
PROJECT NAME/NBR: \_\_\_\_\_  
First Name \_\_\_\_\_ Last Name YODER  
Company \_\_\_\_\_  
Address 25490 S Rhoden Road  
City Amroll State OR Zip 97013

(2) TYPE OF WORK ☒ New ☐ Deepening ☐ Abandonment  
☐ Alteration (repair/recondition)

(3) CONSTRUCTION  
☐ Rotary Air ☐ Hand Auger ☐ Hollow stem auger  
☐ Rotary Mud ☐ Cable ☐ Push Probe  
☐ Other Sonic

(4) TYPE OF HOLE:  
☐ Uncased Temporary ☐ Cased Permanent  
☐ Uncased Permanent ☐ Slope Stability  
☐ Other \_\_\_\_\_  
Other: \_\_\_\_\_

(5) USE OF HOLE  

Soil sample

(6) BORE HOLE CONSTRUCTION Special Standard ☐ (Attach copy)  
Depth of Completed Hole 50 ft.  
BORE HOLE SEAL  
Dia From To Material From To Amt lbs  

|    |   |    |  |  |  |  |  |
|----|---|----|--|--|--|--|--|
| 74 | 0 | 50 |  |  |  |  |  |
|    |   |    |  |  |  |  |  |
|    |   |    |  |  |  |  |  |

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

(7) CASING/SCREEN  
Casing Screen Dia + From To Gauge Std Piste Wld Thrd  

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

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

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|  |  |  |  |

Temperature \_\_\_\_\_ °F Lab analysis ☐ Yes By \_\_\_\_\_  
Supervising Geologist/Engineer \_\_\_\_\_  
Water quality concerns? ☐ Yes (describe below)  
From To Description Amount Units  

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |

(9) LOCATION OF HOLE (legal description)  
County CLATSOP Twp 4 N Range 1 E W M  
Sec 7 SE 1/4 of the NW 1/4 Tax Lot 416070700  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
☐ Street address of hole ☐ Nearest address

25490 S Rhoden Road Amroll, OR 97013

(10) STATIC WATER LEVEL  
Date \_\_\_\_\_ SWL(psi) + SWL(ft)  
Existing Well / Predeepening \_\_\_\_\_  
Completed Well \_\_\_\_\_  
Flowing Artesian? ☐

WATER BEARING ZONES  
Depth water was first found  
SWL Date From To Est Flow SWL(psi) + SWL(ft)  

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

(11) SUBSURFACE LOG Ground Elevation  

| Material            | From | To |
|---------------------|------|----|
| silt                | 0    | 3  |
| silty sand          | 3    | 5  |
| med-fine sand       | 5    | 10 |
| gravelly sands      | 10   | 20 |
| silty gravelly sand | 20   | 25 |
| very gravelly       | 25   | 35 |
| med-fine sand       | 35   | 45 |
| clay                | 45   | 50 |

Date Started 10-25-18 Completed 10-25-18

(12) ABANDONMENT LOG:  

| Material   | From | To | Amt | sacks/lbs |
|------------|------|----|-----|-----------|
| Bent chips | 0    | 50 |     | 18        |
|            |      |    |     |           |
|            |      |    |     |           |
|            |      |    |     |           |

Date Started 10-25- Completed \_\_\_\_\_

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

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

License/Registration Number 10609 Date 10-25-18  
First Name [Signature] Last Name \_\_\_\_\_  
Affiliation \_\_\_\_\_

**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 Ce-18-18  
Name LCC  
Address 25351 3 Barlow Road  
City Aurora State OR Zip 97002

(2) TYPE OF WORK  
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION METHOD:  
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other Soil

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

(5) USE OF HOLE: Soil Sample

(6) BORE HOLE CONSTRUCTION:  
Special Standard ☐ Yes (attach copy) Depth of Completed Hole 60 ft.

| HOLE      |      |    | SEAL     |      |    | Amount | Sacks or lbs |
|-----------|------|----|----------|------|----|--------|--------------|
| Diameter  | From | To | Material | From | To |        |              |
| <u>7"</u> |      |    |          |      |    |        |              |
|           |      |    |          |      |    |        |              |
|           |      |    |          |      |    |        |              |
|           |      |    |          |      |    |        |              |
|           |      |    |          |      |    |        |              |
|           |      |    |          |      |    |        |              |

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_

Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

**(7) CASING/SCREEN:**

|         | Diameter | From | To | Gauge | Steel                    | Plastic                  | Welded                   | Threaded                 |
|---------|----------|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| Casing: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Screen: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Slot Size \_\_\_\_\_

**(8) WELL TEST:**

☐ Pump ☐ Bailor ☐ Air ☐ Flowing/Artesian  
Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_  
Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
Water water analysis done? ☐ Yes ☐ No  
By whom? \_\_\_\_\_  
Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Remarks: \_\_\_\_\_

(9) LOCATION OF HOLE (legal description)  
County Clatsop Swp 4 No 8 Range 1 E or W W.M.  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41E070600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Street Address of Well (or nearest address) 25351 Barlow Rd  
Aurora, OR

Map with location identified must be attached

**(10) STATIC WATER LEVEL:**

\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

**(11) SUBSURFACE LOG:**

| Material Description                 | From      | To        | SWL |
|--------------------------------------|-----------|-----------|-----|
| <u>silt</u>                          | <u>0</u>  | <u>5</u>  |     |
| <u>sandy gravel</u>                  | <u>5</u>  | <u>15</u> |     |
| <u>gravelly sand &amp; some silt</u> | <u>15</u> | <u>25</u> |     |
| <u>sandy gravel</u>                  | <u>25</u> | <u>40</u> |     |
| <u>med - fine sand</u>               | <u>40</u> | <u>50</u> |     |
| <u>silty sand</u>                    | <u>50</u> | <u>60</u> |     |

Date Started 10-22-18 Date Completed 10-22-18

**(12) ABANDONMENT LOG:**

| Material Description | From     | To        | Sacks or Pounds |
|----------------------|----------|-----------|-----------------|
| <u>Butt Liner</u>    | <u>0</u> | <u>60</u> | <u>19</u>       |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |

Date Started 10-22-18 Date Completed 10-22-18

**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.

Signed JWR License or Registration Number 20609  
Date 10-22-18  
Affiliation Ho It Services

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

ORIGINAL - WATER RESOURCES DEPARTMENT    FIRST COPY - CONSTRUCTOR    SECOND COPY - CUSTOMER

Revised 01/02/09

**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 CE 18-19  
Name LTC  
Address 25351 S Barlow Road  
City Aurora State OR Zip 97002

(2) TYPE OF WORK  
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION METHOD:  
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger  
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other SONIC

(4) TYPE OF HOLE:  
☐ Uncased Temporary ☒ Cased Temporary  
☐ Uncased Permanent ☐ Slope Stability ☐ Other \_\_\_\_\_

(5) USE OF HOLE: Soil Sample

(6) BORE HOLE CONSTRUCTION:  
Special Standard ☐ Yes (attach copy) Depth of Completed Hole 60 ft.

| HOLE          |      |    | SEAL     |      |    | Amount | Sacks or lbs |
|---------------|------|----|----------|------|----|--------|--------------|
| Diameter      | From | To | Material | From | To |        |              |
| <u>7 1/2"</u> |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |
|               |      |    |          |      |    |        |              |

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_

Filter Pack placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_ Size \_\_\_\_\_

**(7) CASING/SCREEN:**

|         | Diameter | From | To | Gauge | Steel                    | Plastic                  | Welded                   | Threaded                 |
|---------|----------|------|----|-------|--------------------------|--------------------------|--------------------------|--------------------------|
| Casing: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Screen: |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |    |       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Slot Size \_\_\_\_\_

**(8) WELL TEST:**

☐ Pump ☐ Bailer ☐ Air ☐ Flowing/Artesian  
Permeability \_\_\_\_\_ Yield \_\_\_\_\_ GPM \_\_\_\_\_  
Conductivity \_\_\_\_\_ PH \_\_\_\_\_  
Temperature of water \_\_\_\_\_ °F/C Depth artesian flow found \_\_\_\_\_ ft.  
Water water analysis done? ☐ Yes ☐ No  
By whom? \_\_\_\_\_  
Depth of strata analyzed. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Remarks: \_\_\_\_\_

(9) LOCATION OF HOLE (legal description)  
County Clackamas Twp 4 N or S 1 Range 1 E or W W.M.  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41E0700600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Street Address of Well (or nearest address) 25351 Barlow Rd  
Aurora, OR

Map with location identified must be attached

**(10) STATIC WATER LEVEL:**

\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

**(11) SUBSURFACE LOG:**

Ground Elevation \_\_\_\_\_

| Material Description      | From      | To        | SWL |
|---------------------------|-----------|-----------|-----|
| <u>Silt</u>               | <u>0</u>  | <u>5</u>  |     |
| <u>Fine sand</u>          | <u>5</u>  | <u>10</u> |     |
| <u>coarse gravel</u>      | <u>10</u> | <u>25</u> |     |
| <u>greenish sand some</u> | <u>25</u> |           |     |
| <u>silt</u>               |           | <u>40</u> |     |
| <u>sands some gravel</u>  | <u>40</u> | <u>55</u> |     |
| <u>silty sand</u>         | <u>55</u> | <u>60</u> |     |

Date Started 10-22-18 Date Completed 10-22-18

**(12) ABANDONMENT LOG:**

| Material Description | From     | To        | Sacks or Pounds |
|----------------------|----------|-----------|-----------------|
| <u>Best chips</u>    | <u>0</u> | <u>60</u> | <u>20</u>       |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |
|                      |          |           |                 |

Date Started 10-22-18 Date Completed 10-22-18

**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 10629  
Signed [Signature] Date 10-22-18  
Affiliation Holt Services

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

ORIGINAL - WATER RESOURCES DEPARTMENT    FIRST COPY - CONSTRUCTOR    SECOND COPY - CUSTOMER

Revised 01/02/09

STATE OF OREGON  
MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-0395)

WELL LABEL # L 130502

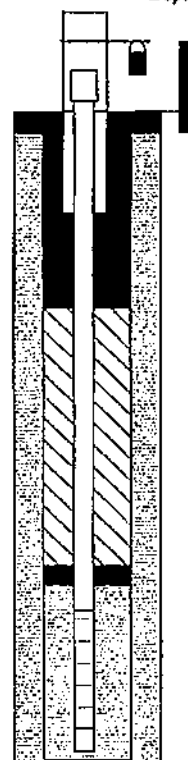
START CARD # 1040144

(1) LAND OWNER Owner Well I.D. MW1  
First Name \_\_\_\_\_ Last Name Lee  
Company \_\_\_\_\_  
Address 25351 S. Barlow Rd  
City Canby State OR Zip 97013

(2) TYPE OF WORK ☒ New ☐ Deepening ☐ Conversion  
☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD  
☐ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Hollow Stem Auger ☐ Cable Mud  
☐ Reverse Rotary ☒ Other Sonic

(4) CONSTRUCTION Piezometer Well ☒  
Depth of Completed Well 40 ft. Special Standard ☐



MONUMENT/VAULT Above Ground  
From \_\_\_\_\_ To \_\_\_\_\_

BORE HOLE  
Diameter 7" From 0 To 50

CASING  
Dia. 2" From ☐ 0 To 20  
Gauge Sch 40 Wld Thrd  
Material ☐ Steel ☒ Plastic ☐ ☒

LINER  
Dia. \_\_\_\_\_ From ☐ \_\_\_\_\_ To \_\_\_\_\_  
Gauge \_\_\_\_\_ Wld Thrd  
Material ☐ Steel ☐ Plastic ☐ ☐

SEAL  
From 0 To 17  
Material Ben F chips  
Amount \_\_\_\_\_ Grout weight \_\_\_\_\_

SCREEN  
Casing/Liner Material \_\_\_\_\_  
Diameter 2" From 20 To 40  
Slot Size 010

From 17 To 40 FILTER Material Sand Size of pack 12/20

(5) WELL TESTS

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian  
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Temperature \_\_\_\_\_ °F Lab analysis ☐ Yes By \_\_\_\_\_

Supervising Geologist/Engineer \_\_\_\_\_

Water quality concerns? ☐ Yes (describe below) TDS amount \_\_\_\_\_

| From | To | Description | Amount | Units |
|------|----|-------------|--------|-------|
|      |    |             |        |       |
|      |    |             |        |       |
|      |    |             |        |       |

(6) LOCATION OF WELL (legal description)

County Clackamas 4 N 8 Range 1 D W WM  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41E070600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
☒ Street address of well ☐ Nearest address

25351 S Barlow Rd

(7) STATIC WATER LEVEL

Date \_\_\_\_\_ SWL (psi) \_\_\_\_\_ + SWL (ft) \_\_\_\_\_  
Existing Well / Predeepening \_\_\_\_\_  
Completed Well \_\_\_\_\_

WATER BEARING ZONES Flowing Artesian? ☐ Dry Hole? ☐  
Depth water was first found \_\_\_\_\_

| SWL Date | From | To | Est Flow | SWL (psi) | + SWL (ft) |
|----------|------|----|----------|-----------|------------|
|          |      |    |          |           |            |
|          |      |    |          |           |            |
|          |      |    |          |           |            |
|          |      |    |          |           |            |

(8) WELL LOG

| Material             | From      | To        |
|----------------------|-----------|-----------|
| <u>511+</u>          | <u>0</u>  | <u>8</u>  |
| <u>gravity sand</u>  | <u>8</u>  | <u>35</u> |
| <u>sandy gravel</u>  | <u>35</u> | <u>40</u> |
| <u>med-fine sand</u> | <u>40</u> | <u>48</u> |
| <u>clay</u>          | <u>48</u> | <u>50</u> |
|                      |           |           |
|                      |           |           |
|                      |           |           |
|                      |           |           |
|                      |           |           |
|                      |           |           |

Date Started 10-24-18 Completed 10-24-18

(unbonded) Monitor Well Constructor Certification

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

License Number 10609 Date 10-24-18

Password : (if filing electronically) \_\_\_\_\_

Signed [Signature]

(bonded) Monitor Well Constructor Certification

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

License Number \_\_\_\_\_ Date \_\_\_\_\_

Password : (if filing electronically) \_\_\_\_\_

Signed \_\_\_\_\_

Contact Info (optional) \_\_\_\_\_

ORIGINAL - WATER RESOURCES DEPARTMENT

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

Form Version: 0.96

(as required by ORS 537.765 & OAR 690-240-0395)

START CARD # 1040143

From 7 To 30 FILTER Material Sand Size of pack 12/20



(as required by ORS 537.765 & OAR 690-240-0395)

START CARD # 1040147

From 37 To 70 FILTER Material 12/20 Size of pack

| From | To | Description | Amount | Units |
|------|----|-------------|--------|-------|
|      |    |             |        |       |
|      |    |             |        |       |
|      |    |             |        |       |

[illegible][illegible]

Date Started 10-16-18 Completed 10-27-18

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

License Number 10609 Date 10-17-18  
 Password: (if filing electronically) \_\_\_\_\_  
 Signed [Signature]

(bonded) Monitor Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment of work performed on this well during the construction dates reported above. A 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.

License Number \_\_\_\_\_ Date \_\_\_\_\_  
 Password : (if filing electronically) \_\_\_\_\_  
 Signed \_\_\_\_\_  
 Contact Info (optional) \_\_\_\_\_

Form Version: 0.96

(as required by ORS 537.765 & OAR 690-240-0395)

START CARD # 1040146

From 23 To 46 FILTER Material SAND Size of pack 12/10

STATE OF OREGON  
MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-0395)

WELL LABEL #1 130501

START CARD # 1040145

(1) LAND OWNER

Owner Well I.D. MW 5

First Name \_\_\_\_\_ Last Name Lee Yoder  
Company \_\_\_\_\_  
Address 25490 S. Rhonan Rd  
City Aucora State OR Zip \_\_\_\_\_

(2) TYPE OF WORK ☒ New ☐ Deepening ☐ Conversion  
☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Hollow Stem Auger ☐ Cable Mud  
☐ Reverse Rotary ☐ Other Swirl

(4) CONSTRUCTION

Piezometer Well ☒

Depth of Completed Well 30 ft. Special Standard ☐

MONUMENT/VAULT Above Ground

From \_\_\_\_\_ To \_\_\_\_\_

BORE HOLE

Diameter 7 From 0 To 45

CASING

Dia. 2" From ☐ 0 To 20

Gauge 3/4 40 Wld Thrd

Material ☐ Steel ☒ Plastic ☐ ☒

LINER

Dia. \_\_\_\_\_ From ☐ \_\_\_\_\_ To \_\_\_\_\_

Gauge \_\_\_\_\_ Wld Thrd

Material ☐ Steel ☐ Plastic ☐ ☐

SEAL

From 0 To 17

Material Bent chips

Amount \_\_\_\_\_ Grout weight \_\_\_\_\_

SCREEN

Casing/Liner Material PVC

Diameter 2" From 20 To 30

Slot Size 0/6

FILTER

From 17 To 30 Material sand Size of pack 1/20

(5) WELL TESTS

☐ Pump ☐ Bailor ☐ Air ☐ Flowing Artesian

| Yield gal/min | Drawdown | Drill stem/Pump depth | Duration (hr) |
|---------------|----------|-----------------------|---------------|
|               |          |                       |               |
|               |          |                       |               |

Temperature \_\_\_\_\_ °F Lab analysis ☐ Yes By \_\_\_\_\_

Supervising Geologist/Engineer

Water quality concerns? ☐ Yes (describe below) TDS amount

| From | To | Description | Amount | Units |
|------|----|-------------|--------|-------|
|      |    |             |        |       |
|      |    |             |        |       |

(6) LOCATION OF WELL (legal description)

County Clackamas 4 N 1 Range 1 D/W WM  
Sec 7 SE 1/4 of the NE 1/4 Tax Lot 41 E0.70600  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ or \_\_\_\_\_ DMS or DD  
☒ Street address of well ☐ Nearest address

25351 S. Baslow Rd

(7) STATIC WATER LEVEL

Date \_\_\_\_\_ SWL (psi) + SWL (ft)

|                              |  |  |
|------------------------------|--|--|
| Existing Well / Predeepening |  |  |
| Completed Well               |  |  |

Flowing Artesian? ☐ Dry Hole? ☐

WATER BEARING ZONES

Depth water was first found

| SWL Date | From | To | Est Flow | SWL (psi) | + SWL (ft) |
|----------|------|----|----------|-----------|------------|
|          |      |    |          |           |            |
|          |      |    |          |           |            |
|          |      |    |          |           |            |
|          |      |    |          |           |            |

(8) WELL LOG

Ground Elevation

| Material                      | From      | To        |
|-------------------------------|-----------|-----------|
| <u>silt</u>                   | <u>0</u>  | <u>5</u>  |
| <u>silty sand</u>             | <u>5</u>  | <u>10</u> |
| <u>sandy gravel some silt</u> | <u>10</u> | <u>15</u> |
| <u>gravelly sand</u>          | <u>15</u> | <u>35</u> |
| <u>med-fine sand</u>          | <u>35</u> | <u>48</u> |
|                               |           |           |
|                               |           |           |
|                               |           |           |
|                               |           |           |
|                               |           |           |
|                               |           |           |
|                               |           |           |
|                               |           |           |
|                               |           |           |

Date Started 10-24-18 Completed 10-24-18

(unbonded) Monitor Well Constructor Certification

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

License Number 10609 Date 10-24-18

Password: (if filing electronically)

Signed [Signature]

(bonded) Monitor Well Constructor Certification

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

License Number \_\_\_\_\_ Date \_\_\_\_\_

Password: (if filing electronically)

Signed \_\_\_\_\_

Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT

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

Form Version: 0.96

Project #Y184200

Appendix D  
– Boring Logs –



# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Lee Property

PLANT: Canby

COUNTY/PARISH: 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: 80

DRILLER: Holt Services, Jeff Jones

DRILL METHOD: SONIC

DATE STARTED: 10-16-18

DATE COMPLETED: 10-16-18

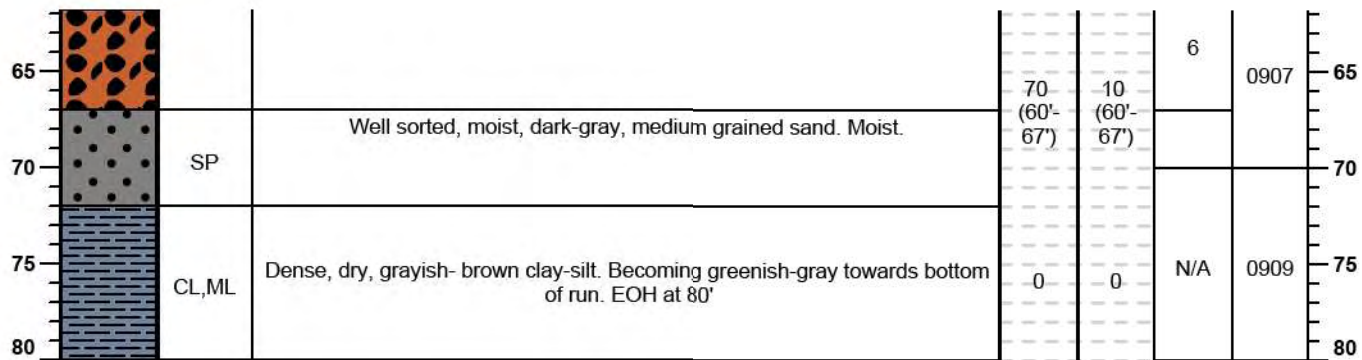
TYPE SAMPLE: 4.0" CORE

CASED TO: 80

EST. WL (ft.): 11

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                                                                                                   | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Dense, dark brown topsoil with organics.                                                                                                                                                                                               |          |          |          |           | 0           |
| 5           |           | ML,CL       | Grading to a medium brown, silty-clay with some organics, slightly moist at 6'.                                                                                                                                                        | 0        | 0        | N/A      | 0901      | 5           |
| 10          |           | SM,G<br>W   | Dark brown, loose, dry, silty-sand with minor gravel to 11'.<br>To saturated, grayish-dark brown, loose gravel with some coarse sand.<br>Gravel is round to sub-round.                                                                 | 50       | 10       |          |           | 10          |
| 15          |           | SP<br>GW,SP | Well sorted, fine grained sand.                                                                                                                                                                                                        |          |          | 1        | 0902      | 15          |
| 20          |           | GC,G<br>M   | Saturated, gray to dark brown, loose gravel with some coarse sand. Some interbeds of fine, well sorted sand.                                                                                                                           |          |          |          |           | 20          |
| 25          |           | GM          | Becoming drier at 15'. Dark brown to gray, semi-consolidated, clayey-silt with some sand and gravel.<br>To moist, gray-brown, semi-consolidated silty sand with gravel and some clay.                                                  | 55       | 15       | 2        | 0303      | 25          |
| 30          |           | GC          | Slight increase in clay and consolidation. Material is a dry, poorly sorted gravel with clay, silt and fine grained sand.                                                                                                              |          |          |          |           | 30          |
| 35          |           | SM,G<br>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       | 20       | 3        | 0904      | 35          |
| 40          |           | GW          | Decrease in clay-like fines. Moist, brown-black, poorly sorted sand with gravel and cobble.                                                                                                                                            |          |          |          |           | 40          |
| 45          |           | 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        | 0905      | 45          |
| 50          |           | 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.                                                                                           |          |          |          |           | 50          |
| 55          |           |             | 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       | 10       | 5        | 0906      | 55          |
| 60          |           | GW          |                                                                                                                                                                                                                                        |          |          |          |           | 60          |





# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Lee Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: Lee Property

LOGGED BY: K.S.

BORING ID: CE-18-02 MW #3

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 580,859.0

EASTING: 7,629,447.0

ELEVATION: 106.7

TOTAL DEPTH: 75

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: 70

EST. WL (ft.):

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                                                                                                                    | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Loose, dark brown topsoil with organics down to 2'.                                                                                                                                                                                                     |          |          |          |           | 0           |
| 5           |           | 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      | 0911      | 5           |
| 10          |           | SP          | Dark brown-black, loose, clean, wet, well sorted, fine grained sand                                                                                                                                                                                     |          |          | 7        |           | 10          |
| 15          |           | GW          | Clean, loose, brownish black sand and gravel.                                                                                                                                                                                                           | 45       | 5        | 8        | 0912      | 15          |
| 20          |           | GC, G<br>M  | Material becoming consolidated at 15'. Dark brown, clayey-silt with some gravel. Moist, somewhat dense, sticky and turning gray towards bottom of run.                                                                                                  |          |          |          |           | 20          |
| 25          |           | GM, G<br>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       | 10       | 9        | 0913      | 25          |
| 30          |           | ML, CL      | Dense, becoming increasingly moist. "Till-like" material consisting of gray, silty-clay.                                                                                                                                                                |          |          | 10       |           | 30          |
| 35          |           | GM, G<br>C  | To semi-consolidated, brown-gray, silty-clay with gravel. Moist and becoming drier at 35'.                                                                                                                                                              |          |          |          |           | 35          |
| 40          |           | GM, G<br>C  | To consolidated, dense gravels caught in silt-clay matrix. Material is moist with some clay nodules present. Difficult material to process.                                                                                                             | 40       | 15       | 11       | 0916      | 40          |
| 45          |           | GW          | Decrease in clay-like fines. Moist, brown-black, poorly sorted sand with gravel and cobble.                                                                                                                                                             |          |          |          |           | 45          |
| 50          |           | GM, G<br>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       | 0917      | 50          |
| 55          |           | 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       | 55          |
| 60          |           |             |                                                                                                                                                                                                                                                         |          |          |          |           | 60          |

|    |                                                                                   |                                                                                                                                         |    |    |     |      |  |    |    |
|----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----|----|-----|------|--|----|----|
|    |  |                                                                                                                                         |    |    |     |      |  |    |    |
| 65 |                                                                                   |                                                                                                                                         |    |    |     |      |  |    | 65 |
|    | GM, G<br>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 |  |    |    |
| 70 |                                                                                   |                                                                                                                                         |    |    |     |      |  | 70 |    |
|    | GW                                                                                | To dark brown, loose, poorly sorted sand and gravel. Wet with abundant 3/4" to #4 gravel.                                               |    |    | 15  |      |  |    |    |
| 75 |                                                                                   |                                                                                                                                         |    |    |     |      |  | 75 |    |
|    | CL                                                                                | Stiff, consolidated, brown to blue-gray clay, some silt. Dense. EOH                                                                     |    |    | N/A | 0919 |  |    |    |

# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Lee Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: Lee Property

LOGGED BY: K.S.

BORING ID: CE-18-03

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 581,097.0

EASTING: 7,628,950.0

ELEVATION: 102.6

TOTAL DEPTH: 75

DRILLER: Holt Services, Jeff Jones

DRILL METHOD: SONIC

DATE STARTED: 10-17-18

DATE COMPLETED: 10-17-18

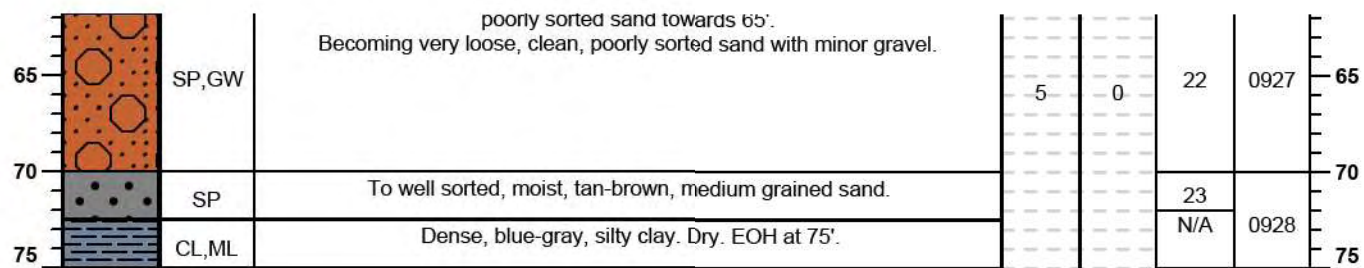
TYPE SAMPLE: 4.0" CORE

CASED TO: 70

EST. WL (ft.):

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                                                                                             | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | 1' dark-brown topsoil.                                                                                                                                                                                                           |          |          |          |           | 0           |
| 5           |           | ML, CL      | Transitioning to a medium-brown silty-clay towards 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        | 0        | N/A      | 0920      | 5           |
| 10          |           | SP, GW      | Dark brown/black, well sorted sand transitioning to poorly sorted gravels, round to sub-round with minor silt and clay.                                                                                                          |          |          |          |           | 10          |
| 15          |           | GM, G<br>C  | Gray, dense (hard) silty clay with gravel. Dry.                                                                                                                                                                                  | 55       | 20       | 16       | 0921      | 15          |
| 20          |           | GM, G<br>C  | Moist, blue-gray, sand and gravel residing in silty-clay matrix. Somewhat consolidated. Material changing to brown towards end of run.                                                                                           |          |          |          |           | 20          |
| 25          |           | GM, G<br>C  | Similar to above. Becoming slightly less consolidated and cleaner towards bottom of run. Material is moist/wet.                                                                                                                  |          |          |          |           | 25          |
| 30          |           | 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      | 30          |
| 35          |           | GW          | Medium-brown, damp, poorly sorted sand and gravel with cobble. Round to subround, material cleaner than previous 5'.                                                                                                             |          |          |          |           | 35          |
| 40          |           | GW          | Saturated, poorly sorted, loose gravels with coarse sand. Abundant gravel (R to S.R.), some Fe staining at 48'.                                                                                                                  | 60       | 15       | 18       | 0923      | 40          |
| 45          |           | GW          | Similar to above. At 41' a 1' lense of clean, well sorted, fine-grained sand. Abundant 1" to #4 gravel.                                                                                                                          |          |          |          |           | 45          |
| 50          |           | 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       | 0924      | 50          |
| 55          |           | GW          | Same as above. Increase in cobble.                                                                                                                                                                                               |          |          | 20       |           | 55          |
| 60          |           | SP          | To a brown, well sorted, clean, loose, wet, medium grained sand. Minor coarse sand in distinct layers.                                                                                                                           | 60       | 30       | 21       | 0926      | 60          |
|             |           |             | Medium brown, medium grained sand. Minor clay and silt. Grading to a                                                                                                                                                             |          |          |          |           |             |





# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Lee Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: Lee Property

LOGGED BY: K.S.

BORING ID: CE-18-04

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 581,600.0

EASTING: 7,628,931.0

ELEVATION: 102.2

TOTAL DEPTH: 85

DRILLER: Holt Services, Jeff Jones

DRILL METHOD: SONIC

DATE STARTED: 10-17-18

DATE COMPLETED: 10-17-18

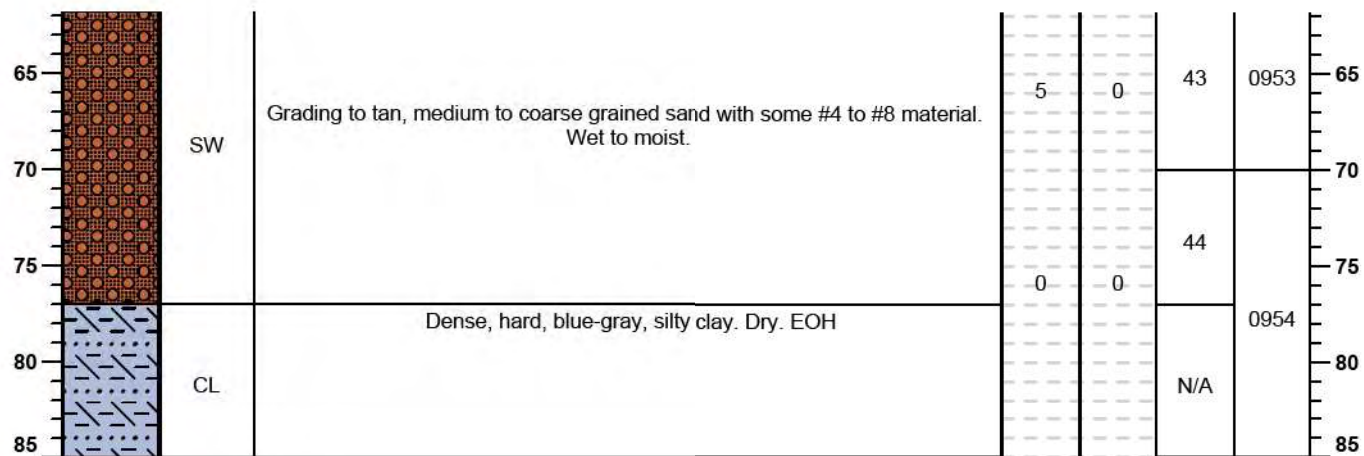
TYPE SAMPLE: 4.0" CORE

CASED TO: 80

EST. WL (ft.):

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class.      | MATERIAL DESCRIPTION                                                                                                                                                                                            | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL               | 2' dark-brown topsoil transitioning to a tan-brown silty-clay with some red/rust towards bottom.                                                                                                                |          |          |          |           | 0           |
| 5           |           | ML,CL            | Grading to a dark brown, moist, silty-clay.                                                                                                                                                                     | 0        | 0        | N/A      | 0945      | 5           |
| 10          |           | SP               | Dark brown/black, well sorted, moist sand to 12.5'.                                                                                                                                                             |          |          |          |           | 10          |
| 15          |           | GW               | Black, poorly sorted gravels with coarse to medium grained sand. Loose. Abundant 1" to #4.                                                                                                                      | 55       | 20       | 36       | 0946      | 15          |
|             |           | ML,CL            | Dark brown silty clay, moist.                                                                                                                                                                                   |          |          | 37       |           |             |
|             |           | GW               | Loose, wet gravels.                                                                                                                                                                                             |          |          |          |           |             |
| 20          |           | ML,CL            | Dry, gray-brown, silty clay.                                                                                                                                                                                    |          |          |          |           | 20          |
| 25          |           | GC,G<br>M        | To poorly sorted, brown-gray gravel and cobble in silt-clay matrix. Dry and somewhat consolidated.                                                                                                              |          |          |          |           | 25          |
| 30          |           | GC,G<br>M,<br>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       | 38       | 0949      | 30          |
| 35          |           | GW               | Tan-brown gravel with coarse sand grading to dark-brown gravels with cobble and some sand. Loose and saturated.                                                                                                 |          |          |          |           | 35          |
| 40          |           | GW               | Similar to above with increase in coarse grained sand, minor cobble.                                                                                                                                            | 60       | 15       | 39       | 0950      | 40          |
| 45          |           | SP,GW            | Medium brown, well sorted, clean, medium grained sand. Becoming coarse sands with gravel towards bottom of run.                                                                                                 |          |          |          |           | 45          |
| 50          |           | GW               | To tan-brown-orange, loose, saturated, poorly sorted gravel with coarse sand. Abundant 3/4" to #4. Increased cobble towards bottom of run.                                                                      | 60       | 25       | 40       | 0951      | 50          |
| 55          |           | SP               | Tan, moist, well sorted, clean, fined grained sand. Somewhat dense.                                                                                                                                             | 60       | 30       | 41       | 0952      | 55          |
| 60          |           |                  |                                                                                                                                                                                                                 |          |          | 42       |           | 60          |



# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Lee Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: Lee Property

LOGGED BY: K.S.

**BORING ID:** CE-18-05

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 581,358.0

EASTING: 7,628,505.0

ELEVATION: 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.) |
|-------------|-------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |    | OL,CL<br>ML     | Overburden. 2.5' dark-brown topsoil, hard, compacted. To rusty-brown subsoil-dense, silty clay with some organics.                                                                                                                                                        |          |          |          |           | 0           |
| 5           |   | ML              | Dry, brown, silt with some clay, somewhat consolidated.                                                                                                                                                                                                                   | 0        | 0        | N/A      | 0940      | 5           |
| 10          |  | SP              | Moist, loose, clean, dark brown to black, well sorted fine grained sand.                                                                                                                                                                                                  |          |          |          |           | 10          |
| 15          |  | 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       | 15          |
| 20          |  | GM,G<br>C<br>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       | 25       | 33       | 0941      | 20          |
| 25          |  |                 |                                                                                                                                                                                                                                                                           |          |          |          |           | 25          |
| 30          |  | GM,G<br>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      | 30          |
| 35          |  |                 |                                                                                                                                                                                                                                                                           |          |          |          |           | 35          |
| 40          |  | GW              | Abundant gravel to 42'                                                                                                                                                                                                                                                    |          |          |          |           | 40          |
| 45          |  | SP              | To well sorted, medium grained, moist sand.                                                                                                                                                                                                                               | 60       | 15       | 35       | 0943      | 45          |
| 50          |  | ML,CL           | Gray silt, compact, slightly moist. Grading to gray, silty clay to dry, dense, gray clay. EOH                                                                                                                                                                             |          |          | N/A      | 0944      | 50          |
| 55          |  |                 |                                                                                                                                                                                                                                                                           |          |          |          |           | 55          |



# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Lee Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: Lee Property

LOGGED BY: K.S.

BORING ID: CE-18-06 M.W. #4

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 580,845.0

EASTING: 7,628,470.0

ELEVATION: 102.3

TOTAL DEPTH: 85

DRILLER: Holt Services, Jeff Jones

DRILL METHOD: SONIC

DATE STARTED: 10-18-18

DATE COMPLETED: 10-18-18

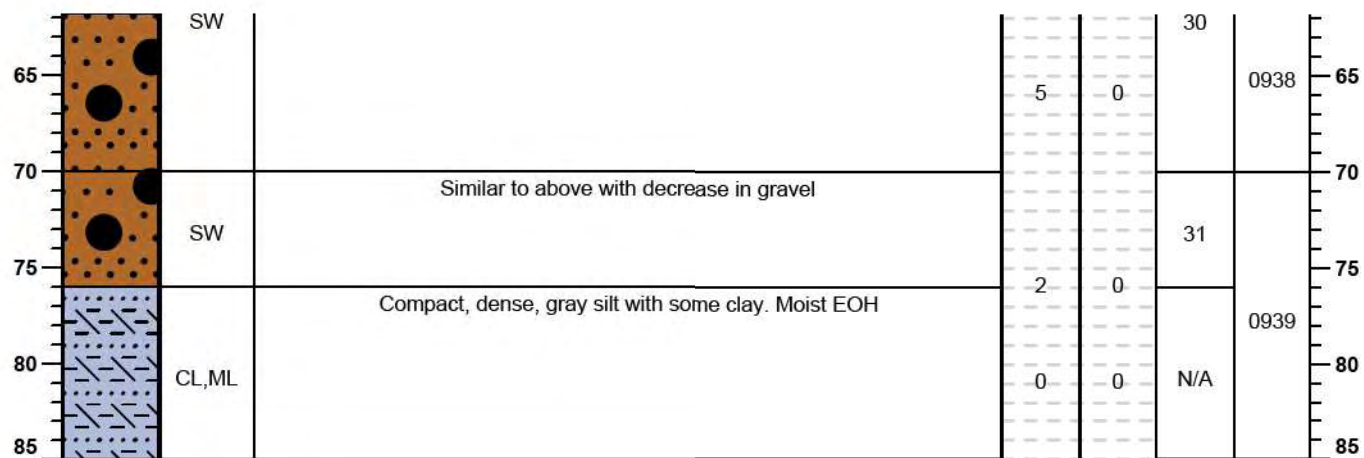
TYPE SAMPLE: 4.0" CORE

CASED TO: 80

EST. WL (ft.):

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                                                                                                 | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | 1' dark-brown to black topsoil.                                                                                                                                                                                                      |          |          |          |           | 0           |
| 5           |           | ML, CL      | Rusty-brown subsoil-dense, silty clay with some organics, to moist, tan, silty-clay.                                                                                                                                                 |          |          | N/A      | 0929      | 5           |
| 10          |           | SM          | Grading to a silty-sand. Tan-brown, loose.                                                                                                                                                                                           | 0        | 0        |          |           | 10          |
| 15          |           | 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       | 10       | 24       | 0930      | 15          |
| 20          |           | GW          | Dark brown-black, fine grained with gravel and minor cobble                                                                                                                                                                          |          |          | 25       |           | 20          |
| 25          |           | GM, G<br>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      | 25          |
| 30          |           | 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       | 20       | 27       | 0932      | 35          |
| 35          |           | GW          |                                                                                                                                                                                                                                      | 60       | 30       | 28       | 0934      | 45          |
| 40          |           | ML, CL      | Blue-gray, moist, silt with some clay. Semi-consolidated, high silt content.                                                                                                                                                         | 0        | 0        | N/A      |           | 50          |
| 45          |           |             |                                                                                                                                                                                                                                      |          |          | 29       |           | 55          |
| 50          |           |             | Medium brown, loose, clean, medium grained sand with minor gravel and coarse grained sand. Moist                                                                                                                                     |          |          |          | 0937      | 55          |
| 55          |           |             |                                                                                                                                                                                                                                      |          |          |          |           | 60          |



# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Yoder Property

**PLANT:** Canby

**COUNTY/PARISH:** Clackamas

**STATE:** Oregon

**LOCATION:** Yoder 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 DEPTH:** 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.):**

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class.    | MATERIAL DESCRIPTION                                                                                                                           | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL             | Topsoil, dark brown, dry.                                                                                                                      |          |          |          |           | 0           |
| 5           |           | ML, CL         | Tan, moist, silty-clay to gray silty-clay.                                                                                                     | 0        | 0        | N/A      | 0967      | 5           |
| 10          |           | GW             | Brown, loose, wet, gravel with sand and some cobble.                                                                                           | 60       | 30       | 55       |           | 10          |
| 15          |           | GC, G<br>M     | To dry, dense, greenish-gray gravel in silty-clay matrix. Hard, compact.                                                                       | 40       | 30       | 56       | 0968      | 15          |
| 20          |           | GC, G<br>M, GW | To semi-consolidated, moist, brown gravel with silts, clays and sand.                                                                          |          |          |          |           | 20          |
| 25          |           | GW             | Becoming a saturated (25') loose, poorly sorted gravel with abundant 1" to #4.                                                                 | 55       | 25       | 57       | 0969      | 25          |
| 30          |           | GW             | To loose, tan-brown, sand with some gravel. Sand is medium grained with some coarse grained sand. Clean.                                       |          |          |          |           | 30          |
| 35          |           | GW             | To loose, medium brown, gravel with sand. Abundant 1" to #4 material.                                                                          | 20       | 5        | 58       | 0970      | 35          |
| 40          |           | GW             |                                                                                                                                                |          |          |          |           | 40          |
| 45          |           | 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        | 0        | 59       | 0971      | 45          |
| 50          |           |                |                                                                                                                                                |          |          |          |           | 50          |

# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Goby Property

**PLANT:** Canby

**COUNTY/PARISH:** Clackamas

**STATE:** Oregon

**LOCATION:** Goby Property

**LOGGED BY:** K.S.

**BORING ID:** CE-18-08

**COORD. SYS:** State Plane NAD 83

**RIG:** Terra Sonic 150 TSI

**NORTHING:** 580,815.0

**EASTING:** 7,627,398.0

**ELEVATION:** 99.9

**TOTAL DEPTH:** 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.):**

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                        | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|-------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Dark-brown to black topsoil.                                                                                |          |          |          |           | 0           |
| 5           |           | ML,CL       | Medium brown, moist, silty-clay. Dense                                                                      | 0        | 0        | N/A      | 0972      | 5           |
| 10          |           | GW          | Dark gray, loose, wet gravel with sand and some cobble.                                                     | 60       | 20       | 60       | 0973      | 10          |
| 15          |           | GM,G<br>C   | Becoming slightly consolidated with increase in silt and clay, gray. Becoming tan-brown from 12.5' to 15'.  |          |          |          |           | 15          |
| 20          |           | GW          | Loose, wet gravels.                                                                                         |          |          | 61       |           | 20          |
|             |           | CL          | Gray-green clay.                                                                                            |          |          |          |           |             |
| 25          |           | GC          | Light brown, semi-consolidated gravel with silt and clay.                                                   |          |          |          |           | 25          |
| 30          |           | GW          | Loose, sand with gravel. Becoming saturated at 27'. Sand is coarse grained, increase in cobble towards 30'. | 50       | 20       | 62       | 0974      | 30          |
| 35          |           | ML          | Well sorted, medium grained sand. Tan-brown.                                                                |          |          |          |           | 35          |
| 40          |           | ML,CL       | Stiff, dense, blue-gray silty clay. Moist. EOH                                                              | 0        | 0        | N/A      | 0975      | 40          |



# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Goby Property

**PLANT:** Canby

**COUNTY/PARISH:** Clackamas

**STATE:** Oregon

**LOCATION:** Goby Property

**LOGGED BY:** K.S.

**BORING ID:** CE-18-09

**COORD. SYS:** State Plane NAD 83

**RIG:** Terra Sonic 150 TSI

**NORTHING:** 581,017.0

**EASTING:** 7,626,949.0

**ELEVATION:** 98.0

**TOTAL DEPTH:** 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.):**

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                                                                                                         | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Topsoil, dark brown to black.                                                                                                                                                                                                                |          |          |          |           | 0           |
| 5           |           | ML,CL       | Medium brown, moist, silty-clay. Saturated gray silt at 5' with transition to brown silty-clay at 6'.                                                                                                                                        | 0        | 0        | N/A      | 0977      | 5           |
| 10          |           | GW          | Brown, loose, wet, gravel with sand and some cobble                                                                                                                                                                                          |          |          |          |           | 10          |
| 15          |           | GC,GM       | 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. | 50       | 15       | 63       | 0978      | 15          |
| 20          |           | SP          | To well sorted, moist, fine grained sand. Material is loose and clean                                                                                                                                                                        |          |          |          |           | 20          |
| 25          |           | GW          | To saturated, medium brown gravels with coarse sand and some cobble . Abundant 1" to #4.                                                                                                                                                     | 60       | 20       | 64       | 0980      | 25          |
| 30          |           | SP          | To well sorted, medium grained, brown sand. Material grading finer with depth. Changes to dense, tan silt at 35'.                                                                                                                            |          |          |          |           | 30          |
| 35          |           | CL,ML       | Blue-gray silt grading to blue gray silty-clay back to blue gray silt. EOH                                                                                                                                                                   | 0        | 0        | 65       | 0981      | 35          |
| 40          |           |             |                                                                                                                                                                                                                                              |          |          | 66       |           | 40          |

# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Goby Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: Goby Property

LOGGED BY: K.S.

BORING ID: CE-18-10

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 580,834.75

EASTING: 7,626,540.2

ELEVATION: 99.6

TOTAL DEPTH: 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.):

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                                | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Dark brown to black topsoil. Dry.                                                                                                                                   |          |          |          |           | 0           |
| 5           |           | ML,SC       | Tan, moist, silty-clay to tan-gray, moist, silt with some clay. To rusty-brown, well sorted, medium grained sand.                                                   | 0        | 0        | N/A      | 0982      | 5           |
| 10          |           | GW          | Brown, loose, wet gravel with sand and some cobble.                                                                                                                 |          |          |          |           | 10          |
|             |           | GC          | To consolidated gravels in silty-clay matrix, dense with high waste factor.                                                                                         |          |          | 67       |           |             |
| 15          |           | GC,GM       | 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      | 15          |
| 20          |           | ML          | Tan, dense silt with some clay. Damp.                                                                                                                               | 0        | 0        | 69       |           | 20          |
| 25          |           |             |                                                                                                                                                                     |          |          | 70       | 0985      | 25          |
| 30          |           |             |                                                                                                                                                                     | 65       | 30       |          |           | 30          |
| 35          |           | GW          | To poorly sorted gravels and cobbles with coarse sand. Loose and unconsolidated with abundant 1" to #4. Nice material.                                              |          |          | 71       | 0986      | 35          |
| 40          |           |             |                                                                                                                                                                     | 60       | 20       | 72       |           | 40          |
| 45          |           |             |                                                                                                                                                                     |          |          |          | 0987      | 45          |
|             |           | CL          | Blue-gray clay. EOH                                                                                                                                                 |          |          | N/A      |           |             |

# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Lapp Property

**PLANT:** Canby

**COUNTY/PARISH:** Clackamas

**STATE:** Oregon

**LOCATION:** Lapp Property

**LOGGED BY:** K.S.

**BORING ID:** CE-18-11 M.W. #5

**COORD. SYS:** State Plane NAD 83

**RIG:** Terra Sonic 150 TSI

**NORTHING:** 581,371.0

**EASTING:** 7,626,622.0

**ELEVATION:** 97.1

**TOTAL DEPTH:** 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.):**

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                         | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|--------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Dry, dark brown to black topsoil.                                                                            |          |          |          |           | 0           |
| 5           |           | ML,CL       | To moist, blue-gray silty-clay to gray silt with clay to tan silt.                                           | 0        | 0        | N/A      | 0990      | 5           |
| 10          |           | GW          | Brown, loose, wet, gravel with sand and some cobble.                                                         |          |          |          |           | 10          |
| 15          |           | GC,G<br>M   | To consolidated gravels in silty-clay matrix, dense with high waste factor.                                  |          |          |          |           | 15          |
| 20          |           | GM          | To semi-consolidated, poorly sorted gravels with some silt and clay.                                         | 55       | 20       | 74       | 0991      | 20          |
| 25          |           | GW          | To saturated, medium brown, poorly sorted coarse sand and gravels, some cobble. Loose, unconsolidated.       | 55       | 10       | 75       | 0992      | 25          |
| 30          |           | SM          | To moist, rusty-brown, well sorted, medium grained sand with increasing silt content towards bottom of run.. |          |          |          |           | 30          |
| 35          |           | SM          | Similar to above. At 34' dry, dense, interbed of tan silt.                                                   |          |          | 76       | 0993      | 35          |
| 40          |           | SP          | Well sorted, tan-brown, fine grained sand, saturated.                                                        | 0        | 0        |          |           | 40          |
| 45          |           | ML<br>SP    | Dense, dry silt.                                                                                             |          |          |          |           | 45          |
|             |           | CL,ML       | Well sorted, tan-brown, fine grained sand, saturated.                                                        |          |          |          |           |             |
|             |           |             | Various interbeds of clay, silt and some fine sand. Blue-gray silts and clays. EOH                           |          |          | 77       | N/A       |             |



# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Van Pelt Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: N/A

LOGGED BY: K.S.

BORING ID: CE 18-12 (NOT DRILLED)

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 581,366.0

EASTING: 7,627,472.0

ELEVATION: 0.0

TOTAL DEPTH: 0

DRILLER: Holt Services, Jeff Jones

DRILL METHOD: SONIC

DATE STARTED: N/A

DATE COMPLETED: N/A

TYPE SAMPLE: 4.0" CORE

CASED TO: 0

EST. WL (ft.):

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION  | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|-----------------------|----------|----------|----------|-----------|-------------|
| 0           |           |             | Location not drilled. | 0        | 0        |          |           | 0           |
| 5           |           |             |                       |          |          |          |           | 5           |
| 10          |           |             |                       |          |          |          |           | 10          |
| 15          |           |             |                       |          |          |          |           | 15          |
| 20          |           |             |                       | 50       | 25       |          |           | 20          |
| 25          |           |             |                       | 50       | 50       |          |           | 25          |
| 30          |           |             |                       | 0        | 0        |          |           | 30          |
| 35          |           |             |                       |          |          |          |           | 35          |
| 40          |           |             |                       |          |          |          |           | 40          |
| 45          |           |             |                       |          |          |          |           | 45          |
| 50          |           |             |                       |          |          |          |           | 50          |
| 55          |           |             |                       |          |          |          |           | 55          |
| 60          |           |             |                       |          |          |          |           | 60          |
| 65          |           |             |                       |          |          |          |           | 65          |
| 70          |           |             |                       |          |          |          |           | 70          |
| 75          |           |             |                       |          |          |          |           | 75          |
| 80          |           |             |                       |          |          |          |           | 80          |

# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Van Pelt Property

**PLANT:** Canby

**COUNTY/PARISH:** Clackamas

**STATE:** Oregon

**LOCATION:** Van Pelt Property

**LOGGED BY:** K.S.

**BORING ID:** CE-18-13

**COORD. SYS:** State Plane NAD 83

**RIG:** Terra Sonic 150 TSI

**NORTHING:** 581,601.36

**EASTING:** 7,627,394.6

**ELEVATION:** 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.):**

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                            | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Dry, dark brown to black topsoil.                                                                               |          |          |          |           | 0           |
| 5           |           | ML,CL       | To medium brown subsoil consisting of clay and silt. To clean, fine to medium grained sand to 9.5.              | 0        | 0        | N/A      | 1011      | 5           |
| 10          |           | GW          | Dark gray-black, loose, poorly sorted gravel with some cobble to gravelly sand. Abundant 1" to 3/8". Saturated. |          |          |          |           | 10          |
| 15          |           | CL          | Blue-gray, dense interbed of silty-clay. Damp to dry.                                                           |          |          | 88       |           | 15          |
| 20          |           | GM          | To slightly consolidated gravel and cobble with some silt and clay.                                             | 65       | 20       | 89       |           | 20          |
| 25          |           |             |                                                                                                                 |          |          |          | 1012      | 25          |
| 30          |           | SP,ML       | To fine grained, tan sand changing to loose, blue-gray silts to light brown/rusty colored fine grained sand.    |          |          |          |           | 30          |
| 35          |           |             |                                                                                                                 | 0        | 0        | N/A      |           | 35          |
| 40          |           |             |                                                                                                                 |          |          |          | 1013      | 40          |
| 45          |           | ML,CL       | Blue-gray silt with increasing clay content at depth. EOH                                                       |          |          |          |           | 45          |

# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Lapp Property

**PLANT:** Canby

**COUNTY/PARISH:** Clackamas

**STATE:** Oregon

**LOCATION:** Lapp Property

**LOGGED BY:** K.S.

**BORING ID:** CE-18-14 M.W. #1

**COORD. SYS:** State Plane NAD 83

**RIG:** Terra Sonic 150 TSI

**NORTHING:** 581,929.0

**EASTING:** 7,626,895.0

**ELEVATION:** 99.0

**TOTAL DEPTH:** 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.):**

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                        | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Overburden. Dark-brown to black topsoil.                                                                                                                    |          |          |          |           | 0           |
| 5           |           | ML,CL       | To gray, moist, silty clay. Saturated 10' to 13'.                                                                                                           | 0        | 0        | N/A      | 0994      | 5           |
| 10          |           | GW          | Poorly sorted medium grained sand with gravel. Loose.                                                                                                       |          |          |          |           | 10          |
| 15          |           | GC          | Tan, dry, poorly sorted gravel with some silt and clay. Semi-consolidated.                                                                                  |          |          |          | 0997      | 15          |
| 20          |           | GW          | To saturated, poorly sorted, loose, unconsolidated, tan sand with gravel. Some cobble and coarse sand.                                                      |          |          | 78       |           | 20          |
| 25          |           | GC          | Wet, rusty-brown, loose gravel with some coarse sand. Increased clay content and consolidation 22.5' to 25'.                                                | 55       | 20       |          |           | 25          |
| 30          |           | GC,G<br>M   | Similar to above, slight degree of consolidation. Poorly sorted gravel in sand/silt/clay matrix.                                                            |          |          | 79       | 0998      | 30          |
| 35          |           | 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       |           | 35          |
| 40          |           | SP          | Well sorted, rusty brown, fine grained sand                                                                                                                 |          |          |          | 0999      | 40          |
| 45          |           | ML          | Silt. Dense.                                                                                                                                                |          |          |          |           | 45          |
| 50          |           | SP          | Clean, well sorted medium grained sand.                                                                                                                     |          |          |          |           | 50          |
|             |           | SM,CL       | Undesirable fine grained sands, silts and blue-gray clay. EOH                                                                                               | 0        | 0        | N/A      | 1001      |             |



# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Van Pelt Property

**PLANT:** Canby

**COUNTY/PARISH:** Clackamas

**STATE:** Oregon

**LOCATION:** Van Pelt Property

**LOGGED BY:** K.S.

**BORING ID:** CE-18-15

**COORD. SYS:** State Plane NAD 83

**RIG:** Terra Sonic 150 TSI

**NORTHING:** 582,100.0

**EASTING:** 7,627,407.0

**ELEVATION:** 100.0

**TOTAL DEPTH:** 85

**DRILLER:** Holt Services, Jeff Jones

**DRILL METHOD:** SONIC

**DATE STARTED:** 10-25-18

**DATE COMPLETED:** 10-25-18

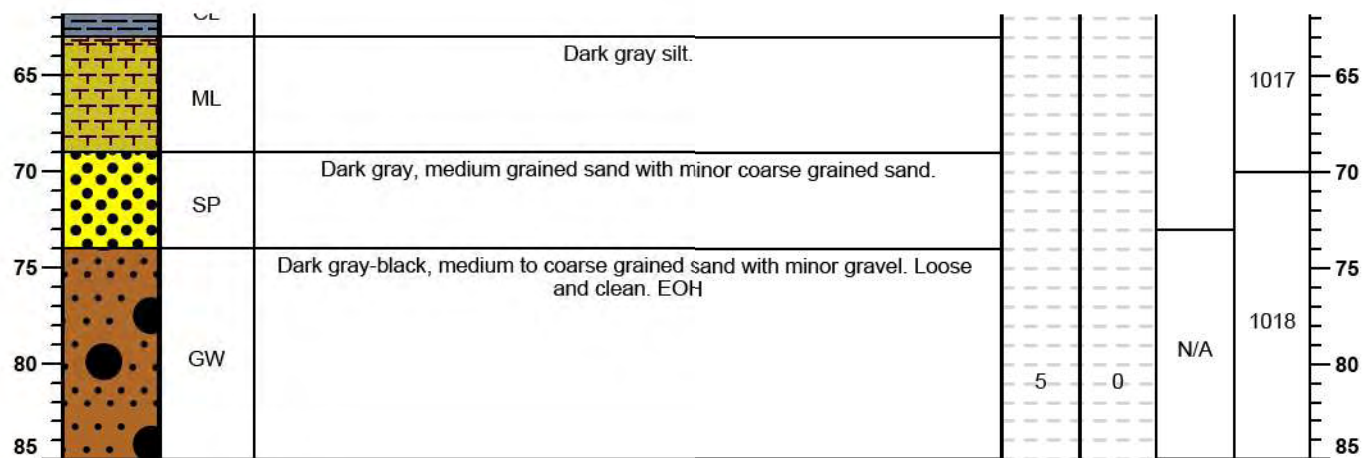
**TYPE SAMPLE:** 4.0" CORE

**CASED TO:** 80

**EST. WL (ft.):**

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                              | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Dark-brown to black topsoil.                                                                                                                      |          |          |          |           | 0           |
| 5           |           | ML, CL      | Subsoil. Similar consistency to surrounding holes.                                                                                                | 0        | 0        | N/A      | N/A       | 5           |
| 10          |           | SP          | Tan-brown, well sorted, medium grained sands.                                                                                                     |          |          |          |           | 10          |
| 15          |           | GW          | Dark gray to black, saturated, loose, poorly sorted gravel with coarse sand.                                                                      |          |          | 82       | N/A       | 15          |
| 20          |           | 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       |          |           | 20          |
| 25          |           | GC, G M     | To moist to damp, light brown-gray gravel with cobbles, silts and clays. Some coarse sand.                                                        |          |          |          |           | 25          |
| 30          |           | GW          | Saturated, poorly sorted gravels. Clay content decreasing. To tan-brown, medium grained sand with gravel and some cobble.                         | 55       | 25       | 83       | N/A       | 30          |
| 35          |           | SP          | Tan-brown, rusty colored, fine grained sand grading to medium grained sand. Some Fe staining from 35' to 40'. Loose, clean.                       | 0        | 0        | 84       | N/A       | 35          |
| 40          |           |             |                                                                                                                                                   |          |          |          |           | 40          |
| 45          |           |             |                                                                                                                                                   | 0        | 0        |          | 1015      | 45          |
| 50          |           | ML, CL      | Blue-gray silty clay.                                                                                                                             |          |          |          |           | 50          |
| 55          |           | ML          | Dark gray silt, clean-loose.                                                                                                                      |          |          |          |           | 55          |
| 60          |           | CL, ML      | Gray clayey silt. Increased density and clay percentage to 60'.                                                                                   | 0        | 0        | N/A      | 1016      | 60          |
|             |           | CL          | Blue clay                                                                                                                                         | 0        | 0        |          |           |             |



# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Van Pelt Property

**PLANT:** Canby

**COUNTY/PARISH:** 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 DEPTH:** 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.):**



| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                                                                                   | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           |             | 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           |
| 5           |           | OL          |                                                                                                                                                                                                                        | 0        | 0        | N/A      | 1002      | 5           |
| 10          |           | SP          | Tan, loose, clean sand with some gravel.                                                                                                                                                                               |          |          |          |           | 10          |
| 15          |           | GW          | To wet, dark gray-black gravel with coarse and medium grained sand.                                                                                                                                                    |          |          | 85       | N/A       | 15          |
| 20          |           | GC, G<br>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       | 86       |           | 20          |
| 25          |           | GW          | To saturated, medium brown, medium grained sand with some gravel and minor cobble.                                                                                                                                     | 45       | 30       | 87       | 1003      | 25          |
| 30          |           | SP          | Medium grained, well sorted, clean, rusty brown sand. Damp.                                                                                                                                                            |          |          |          |           | 30          |
| 35          |           | SM          | Hard, tan silt to loose medium grained sand.                                                                                                                                                                           |          |          |          | 1006      | 35          |
| 40          |           |             |                                                                                                                                                                                                                        | 0        | 0        | N/A      |           | 40          |
| 45          |           | CL, ML      | Blue-gray silt with increasing clay content at depth. EOH                                                                                                                                                              |          |          |          | 1010      | 45          |
| 50          |           |             |                                                                                                                                                                                                                        |          |          |          |           | 50          |

# SAND & GRAVEL EXPLORATION LOG

**PROPERTY NAME:** Van Pelt Property

**PLANT:** Canby

**COUNTY/PARISH:** Clackamas

**STATE:** Oregon

**LOCATION:** Van 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 DEPTH:** 35

**DRILLER:** Holt Services, Jeff Jones

**DRILL METHOD:** SONIC

**DATE STARTED:** 10-26-18

**DATE COMPLETED:** 10-26-18

**TYPE SAMPLE:** 4.0" CORE

**CASED TO:** 30

**EST. WL (ft.):**

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                   | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Dark-brown to black topsoil, dry, hard.                                                                                |          |          |          |           | 0           |
| 5           |           | SM          | Tan to rusty brown subsoil, hard. To rusty brown, fine grained silty sand, dry, loose.                                 | 0        | 0        | N/A      | 1019      | 5           |
| 10          |           | SP, GW      | Brown, fine grained sand with some gravel.                                                                             |          |          |          |           | 10          |
| 15          |           | GW          | Dark gray, dry, poorly sorted sand and gravel with cobble. Cobble is round to angular. Material is loose.              |          |          | 91       | 1020      | 15          |
| 20          |           | GM          | Similar to above with increased clay and consolidation. Poorly sorted gravels with cobble in silty clay matrix. Moist. | 50       | 25       |          |           | 20          |
| 25          |           | GM, G<br>C  | Medium brown cobble in silt-clay matrix, some gravel. Moist, consolidated, forming logs.                               |          |          | 92       | 1021      | 25          |
| 30          |           | GW          | Loose, saturated, clean, poorly sorted, rusty brown, sand and gravel with minor cobble. Sand is medium grained.        | 50       | 50       | 93       |           | 30          |
| 35          |           | ML, CL      | Dense, moist silt to blue-gray silt to gray clayey silt. EOH                                                           | 0        | 0        | N/A      | 1022      | 35          |



# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Cha Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: Cha Property

LOGGED BY: K.S.

BORING ID: CE-18-18

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 581,444.0

EASTING: 7,628,042.0

ELEVATION: 100.6

TOTAL DEPTH: 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.):

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                                                                     | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Overburden. Dark-brown to black topsoil, dry, hard.                                                                                                                      |          |          |          |           | 0           |
| 5           |           | ML, CL      | Subsoil. Tan-brown, semi-consolidated. Some organics.                                                                                                                    |          |          |          | 0955      | 5           |
|             |           | SP          | Tan, loose, fine-grained, well sorted, fine-grained sand.                                                                                                                | 0        | 0        | N/A      |           |             |
| 10          |           | SM          | Dark gray, silty sand with minor clay.                                                                                                                                   |          |          |          |           | 10          |
|             |           | GW          | Black, moist to wet, poorly sorted gravels with sand. Loose and unconsolidated.                                                                                          | 60       | 15       | 45       | 0956      |             |
| 15          |           | ML, CL      | Dense, gray, silty clay with hints of green. Moist.                                                                                                                      | 0        | 0        | 46       | 0957      | 15          |
|             |           | GC          | Dry, dense, consolidated gravel in silty-clay matrix. Grayish-green. Becoming moist towards 19'.                                                                         |          |          | 47       |           |             |
| 20          |           | 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. |          |          |          |           | 20          |
| 25          |           | GM          | To medium brown, loose, saturated sand and gravel with silt. Poor recovery 28'-30'.                                                                                      | 50       | 15       | 48       | 0958      | 25          |
| 30          |           | GM          | Similar to above. Silty, loose gravel, some cobble.                                                                                                                      |          |          |          |           | 30          |
| 35          |           | GW          | Tan-brown, loose, medium grained sand with gravel. Consolidation, cobble and silt content increasing to 44'.                                                             | 60       | 25       | 49       | 0960      | 35          |
| 40          |           | SM          | Hard, dense, silty-sand.                                                                                                                                                 |          |          |          |           | 40          |
| 45          |           | ML, CL      | Tan, dense, moist, silty clay. Grading to greenish-gray silt to 50'.                                                                                                     |          |          |          |           | 45          |
| 50          |           | ML, CL      | To gray, dense, silty clay. Moist.                                                                                                                                       | 0        | 0        | 50       | 0961      | 50          |
| 55          |           | GM          | To dark brown-black, silt grading to medium grained sand with minor gravel. Swirls of green-gray silt throughout length. EOH                                             | 10       | 0        |          |           | 55          |
| 60          |           |             |                                                                                                                                                                          |          |          |          |           | 60          |

# SAND & GRAVEL EXPLORATION LOG

PROPERTY NAME: Cha Property

PLANT: Canby

COUNTY/PARISH: Clackamas

STATE: Oregon

LOCATION: Cha Property

LOGGED BY: K.S.

BORING ID: CE-18-19

COORD. SYS: State Plane NAD 83

RIG: Terra Sonic 150 TSI

NORTHING: 581,851.0

EASTING: 7,628,522.0

ELEVATION: 101.4

TOTAL DEPTH: 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.):

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

| Depth (ft.) | Lithology | Soil Class. | MATERIAL DESCRIPTION                                                                                                | Gravel % | Oversize | Sample # | Picture # | Depth (ft.) |
|-------------|-----------|-------------|---------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------|-------------|
| 0           |           | OL          | Dark-brown to black topsoil, dry, hard.                                                                             |          |          |          |           | 0           |
| 5           |           | ML,CM       | Subsoil. Rusty-brown, semi-consolidated, some organics. To light brown, dry, dense, silty-clay.                     | 0        | 0        | N/A      |           | 5           |
| 10          |           |             |                                                                                                                     |          |          |          | 0962      | 10          |
| 15          |           | GW          | Loose, dark brown to black, medium grained sand with gravel. Gravel percentage increasing with depth. Some cobble.  | 50       | 10       | 52       |           | 15          |
| 20          |           |             |                                                                                                                     |          |          |          |           | 20          |
| 25          |           | GM,G<br>C   | Dry, brown, gravel and cobble with fine sand, silt and clay. Somewhat dense.                                        |          |          |          |           | 25          |
| 30          |           | GM,G<br>C   | Medium brown, slightly consolidated, clayey-silt with gravel. Becoming moist to wet at 27'. Increase in cobble.     | 55       | 10       | 52       | 0963      | 30          |
| 35          |           | GW          | Medium brown, moist, medium grained sand with gravel. Fairly loose.                                                 |          |          |          |           | 35          |
| 40          |           |             |                                                                                                                     |          |          |          |           | 40          |
| 45          |           | GM          | Increased silt and clay content with slight degree of consolidation. Cobble is round to subround with some angular. | 60       | 30       | 53       | 0964      | 45          |
| 50          |           | GM,G<br>C   | Dry, brown, dense, silty clay with gravel.                                                                          |          |          |          |           | 50          |
| 55          |           | GW          | Clean, loose, rusty-brown sand and gravel. Saturated.                                                               | 20       | 20       | 54       | 0965      | 55          |
| 60          |           | SP          | Medium grained sand. Clean, loose.                                                                                  |          |          |          |           | 60          |
|             |           | ML          | Tan, damp silt.                                                                                                     | 0        | 0        | N/A      |           |             |
|             |           | ML,CL       | Gray, dense, silty-clay. Damp. EOH                                                                                  |          |          |          | 0966      |             |



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<br>(ODOT TM 208)<br>(ODOT Requirement: 30% maximum passing<br>No. 20 Sieve; maximum sediment height 3") |                          |             | Los Angeles Abrasion (ODOT TM 211,<br>AASHTO T 96)<br>(ODOT Requirement: 35% maximum loss at<br>500 revolutions) |             | Sodium Sulfate Soundness<br>(AASHTO T 104) <sup>1</sup><br>(ODOT Requirement for EAC and PCC Coarse<br>Aggregate: 12% maximum loss at 5 cycles) |             |
|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------|------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
|          |                | % Passing No.<br>20 Sieve                                                                                                                | Sediment<br>Height (in.) | Pass / Fail | % Loss                                                                                                           | Pass / Fail | % Loss                                                                                                                                          | Pass / Fail |
| CE-18-01 | 10'-67'        | 9.8                                                                                                                                      | 0.9                      | Pass        | 18.4                                                                                                             | Pass        | 10                                                                                                                                              | Pass        |
| CE-18-06 | 9'-46'         | 11.7                                                                                                                                     | 1.1                      | Pass        | 18.9                                                                                                             | Pass        | 13                                                                                                                                              | Fail        |
| CE-18-10 | 12.5'-44'      | 10.4                                                                                                                                     | 0.8                      | Pass        | 17.9                                                                                                             | Pass        | 7                                                                                                                                               | Pass        |
| CE-18-13 | 9.5'-26'       | 11.3                                                                                                                                     | 0.7                      | Pass        | 19.4                                                                                                             | Pass        | 12                                                                                                                                              | Pass        |
| CE-18-14 | 13'-34'        | 14.4                                                                                                                                     | 1                        | Pass        | 19.4                                                                                                             | Pass        | 9                                                                                                                                               | Pass        |
| CE-18-17 | 7'-31'         | 11.9                                                                                                                                     | 0.8                      | Pass        | 18.8                                                                                                             | Pass        | 9                                                                                                                                               | Pass        |
| CE-18-19 | 10'-47'        | 12.2                                                                                                                                     | 1                        | Pass        | 18                                                                                                               | Pass        | 5                                                                                                                                               | Pass        |
| CE-18-04 | 20'-30'        | 16.4                                                                                                                                     | 0.7                      | Pass        | 19.8                                                                                                             | Pass        | 10                                                                                                                                              | Pass        |
| CE-18-04 | 30'-40'        | 15.5                                                                                                                                     | 1.5                      | Pass        | 17.2                                                                                                             | Pass        | 9                                                                                                                                               | Pass        |
| CE-18-04 | 40'-50'        | 16.7                                                                                                                                     | 1.7                      | Pass        | 16                                                                                                               | Pass        | 14                                                                                                                                              | Fail        |
| CE-18-05 | 12'-20'        | 20                                                                                                                                       | 2.4                      | Pass        | 19.4                                                                                                             | Pass        | 12                                                                                                                                              | Pass        |
| CE-18-05 | 20'-30'        | 16                                                                                                                                       | 1.1                      | Pass        | 16.3                                                                                                             | Pass        | 6                                                                                                                                               | Pass        |
| CE-18-05 | 30'-40'        | 16.7                                                                                                                                     | 1.8                      | Pass        | 16.5                                                                                                             | Pass        | 7                                                                                                                                               | Pass        |
| CE-18-07 | 17'-30'        | 19.1                                                                                                                                     | 1.3                      | Pass        | 17.5                                                                                                             | Pass        | 12                                                                                                                                              | Pass        |
| CE-18-07 | 30'-42'        | 16.4                                                                                                                                     | 1.6                      | Pass        | 17                                                                                                               | Pass        | 11                                                                                                                                              | Pass        |
| CE-18-18 | 20'-30         | 17.3                                                                                                                                     | 1.4                      | Pass        | 18.8                                                                                                             | Pass        | 13                                                                                                                                              | Fail        |
| CE-18-18 | 30'-45'        | 16.6                                                                                                                                     | 1.2                      | Pass        | 16.5                                                                                                             | Pass        | 10                                                                                                                                              | Pass        |

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





## 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.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003328

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:

Qty Represented:

Sampled At: CANBY LOCATOR

Sampled By:

Witnessed By:

DATE-Sampled: 18/10/8 Received: 18/10/12 Tested: 18/10/26

Date Reported: 18/10/26

Class/Type: QUALITY CONTROL

Use: 18-01 10-20' FINE AC AGGR

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test               | Field   | Lab     | Test              | Field | Lab              |
|--------------------|---------|---------|-------------------|-------|------------------|
| T 176 S.E.         |         |         | T 84 F. Grav.     |       | T 85 C. Grav.    |
| T 89 I.L.          |         |         | Bulk:             |       | Bulk:            |
| T 90 P.T.          |         |         | S.S.D.:           |       | S.S.D.:          |
| T 335 T11 Frag.    |         |         | Appar.:           |       | Appar.:          |
| TM 326 Dust/Clay   |         |         | Absorp.:          |       | Absorp.:         |
| TM 227 Cleanliness |         |         | T 104 Soundness   |       | TM 208 Degrade   |
| TM 229 Elong pct   |         |         | C A:              | F A:  |                  |
| T 308 Inclin A/C   |         |         | 1.5-3/4:          |       |                  |
| Total A/C          |         |         | 3/4-3/8:          |       |                  |
| Retention          |         |         | 3/8 #4:           |       | Crse Ht:         |
| T 329 Moisture     |         |         | #4 #8:            |       | P20:             |
| T 27/11            |         |         | #8 #16:           |       | Fine Ht:         |
| Gieve              | Passing | Passing | #16-#30:          |       | P20:             |
| 2.5"               |         | 90 %    | #30-#50:          |       |                  |
| 2                  |         | 86 %    | T 96 Abrasion     |       | T 21 Impurity    |
| 1.5                |         | 77 %    |                   |       | Plate #:         |
| 1                  |         | 70 %    |                   |       |                  |
| 3/4                |         | 63 %    | T 335 Fracture    |       | T 112 Friables   |
| 1/2                |         | 54 %    | DF:               | 1 0   | Wt'd Avg:        |
| 3/8                |         | 49 %    |                   | 3/4:  | 1.5 1/4:         |
| 1/4                |         | 43 %    |                   | 1/2:  | 3/4-3/8:         |
| # 4                |         | 39 %    |                   | #4:   | 3/8-#4:          |
| # 8                |         | 32 %    |                   | #8:   | #4 #16:          |
| # 10               |         |         | T 113 Lightweight |       | TM 225 Woodwaste |
| # 16               |         | 25 %    | Coarse            |       | Lab:             |
| # 30               |         | 18 %    | Fine              |       | Field:           |
| # 40               |         |         |                   |       |                  |
| # 50               |         | 14 %    |                   |       |                  |
| # 100              |         | 11 %    |                   |       |                  |
| # 200              |         | 8 %     |                   |       |                  |

Grading T 327 Micro Deval

Loss: %

3 @ 127 = \$ 47.00  
3 @ 111 = 23.00NSM - Not Sufficient Material  
REMARKS:  
INFORMATION ONLY

TOTAL CHARGES: \$ 210.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE PERSONALLY ISSUED OR SENT WITHOUT WRITTEN APPROVAL OF SCL LABORATORY

BY: F152 CADMAN AND J. EDLAF 10/25/11

OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Page 1 of 1

15033586-1000

FAX 15033586-1096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING

Lab No.:

18-003329

Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY

Highway:

County:

Data Sheet No.:

Contractor: CADMAN-CANBY

PA No.:

Project Manager:

Org Unit:

Bid Item No

Submitted By: KURT SEIGFRIED

Org Unit: CC

Sample No

Material Source:

Qty Represented:

Sampled At: CANBY LOCATION

Sampled By:

Witnessed By

DATE Sampled 18/10/8 Received: 18/10/22 Tested: 18/10/25

Date Reported: 18/10/26

Class/Type: QUALITY CONTROL

Use: 18-01 2D-30' FINE AC AGGR

Q or G:

AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test -           | Field   | Lab     | T 84 F. Grav.     | T 85 C. Grav.    |
|------------------|---------|---------|-------------------|------------------|
| T 176 S.E.       |         |         | Bulk:             | Bulk:            |
| T 89 S.E.        |         |         | 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 |         |         | C A F A:          |                  |
| TM 229 Elong pcs |         |         | 1.5-3/4           |                  |
| T 308 Incin A+C  |         |         | 3/4-3/8           |                  |
| Total A+C        |         |         | 3/8-#4            | Cisc Ht:         |
| Retention        |         |         | #4-#8             | P20              |
| T 429 Moisture   |         |         | #8-#16            | Fine Ht:         |
| T 27/11          |         |         | #16-#30           | P20              |
| Sieve            | Passing | Passing | #30-#50           |                  |
| 2 1/2"           |         | 92 %    | T 96 Abrasion     | T 21 Impurity    |
| 2                |         | 87 %    |                   | Plate #:         |
| 1.5              |         | 76 %    | T 335 Fracture    | T 112 Friables   |
| 1                |         | 70 %    | DF: 1 0:          | Wt'd Avg :       |
| 3/4              |         | 64 %    | 3/4:              | 1.5 3/4:         |
| 1/2              |         | 54 %    | 1/2:              | 3/4-3/8:         |
| 3/8              |         | 48 %    | #4:               | 3/8-#4:          |
| 1/4              |         | 41 %    | #8:               | #4-#8:           |
| # 4              |         | 37 %    | T 113 Lightweight | TM 225 Woodwaste |
| # 8              |         | 30 %    | Coarse            | Lab.             |
| # 10             |         |         | Fine:             | Field:           |
| # 16             |         | 24 %    |                   |                  |
| # 30             |         | 18 %    |                   |                  |
| # 40             |         |         |                   |                  |
| # 50             |         | 13 %    |                   |                  |
| #100             |         | 10 %    |                   |                  |
| #200             |         | 7.2 %   |                   |                  |
|                  |         |         | T 327 Micro Deval |                  |
|                  |         |         | Grading:          | Loss %           |

3 @ 127 = \$ 47.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.00

3 @ 111 = 23.00

REMARKS:

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

FILED CADMAN-CANBY 18 OCT 2022 10:00 AM

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.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18-003330  
 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: Qty Represented:  
 Sampled At: CANBY LOCATON Sampled By: Witnessed By:  
 DATE-Sampled 18/10/22 Received 18/10/22 Tested: 18/10/25 Date Reported: 18/10/26  
 Class/Type: QUALITY CONTROL Use: 18-01 30-40' FINE AC AGGR

| Q or G:          |         |         | AGGREGATE LABORATORY REPORT - FACAG |     | Size:            |  |
|------------------|---------|---------|-------------------------------------|-----|------------------|--|
| 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 Trl Frac   |         |         | Absorp:                             |     | Absorp:          |  |
| TM 226 Dust/Clay |         |         | T 104 Soundness                     |     | TM 208 Degrade   |  |
| TM 227 Cleanmess |         |         | C A                                 | P A |                  |  |
| TM 229 Elong pos |         |         | 1.5-3/4                             |     |                  |  |
| T 308 Incln A/C  |         |         | 3/4-3/8                             |     |                  |  |
| Total A/C        |         |         | 3/8-#4                              |     | Crse Ht:         |  |
| Retention        |         |         | #4-#8                               |     | #20:             |  |
| T 329 Moisture   |         |         | #8-#16                              |     | Fine Ht:         |  |
| T 27/11          |         |         | #16-#30                             |     | #20:             |  |
| Sieve            | Passing | Passing | T 96 Abrasion                       |     | T 21 Impurity    |  |
| 2.5"             |         | 100 %   |                                     |     | Plate #:         |  |
| 2                |         | 97 %    | T 335 Fracture                      |     | T 112 Friables   |  |
| 1.5              |         | 92 %    | DF:                                 |     | W'd Avg          |  |
| 1                |         | 81 %    | 3/4                                 |     | 1.5-3/4          |  |
| 3/4              |         | 72 %    | 1/2                                 |     | 3/4-1/8          |  |
| 1/2              |         | 59 %    | 1/4                                 |     | 3/8-#4           |  |
| 3/8              |         | 52 %    | #4                                  |     | #4-#16           |  |
| 1/4              |         | 44 %    | SF:                                 | #8  | TM 225 Woodwaste |  |
| # 4              |         | 39 %    | T 113 Lightweight                   |     | Lab              |  |
| # 8              |         | 31 %    | Coarse:                             |     | Field            |  |
| # 10             |         |         | Fine:                               |     |                  |  |
| # 16             |         | 25 %    | T 327 Macro Deval                   |     |                  |  |
| # 30             |         | 19 %    | Grading:                            |     | Loss %           |  |
| # 40             |         |         |                                     |     |                  |  |
| # 50             |         | 12 %    |                                     |     |                  |  |
| #100             |         | 1 %     |                                     |     |                  |  |
| #200             |         | 7.8 %   |                                     |     |                  |  |

NSM = Not Sufficient Material TOTAL CHARGES: \$ 210.00  
 REMARKS:  
 INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

CL FILES CADMAN CARD: IT 18-003330 AGGREGATE

800 AIRPORT RD. SE SALEM, OR 97301-4792

(503) 986-3000

FAX (603) 986-3096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING      Lab No.:

18-003331

Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY

Highway

Country:

Data Sheet No.:

Contractor: CADMAN-CANEY

FA No. 1

Project Manager:

249 Unit:

Bid Item No.:

Submitted by: ZURT SELGERIED

Org Unit: CC

Sample No. :

Material Source:

Qty Represented:

Sampled AL: CANBY LOCATION

Sampled By:

Witnessed By:

DATE-Sampled 16/10/22 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

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

**Size:**

| Test    |            | Field   | Lab |
|---------|------------|---------|-----|
| T 176   | S.E        |         |     |
| T 89    | L.L        |         |     |
| T 90    | P.I        |         |     |
| T 335   | Tcl Frac.  |         |     |
| TM 216  | Dust/Clay  |         |     |
| TM 227  | Cleaness   |         |     |
| TM 229  | Elong pcc  |         |     |
| T 308   | Inclin A/C |         |     |
|         | Total A/C  |         |     |
|         | Retention  |         |     |
| T 329   | Moisture   |         |     |
| T 27/11 |            |         |     |
| Sieve   | Passing    | Passing |     |
| 2.5"    |            | 100 %   |     |
| 2       |            | 99 %    |     |
| 1.5     |            | 91 %    |     |
| 1       |            | 76 %    |     |
| 3/4     |            | 67 %    |     |
| 1/2     |            | 51 %    |     |
| 3/8     |            | 48 %    |     |
| 1/4     |            | 40 %    |     |
| # 4     |            | 16 %    |     |
| # 8     |            | 12 %    |     |
| # 10    |            |         |     |
| # 16    |            | 23 %    |     |
| # 30    |            | 18 %    |     |
| # 40    |            |         |     |
| # 50    |            | 12 %    |     |
| #100    |            | 8 %     |     |
| #200    |            | 6.1 %   |     |

3 @ 12? = \$ 47.00 NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.30

3 21 11 23 50

REMARKS:

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

| C | F100 | ALMA | AMF | C | IESLA | AGGREGATE |
|---|------|------|-----|---|-------|-----------|
|---|------|------|-----|---|-------|-----------|

## OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Page 1 of 1

(503) 986-1000

FAX (503) 986-1096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003332

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:

Qty Represented:

Sampled At: CANBY LOCATON

Sampled By:

Witnessed By:

DATE Sampled: 18/10/18 Received: 18/10/22 Tested: 18/10/25

Date Reported: 18/10/26

Class/Type: QUALITY CONTROL

Use: 18-01 50-60' FINE AC AGGR

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test             | Field   | Lab     |                 |                |
|------------------|---------|---------|-----------------|----------------|
| T 176 S.B.       |         |         | T 84 F. Grav.   | T 85 C. Grav.  |
| T 89 L.L.        |         |         | Bulk:           | Bulk:          |
| T 90 F.I.        |         |         | S.S.D.:         | S.S.D.:        |
| T 335 TLI Frac   |         |         | Appar.:         | Appar.:        |
| TM 226 Dust/Clay |         |         | Absorp.:        | Absorp.:       |
| TM 227 Cleaness  |         |         | T 104 Soundness | TM 208 Degrade |
| TM 229 Elong pos |         |         | C.A. F.A.:      |                |
| T 308 Incin A/C  |         |         | 1.5-3/4:        |                |
| Total A/C        |         |         | 3/4-3/8:        |                |
| Retention        |         |         | 3/8-#4:         | Crse Ht:       |
| T 329 Moisture   |         |         | #4-#8:          | P20            |
|                  |         |         | #8-#16:         | Fine Ht:       |
| T 27/11          |         |         | #16-#30:        | P20            |
| Sieve            | Passing | Passing | #30-#60:        |                |
| 2 1/2"           |         | 100 %   |                 | T 96 Abrasion  |
| 2                |         | 95 %    |                 | T 21 Impurity  |
| 1.5              |         | 90 %    |                 | Plate #        |
| 1                |         | 63 %    |                 |                |
| 3/4              |         | 75 %    |                 |                |
| 1/2              |         | 56 %    |                 |                |
| 3/8              |         | 47 %    |                 |                |
| 1/4              |         | 35 %    |                 |                |
| # 4              |         | 30 %    |                 |                |
| # 8              |         | 21 %    |                 |                |
| # 10             |         |         |                 |                |
| # 16             |         | 16 %    |                 |                |
| # 30             |         | 12 %    |                 |                |
| # 40             |         |         |                 |                |
| # 50             |         | 9 %     |                 |                |
| #100             |         | 6 %     |                 |                |
| #200             |         | 4.2 %   |                 |                |

|                   |                  |
|-------------------|------------------|
| T 335 Fracture    | T 112 Friables   |
| EF:               | WL'd Avg:        |
| 1.0:              | 1.5-3/4:         |
| 3/4:              | 3/4-3/8:         |
| 1/2:              | 3/8-#4:          |
| #4:               | #4-#16:          |
| SF:               | #8:              |
| T 113 Lightweight | TM 225 Woodwaste |
| Coarse:           | Lab:             |
| Fine:             | Field:           |

|                   |
|-------------------|
| T 327 Micro Deval |
| Grading: Loss: %  |

3 # t27 - \$ 47.00 N3M = Not Sufficient Material

3 # t11 - 23.00 REMARKS:

TOTAL CHARGES: \$ 2.0 00

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE ALTERED EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF DTL LABORATORY

C: FILES CADMAN CANBY 18-003332 AGGREGATE



OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Page 1 of 1

(503) 926-3000

FAX (503) 926-3096

Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18-003333  
 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: Qty Represented:  
 Sampled At: CANBY LOCATION Sampled By: Witnessed By:  
 DATE-Sampled 18/10/8 Received: 18/10/22 Tested: 18/10/25 Date Reported: 18/10/26  
 Class/Type: QUALITY CONTROL Use: 18-01 60-67' FINE AC AGGR

| O or G:          |         |         | AGGREGATE LABORATORY REPORT - PACAG |                   | Size: |  |
|------------------|---------|---------|-------------------------------------|-------------------|-------|--|
| Test             | Field   | Lab     | T 84 F. Grav.                       | T 85 C. Grav.     |       |  |
| T 176 S.E.       |         |         | Bulk:                               | Bulk:             |       |  |
| T 89 I.L.        |         |         | S.S.D.                              | S.S.D.            |       |  |
| T 90 F.I.        |         |         | Appar:                              | Appar:            |       |  |
| TM 335 Tel Frac. |         |         | Absorp:                             | Absorp:           |       |  |
| TM 226 Dust/Clay |         |         | T 104 Soundness                     | TM 208 Degrade    |       |  |
| TM 227 Cleanness |         |         | C A: F A:                           |                   |       |  |
| TM 229 Elong pos |         |         | 1.5-3/4:                            |                   |       |  |
| T 308 Incin A/C  |         |         | 3/4-3/8:                            |                   |       |  |
| Total A/C        |         |         | 3/8-#4:                             |                   |       |  |
| Retention        |         |         | #4-#8:                              |                   |       |  |
| T 329 Moisture   |         |         | #8-#16:                             |                   |       |  |
| T 27/11          |         |         | #16-#30:                            |                   |       |  |
| Sieve            | Passing | Passing | #30-#50:                            |                   |       |  |
| 2 1/2"           |         | 100 %   | T 96 Abrasion                       | T 21 Impurity     |       |  |
| 2                |         | 93 %    |                                     | Plate #:          |       |  |
| 1 1/2            |         | 86 %    | T 335 Fracture                      | T 112 Friables    |       |  |
| 1                |         | 72 %    | DF: 1.0:                            | Wtd Avg:          |       |  |
| 3/4              |         | 64 %    | 3/4:                                | 1.5-3/4:          |       |  |
| 1/2              |         | 46 %    | 1.2:                                | 3/4-3/8:          |       |  |
| 3/8              |         | 38 %    | #4:                                 | 3/8-#4:           |       |  |
| 1/4              |         | 28 %    | SE: #8:                             | #4-#16:           |       |  |
| # 4              |         | 22 %    | T 113 Lightweight                   | TM 225 Woodwaste  |       |  |
| # 8              |         | 14 %    | Coarse:                             | Lab:              |       |  |
| # 10             |         |         | Fine                                | Field:            |       |  |
| # 16             |         | 10 %    |                                     |                   |       |  |
| # 30             |         | 9 %     |                                     |                   |       |  |
| # 40             |         |         |                                     |                   |       |  |
| # 50             |         | 6 %     |                                     |                   |       |  |
| #100             |         | 4 %     |                                     |                   |       |  |
| #200             |         | 2.9 %   |                                     |                   |       |  |
|                  |         |         | Grading                             | T 327 Micro Deval |       |  |
|                  |         |         |                                     | Loss: %           |       |  |

3.3 t27 = \$ 47.00  
 3.3 t11 = 29.00

NFM = Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 210.00

KEVIN BROPHY LABORATORY SERVICES MANAGER

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

C. FILES CADMAN-CANBY J. PIPER Aggregate

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.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003334

Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY

Highway:

County:

Data Sheet No.:

Contractor: CADMAN-CANBY

FA No.:

Project Manager

Org Unit

Pid Item No.

Submitted By: KURT SEIGRIED

Org Unit: CC

Sample No.

Material Source:

Qty Represented:

Sampled At: CANBY LOCATON

Sampled By:

Witnessed By:

DATE Sampled 18/10/ 8 Received: 19/10/22 Tested: 18/11/ 5

Date Reported: 18/11/ 5

Class/Type: COMPLIANCE

Use: 18-01 10-67' FINE AC AGGR

Q or G:

AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test            | Lab     | T 84 F. Grav.     | T 85 C. Grav.    |
|-----------------|---------|-------------------|------------------|
| T 176 S E.      |         | Bulk: 2.464       | Bulk: 2.602      |
| T 89 L.L.       |         | S.S.D.: 2.559     | S.S.D.: 2.652    |
| T 90 P.I.       |         | Appar.: 2.723     | Appar.: 2.739    |
| T 335 Ttl Fiac. |         | Absorp.: 3.56 %   | Absorp.: 1.92 %  |
| TM236 Dust/Clay |         | T 104 Soundness   | TM 208 Degrade   |
| TM227 Cleanness |         | C A: 10% F A: 7%  |                  |
| TM229 Plog pos  |         | 1 5-3/4: 3.4 %    |                  |
| T 304           |         | 3/4-3/8: 10.4 %   |                  |
| Uncomp. Voics   |         | 3/8-#4: 16.4 %    | Crse HU: 0.9 in  |
| T 19 Unit Wt.   |         | #4-#8: 6.6 %      | P20: 9.8 %       |
| T 328 Moisture  |         | #8-#16: 9.7 %     | Fine HU:         |
| T 27/11         | 27 11   | #16-#30: 5.5 %    | P20:             |
| Sieve           | Passing | #30-#50: 4.5 %    |                  |
| 2.5"            |         | T 96 Abrasion     | T 21 Impurity    |
| 2               |         | 18.4 %            | 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 5-1/4:         |
| 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:             |
| # 16            |         | Fine:             | Field            |
| # 30            |         |                   |                  |
| # 40            |         |                   |                  |
| # 50            |         |                   |                  |
| #100            |         |                   |                  |
| #200            |         |                   |                  |
|                 |         | T 327 Micro Deval |                  |
|                 |         | Grading:          | Loss: %          |

1.00 t84 = \$ 57.00  
1.00 t85 = 45.00  
1.00 t96 = 97.00  
9.00 t104 = 29.00  
1.00 tm2008 = 74.00

NEM = Not Sufficient Material

TOTAL CHARGES: \$ 334.00

REMARKS:  
INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE REPRINTED, COPIED OR FULL AUTHORITY WRITTEN APPROVAL OF THE LABORATORY

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.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003363

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

Sampled By:

Witnessed By:

DATE Sampled:

Received: 18/10/24

Tested: 18/10/26

Date Reported: 18/10/26

Class/Type: QUALITY CONTROL

Use: 18-6 9-20'

FINE AC AGGR

Q or G:

AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test             | Field   | Lab     | Size              | Size             |
|------------------|---------|---------|-------------------|------------------|
| T 176 S.E.       |         |         | T 84 F. Grav.     | T 85 C. Grav.    |
| T 89 L.L.        |         |         | Bulk              | Bulk             |
| T 90 P.I.        |         |         | S.S.D.            | S.S.D.           |
| T 335 Tst Frac.  |         |         | Appar.            | Appar.           |
| TM 226 Dust/Clay |         |         | Absorp.           | Absorp.          |
| TM 227 Clearness |         |         | T 104 Soundness - | TM 208 Degrade   |
| TM 229 Elong pos |         |         | C.A. F.A.         |                  |
| T 308 Incin A/C  |         |         | 1.5-3/4:          |                  |
| Total A/C        |         |         | 3/4-3/8:          |                  |
| Retention        |         |         | 3/8- #4:          | Crse Ht.         |
| T 124 Moisture   |         |         | #4- #8:           | P20:             |
|                  |         |         | #8- #16:          | Fine Ht.         |
| T 27/11          |         |         | #16-#30:          | P70:             |
| Sieve            | Passing | Passing | #30-#50:          |                  |
| 2.5"             |         | 100 %   |                   |                  |
| 2                |         | 95 %    | T 96 Abrasion     | T 21 Impurity    |
| 1.5              |         | 89 %    |                   | Plate #:         |
| 1                |         | 87 %    |                   |                  |
| 3/4              |         | 76 %    | T 335 Fracture    | T 112 Friables   |
| 1/2              |         | 70 %    | CP: 1 0:          | Wt'd Avg :       |
| 3/8              |         | 66 %    | 3/4:              | 1.5-3/4:         |
| 1/4              |         | 61 %    | 1/2:              | 3/4-3/8:         |
| # 4              |         | 58 %    | #4:               | 3/8- #4:         |
| # 8              |         | 50 %    | SP: #8:           | #4-#16:          |
| # 10             |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 16             |         | 40 %    | Coarse:           | Lab.             |
| # 30             |         | 29 %    | Fine:             | Field            |
| # 40             |         |         |                   |                  |
| # 50             |         | 17 %    |                   |                  |
| #100             |         | 11 %    |                   |                  |
| #200             |         | 8 %     |                   |                  |
|                  |         |         | T 327 Micro Deval |                  |
|                  |         |         | Grading:          | Loss: %          |

1 @ 127 = \$ 42.00  
3 @ 111 = 23.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.00

REMARKS:

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

11 FILED CADMAN-CANBY 11 CIOCLAY & ASSOC. P.C.

800 AIRPORT RD. SE SALEM, OR 97301-4792

(503) 986-1000

FAX (503) 386-3796

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003364

Project: PRIVATE AGGREGATE TESTING - CADMAN CANBY

Highway:

County:

Data Sheet No.:

Contractor: CADMAN-CANBY

FA No.:

Project Manager:

Org Unit

| Bid Item No. | Description                                     | Unit        | Quantity | Unit Price | Total Price |
|--------------|-------------------------------------------------|-------------|----------|------------|-------------|
| 1            | Excavate and backfill with select fill material | cubic yard  | 100      | 1.50       | 150.00      |
| 2            | Place and finish concrete sidewalk              | square foot | 200      | 2.00       | 400.00      |
| 3            | Install concrete curb                           | linear foot | 100      | 1.00       | 100.00      |
| 4            | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 5            | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 6            | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 7            | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 8            | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 9            | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 10           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 11           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 12           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 13           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 14           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 15           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 16           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 17           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 18           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 19           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 20           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 21           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 22           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 23           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 24           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 25           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 26           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 27           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 28           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 29           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 30           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 31           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 32           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 33           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 34           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 35           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 36           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 37           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 38           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 39           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 40           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 41           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 42           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 43           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 44           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 45           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 46           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 47           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 48           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 49           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 50           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 51           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 52           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 53           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 54           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 55           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 56           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 57           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 58           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 59           | Gravel driveway                                 | square foot | 500      | 0.50       | 250.00      |
| 60           | Gravel base for driveway                        | square foot | 500      | 0.50       | 250.00      |
| 61           | Asphalt paving                                  | square foot | 1000     | 1.00       | 1000.00     |
| 62           | Install concrete driveway                       | square foot | 500      | 2.00       | 1000.00     |
| 63           | Gravel driveway                                 | square foot | 500      | 0.50       |             |

Submitted By: KURT REICFRIED

org Unit CC

Sample No.

Material Source: CANBY LOCATION

Qty Represented

Sampled At: CANBY LOCATION

sampled by:

Witnessed By

DATE-Sampled: Received: 18/10/24 Tested: 18/10/26

Date Reported 18/10/29

Class/Type: QUALITY CONTROL

Use: 18-6 20-23' FINE AC AGGR

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test             | Field   | Lab     | T 84 P. Grav.     | T 85 C. Grav.    |
|------------------|---------|---------|-------------------|------------------|
| T 175 S.S.       |         |         | Bulk:             | Bulk:            |
| T 89 U.L.        |         |         | S.S.D.:           | S.S.D.:          |
| T 90 P.L.        |         |         | Appar.:           | Appar.:          |
| T 334 Tll Frac.  |         |         | Absorp:           | Absorp:          |
| TM 226 Dust/Clay |         |         | T 104 Soundness   | TM 208 Degrade   |
| TM 227 Cleanness |         |         | C.A. F.A.:        |                  |
| TM 229 Elong pos |         |         | 1.5-3/4:          |                  |
| T 308 Incln A/C  |         |         | 3/4 5/8:          |                  |
| Total A/C        |         |         | 3/8- #4:          | Crse Hr:         |
| Retention        |         |         | #4- #8:           | P20:             |
| T 329 Moisture   |         |         | #8-#16:           | Fine Hr:         |
| T 27/11          |         |         | #16-#30:          | P20:             |
| Sieve            | Passing | Passing | #30-#50:          |                  |
| 2 1/2"           |         | 100 %   | T 96 Abrasion     | T 21 Impurity    |
| 2                |         | 95 %    |                   | Plate #:         |
| 1 1/2            |         | 81 %    | T 135 Fracture    | T 112 Friables   |
| 1                |         | 77 %    | DP 1 G.           | Wtd Avg          |
| 3/4              |         | 69 %    | 1/4               | 1 S-3/4          |
| 1/2              |         | 66 %    | 1/2               | 3/4 1 1/2        |
| 1/4              |         | 61 %    | 41:               | 3/8- #4          |
| # 4              |         | 60 %    | SP: #8            | #4-#16           |
| # 8              |         | 57 %    | T 113 Lightweight | TM 225 Woodwaste |
| # 16             |         | 56 %    | Coarse:           | Lab              |
| # 30             |         | 54 %    | Fine:             | Field:           |
| # 40             |         |         |                   |                  |
| # 50             |         | 48 %    |                   |                  |
| #100             |         | 28 %    |                   |                  |
| #200             |         | 15.2 %  |                   |                  |
|                  |         |         | T 327 Micro Deval |                  |
|                  |         |         | Grading:          | Loss. %          |

3 4 6 7 7 = 5 4 7 20

$$3 \times 211 = 21.00$$

NSM = Not Sufficient Material

REMARKS:

INFORMATION ONLY

TOTAL CHARGES: \$ 210.00

KEVIN BROPHY      LABORATORY SERVICES MANAGER

[illegible]

C# FILEN    C# CAPMAN CAST    C# THE SAN    ASSOCIATE

OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Page 1 of 1

(503) 986-3000

FAX (503) 986-1096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003365

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

Cty Represented:

Sampled At: CANBY LOCATION

Sampled By:

Witnessed By:

DATE-Sampled:

Received: 18/10/24

Tested: 18/10/26

Date Reported: 18/10/26

Class/Type: QUALITY CONTROL

Use: 18-6 23-30' FINE AC AGGR

| Q or G:            |         |         | AGGREGATE LABORATORY REPORT - FACAG |                  | Size: |  |
|--------------------|---------|---------|-------------------------------------|------------------|-------|--|
| Test               | Field   | Lab     | T 84 F. Grav.                       | T 85 C. Grav.    |       |  |
| T 176 S & F        |         |         | Bulk:                               | Bulk:            |       |  |
| T 89 L.L.          |         |         | S.S.D.:                             | S.S.D.:          |       |  |
| T 90 P.C.          |         |         | Appar:                              | Appar:           |       |  |
| T 135 T-1 Frac.    |         |         | Absorp:                             | Absorp:          |       |  |
| TM 226 Dust/Clay   |         |         | T 104 Soundness                     | TM 208 Degrade   |       |  |
| TM 227 Cleanliness |         |         | C.A. F.A.                           |                  |       |  |
| TM 229 Flong pcs   |         |         | 1 5-3/4:                            |                  |       |  |
| T 308 Inclin A/C   |         |         | 3/4-3/8:                            |                  |       |  |
| Total A/C          |         |         | 3/8- #4:                            | Crse Hr:         |       |  |
| Retention          |         |         | #4- #8:                             | P20:             |       |  |
| T 129 Moisture     |         |         | #8-#16:                             | Fine Hr:         |       |  |
| - T 27/11          |         |         | #16-#30:                            | P20:             |       |  |
| Sieve              | Passing | Passing | #30-#50:                            |                  |       |  |
| 2.5"               |         | 89 %    | - T 96 Abrasion                     | T 21 Impurity    |       |  |
| 2                  |         | 89 %    |                                     | Plate #:         |       |  |
| 1.5                |         | 85 %    |                                     |                  |       |  |
| 1                  |         | 78 %    | T 335 Fracture                      | T 112 Friables   |       |  |
| 3/4                |         | 72 %    | DF:                                 | Wt'd Avg:        |       |  |
| 1/2                |         | 62 %    | 3/4:                                | 1.5 3/4:         |       |  |
| 3/8                |         | 58 %    | 1/2:                                | 3/4-3/8:         |       |  |
| 1/4                |         | 57 %    | #4:                                 | 3/8- #4:         |       |  |
| # 4                |         | 48 %    | SF:                                 | #4-#16:          |       |  |
| # 8                |         | 41 %    | T 113 Lightweight                   | TM 225 Woodwaste |       |  |
| # 10               |         |         | Coarse                              | Lab:             |       |  |
| # 15               |         | 36 %    | Fine                                | Field            |       |  |
| # 30               |         | 30 %    |                                     |                  |       |  |
| # 40               |         |         |                                     |                  |       |  |
| # 50               |         | 24 %    |                                     |                  |       |  |
| #100               |         | 19 %    |                                     |                  |       |  |
| #200               |         | 14.6 %  |                                     |                  |       |  |
|                    |         |         | T 127 Micro Deval                   |                  |       |  |
|                    |         |         | Grading:                            | Loss: %          |       |  |

3 \* c27 \$ 47.00  
3 \* c11 23.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.00

REMARKS:  
INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

3 Files CADMAN-CANBY 3 FILES AGGREGATE





## OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Page 1 of 1

1503/986-1000

FAX 1503/986-1096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003367

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

Sampled By:

Witnessed By:

DATE Sampled: Received: 18/10/24 Tested: 19/10/24

Date Reported: 19/10/24

Class/Type: QUALITY CONTROL

Use: 18-6 40-45' FINE AC AGGR

Q or G:

AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test             | Field   | Lab     | T 84 P. Grav.     | T 85 C. Grav.    |
|------------------|---------|---------|-------------------|------------------|
| T 175 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 126 Dust/Clay |         |         | T 104 Soundness   | TM 208 Degrade   |
| TM 227 Cleaness  |         |         | C.A. F.A.:        |                  |
| TM 229 Elong pos |         |         | 1.5-3/4:          |                  |
| T 108 Incin A/C  |         |         | 3/4-3/8:          |                  |
| Total A/C        |         |         | 3/8-#4:           | Case Ht.:        |
| Retention        |         |         | #4-#8:            | F20:             |
| T 329 Moisture   |         |         | #8-#16:           | Fine Ht.:        |
| T 27/11          |         |         | #16-#30:          | F20:             |
| Sieve            | Passing | Passing | #30-#50:          |                  |
| 2.5"             |         | 100 %   | T 96 Abrasion     | T 21 Impurity    |
| 2                |         | 97 %    |                   | Plate #          |
| 1.5              |         | 92 %    |                   |                  |
| 1                |         | 80 %    | 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 %    | 1/2               | 3/4-3/8:         |
| 1/4              |         | 33 %    | #4                | 3/8-#4:          |
| # 4              |         | 28 %    | SP #8             | #4-#16:          |
| # 8              |         | 20 %    | T 113 Lightweight | TM 225 Woodwaste |
| # 10             |         |         | Coarse:           | Lab              |
| # 16             |         | 16 %    | Fine:             | Field            |
| # 30             |         | 12 %    |                   |                  |
| # 40             |         |         |                   |                  |
| # 50             |         | 8 %     |                   |                  |
| #100             |         | 5 %     |                   |                  |
| #200             |         | 3.4 %   |                   |                  |

T 327 Micro Deval

Grading: Loss

T 327 Micro Deval

Grading:

Loss %

3 @ t27 = \$ 47.00  
 2 @ t11 = 23.00

NSM - Not Sufficient Material

TOTAL CHARGES: \$ 219.00

REMARKS:

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL BE RETURNED TO ORIGINATOR IN FULL WITHOUT WRITTEN APPROVAL OF THIS LABORATORY

2: FILES : CADMAN-CANBY : 2: DESK : AGGREGATE

OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Page 1 of 1

(503) 986-3635

FAX (503) 986-3096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING

Lab No.:

18-003368

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

Sampled By:

Witnessed By:

DATE-Sampled:

Received: 18/10/24

Posted: 18/10/24

Date Reported: 18/10/29

Class/Type: QUALITY CONTROL

Use: 18-6 50-54' FINE AC AGGR

Q or G:

AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test             | Field   | Lab     | T 84 F. Grav.     | T 85 C. Grav.    |
|------------------|---------|---------|-------------------|------------------|
| T 176 S.E.       |         |         | Bulk:             | Bulk:            |
| T 59 L.L.        |         |         | S.S.D.:           | S.S.D.:          |
| T 90 F.T.        |         |         | Appar.:           | Appar.:          |
| T 334 1t1 Frac.  |         |         | Absorp.:          | Absorp.:         |
| TM 226 Dust/Clay |         |         | T 104 Soundness   | TM 208 Degrade   |
| TM 227 Cleanness |         |         | C A. F A:         |                  |
| TM 228 Blong pos |         |         | 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 309 Moisture   |         |         | #8-#16:           | Fine Ht.         |
| T 27/11          |         |         | #16-#30:          | P20              |
| Sieve            | Passing | Passing | #30-#50:          |                  |
| 2                |         |         | T 96 Abrasion     | T 21 Impurity    |
| 1.5              |         |         |                   | Plate #          |
| 1                |         |         | T 335 Fracture    | T 112 Friables   |
| 3/4              |         |         | DF: 1 0           | Wh'd Avg         |
| 1/2              |         | 100 %   | 3/4               | 1 5 3/4          |
| 3/8              |         | 100 %   | 1/2               | 3/4-3/8          |
| 1/4              |         | 80 %    | #4                | 3/8- #4          |
| # 4              |         | 99 %    | DF: #8            | #4-#16           |
| # 8              |         | 97 %    | T 113 Lightweight | TM 225 Woodwaste |
| # 10             |         |         | Coarse:           | lab              |
| # 16             |         | 92 %    | Fine:             | Field            |
| # 30             |         | 66 %    |                   |                  |
| # 40             |         |         |                   |                  |
| # 50             |         | 40 %    |                   |                  |
| #100             |         | 21 %    |                   |                  |
| #200             |         | 4.0 %   |                   |                  |

T 327 Micro Deval  
Grading: Loss %

1 @ t27 = \$ 47.00  
1 @ t11 = = 22.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 70.00

REMARKS:  
INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REMARKS SHALL BE THE PROPERTY OF THE CLIENT AND SHALL BE RETURNED TO THE CLIENT WITHOUT WRITTEN PERMISSION OF THIS LABORATORY

Q: P1187 - CADMAN-CANBY - J. J. VILLAR - AGGREGATE

C. FILICE      CND-20      2000      1000      5000      10000

800 AIRPORT RD. SE SALEM, OR 97301-4792

FAX (502) 986-3096

Use: 1B-6 70-76' FINE AC AGGR

|                                                                                                                                                                                                                                  |                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>T 84 F. Grav.</b><br>Bulk:<br>S.S.D.:<br>Appar.:<br>Absorp.:<br><b>T 104 Soundness</b><br>C.A.: F.A.:<br>1 1/2 - 3/4:<br>3/4 - 3/8:<br>3/8 - #4:<br>#4 - #8:<br>#8 - #16:<br>#16 - #30:<br>#30 - #50:<br><b>T 96 Abrasion</b> | <b>T 85 C. Grav.</b><br>Bulk:<br>S.S.D.:<br>Appar.:<br>Absorp.:<br><b>TM 208 Degrade</b><br>Crac. Ht.:<br>P20:<br>Fine Ht.:<br>P20:<br><b>T 21 Impurity</b><br>Plate #: |
| <b>T 335 Fracture</b><br>DF: 1 0:<br>3/4:<br>1/2:<br>#4:<br>SF: #8:<br><b>T 113 Lightweight</b><br>Coarse:<br>Fine:                                                                                                              | <b>T 112 Friables</b><br>Wt'd Avg:<br>1 1/2 - 3/4:<br>3/4 - 3/8:<br>3/8 - #4:<br>#4 - #16:<br><b>TM 225 Woodwaste</b><br>Lab:<br>Field:                                 |
| <b>T 327 Micro Deval</b><br>Grading: Loss: %                                                                                                                                                                                     |                                                                                                                                                                         |

INFORMATION ONLY

REPORT SHALL NOT BE CONSIDERED VALID WITHOUT WRITTEN APPROVAL OF THIS LABORATORY

|      |       |         |         |         |
|------|-------|---------|---------|---------|
| City | State | Country | Company | Address |
| 1    | 2     | 3       | 4       | 5       |

## 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.: 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

Sampled By:

Witnessed By:

DATE-Sampled:

Received: 18/10/24

Tested: 18/11/ 8

Date Reported: 18/11/ 9

Class/Type: COMPLIANCE

Use: 18-6 9-46' FINE AC AGGR

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test            | Lab     | Size              |
|-----------------|---------|-------------------|
| T 176 S.E.      |         | T 84 F. Grav.     |
| T 89 L.L.       |         | Bulk: 2.442       |
| T 90 P.I.       |         | S.S.D.: 2.545     |
| T 335 Ttl Frac. |         | Appar.: 2.724     |
| TM226 Dust/Clay |         | Absorp.: 4.23 %   |
| TM227 Cleanness |         | T 104 Soundness   |
| TM229 Elong pcs |         | C A: 13% F A: 9%  |
| T 304           |         | 1.5-3/4: 9.8 %    |
| Uncomp. Voids   |         | 3/4-3/8: 9.0 %    |
| T 19 Unit Wt.   |         | 3/8- #4: 21.0 %   |
| T 329 Moisture  |         | #4- #8: 13.9 %    |
| T 27/11         | 27 11   | #8-#16: 9.6 %     |
| Sieve           | Passing | #16-#30: 6.2 %    |
| 2.5"            |         | #30-#50: 5.7 %    |
| 2               |         | T 96 Abrasion     |
| 1.5             |         | 18.9 %            |
| 1               |         | Type A            |
| 3/4             |         | T 335 Fracture    |
| 1/2             |         | DF: 1.0:          |
| 3/8             |         | 3/4:              |
| 1/4             |         | 1/2:              |
| # 4             |         | #4:               |
| # 8             |         | Sr: #8:           |
| # 10            |         | T 113 Lightweight |
| # 16            |         | Coarse:           |
| # 30            |         | Fine:             |
| # 40            |         |                   |
| # 50            |         |                   |
| #100            |         |                   |
| #200            |         |                   |
|                 |         | T 85 C. Grav.     |
|                 |         | Bulk: 2.561       |
|                 |         | S.S.D.: 2.611     |
|                 |         | Appar.: 2.696     |
|                 |         | Absorp.: 1.96 %   |
|                 |         | TM 208 Degrade    |
|                 |         | Crse Ht: 1.1 in   |
|                 |         | P20: 11.7 %       |
|                 |         | 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:           |
|                 |         | TM 225 Woodwaste  |
|                 |         | Lab:              |
|                 |         | Field:            |
|                 |         | T 327 Micro Deval |
|                 |         | Grading: Loss: %  |

1 @ T-84 = \$ 57.00  
 1 @ T-85 = 45.00  
 1 @ T-96 = 97.00  
 2 @ T-104 = 29.00  
 1 @ TM 208A = 74.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 331.00

## REMARKS:

Material represented by sample DOES NOT comply with specifications.

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

C: FILES : CADMAN CANBY : J CIESLAK AGGREGATE

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.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003505

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

Sampled By:

Witnessed By:

DATE-Sampled:

Received: 18/10/25

Tested: 18/10/31

Date Reported: 18/10/31

Class/Type: QUALITY CONTROL

Use: CE18-8 7-17' FINE AC AGGR

Q or G:

AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test             | Field   | Lab     |
|------------------|---------|---------|
| 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 308 Incin A/C  |         |         |
| Total A/C        |         |         |
| Retention        |         |         |
| T 329 Moisture   |         |         |
| T 27/11          |         |         |
| Sieve            | Passing | Passing |
| 2.5"             |         |         |
| 2                |         | 100 %   |
| 1.5              |         | 94 %    |
| 1                |         | 84 %    |
| 3/4              |         | 75 %    |
| 1/2              |         | 63 %    |
| 3/8              |         | 57 %    |
| 1/4              |         | 49 %    |
| # 4              |         | 45 %    |
| # 8              |         | 37 %    |
| # 10             |         |         |
| # 16             |         | 30 %    |
| # 30             |         | 21 %    |
| # 40             |         |         |
| # 50             |         | 14 %    |
| #100             |         | 11 %    |
| #200             |         | 7.7 %   |

|                   |                  |
|-------------------|------------------|
| T 84 F. Grav.     | T 85 C. Grav.    |
| Bulk:             | Bulk:            |
| S.S.D.:           | S.S.D.:          |
| Appar.:           | Appar.:          |
| Absorp.:          | Absorp.:         |
| T 104 Soundness   | TM 208 Degrade   |
| C A:              | P A:             |
| 1.5-3/4:          |                  |
| 3/4-3/8:          |                  |
| 3/8 #4:           | Crse Ht:         |
| #4- #8:           | P20:             |
| #8-#16:           | Fine Ht:         |
| #16-#30:          | P20:             |
| #30-#50:          |                  |
| T 96 Abrasion     | T 21 Impurity    |
|                   | Plate #:         |
| T 335 Fracture    | T 112 Friables   |
| DF:               | Wt'd Avg :       |
| 1.0:              | 1.5 3/4:         |
| 3/4:              | 3/4-3/8:         |
| 1/2:              | 3/8- #4:         |
| #4:               | #4 #16:          |
| SF:               | #8:              |
| T 113 Lightweight | TM 225 Woodwaste |
| Coarse:           | Lab:             |
| Fine:             | Field:           |

|                   |
|-------------------|
| T 327 Micro Deval |
| Grading: Loss: %  |

3 @ t27 = \$ 47.00  
3 @ t11 = 23.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.00

REMARKS:

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE REPRODUCED, EXTENDED OR FULLY WITHOUT WRITTEN APPROVAL OF THIS LABORATORY





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.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18-003507  
 Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY  
 Highway: County: Data Sheet No.:  
 Contractor: CADMAN-CANBY EA 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 18/10/30 Date Reported: 18/10/31  
 Class/Type: QUALITY CONTROL Use: CE18-8 18-33' FINE AC AGGR

| Q or G:          |         |         | AGGREGATE LABORATORY REPORT - FACAG |  | Size:            |  |
|------------------|---------|---------|-------------------------------------|--|------------------|--|
| Test             | Field   | Lab     | T 84 F. Grav.                       |  | T 85 C. Grav.    |  |
| T 176 S.B.       |         |         | Bulk:                               |  | Bulk:            |  |
| T 89 L.L.        |         |         | S.S.D.:                             |  | S.S.D.:          |  |
| T 90 P.I.        |         |         | Appar.:                             |  | Appar.:          |  |
| T 335 T11 Frac.  |         |         | Absorp.:                            |  | Absorp.:         |  |
| TM 206 Dust/Clay |         |         | T 104 Soundness                     |  | TM 208 Degrade   |  |
| TM 227 Cleanness |         |         | C.A.:                               |  | P.A.:            |  |
| TM 229 Elong pcs |         |         | 1.5-3/4:                            |  |                  |  |
| T 308 Incin A/C  |         |         | 1/4-3/8:                            |  |                  |  |
| Total A/C        |         |         | 3/8-#4:                             |  | Crsc Ht:         |  |
| Retention        |         |         | #4-#8:                              |  | F20              |  |
| T 329 Moisture   |         |         | #8-#16:                             |  | Fine Ht:         |  |
| T 27/11          |         |         | #16-#30:                            |  | F20:             |  |
| Sieve            | Passing | Passing | #30-#60:                            |  |                  |  |
| 2.5"             |         | 100 %   | T 96 Abrasion                       |  | T 21 Impurity    |  |
| 2                |         | 96 %    |                                     |  | Plate #:         |  |
| 1.5              |         | 93 %    |                                     |  |                  |  |
| 1                |         | 86 %    | T 335 Fracture                      |  | T 112 Friables   |  |
| 3/4              |         | 76 %    | DP:                                 |  | Wt'd Avg         |  |
| 1/2              |         | 66 %    | 1.0:                                |  | 1"-1 1/4"        |  |
| 3/8              |         | 60 %    | 3/4:                                |  | 3/4-3/8          |  |
| 1/4              |         | 53 %    | 1/2:                                |  | 3/8-#4:          |  |
| # 4              |         | 49 %    | #4:                                 |  | #4-#16:          |  |
| # 8              |         | 42 %    | SF:                                 |  | #8               |  |
| # 12             |         |         | T 113 Lightweight                   |  | TM 225 Woodwaste |  |
| # 16             |         | 38 %    | Coarse                              |  | Lab:             |  |
| # 30             |         | 30 %    | Fine                                |  | Field:           |  |
| # 40             |         |         |                                     |  |                  |  |
| # 50             |         | 15 %    |                                     |  |                  |  |
| # 100            |         | 2 %     |                                     |  |                  |  |
| # 200            |         | 6 %     |                                     |  |                  |  |
|                  |         |         | T 327 Micro Deval                   |  |                  |  |
|                  |         |         | Grading:                            |  | Loss: %          |  |

|         |           |                               |                   |        |
|---------|-----------|-------------------------------|-------------------|--------|
| 3 @ 127 | +\$ 47.00 | NSM = Not Sufficient Material | TOTAL CHARGES: \$ | 210.00 |
| 3 @ 111 | = 23.00   | REMARKS:                      |                   |        |
|         |           | INFORMATION ONLY              |                   |        |

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT CHALLENGE SO REPRODUCED EXCEPT IN WRITING WITHOUT WRITTEN APPROVAL WE SHALL BE HELD BY

## FAX (503) 986-3096

Use: CE18-10 10-12.5' FINE AC AGGR

C:\FILES\ADAMANT\ADAMANT - 071199 - A.D. 1994.10.01

## OREGON DEPARTMENT OF TRANSPORTATION

## MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

Page 1 of 1

(503) 986-3000

FAX (503) 986-3095

Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18-003509  
 Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY  
 Highway: County: Data Sheet No.:  
 Contractor: CADMAN-CANBY PA 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: 18/10/30 Date Reported: 18/10/31  
 Class/Type: QUALITY CONTROL Use: CE18-10 12.5-20' FINE AC AGGR

| Q or G: AGGREGATE LABORATORY REPORT - FACAG |         |         | Size:             |                  |
|---------------------------------------------|---------|---------|-------------------|------------------|
| Test                                        | Field   | Lab     | T 84 F. Grav.     | T 85 C. Grav.    |
| T 176 S.E.                                  |         |         | Bulk:             | Bulk:            |
| T 89 S.L.                                   |         |         | S.S.D.:           | S.S.D.:          |
| T 90 P.L.                                   |         |         | Appar.:           | Appar.:          |
| T 335 Ttl Frac.                             |         |         | Absorp.:          | Absorp.:         |
| TM 226 Dust/Clay                            |         |         | T 104 Soundness   | TM 208 Degrade   |
| TM 227 Cleaness                             |         |         | C A: F A:         |                  |
| 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:         |
| T 27/11                                     |         |         | #16-#30:          | P20:             |
| Sieve                                       | Passing | Passing | #30-#50:          |                  |
| 2.5"                                        |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                                           |         | 100 %   |                   | Plate #:         |
| 1.5                                         |         | 92 %    |                   |                  |
| 1                                           |         | 79 %    |                   |                  |
| 3/4                                         |         | 70 %    | T 335 Fracture    | T 112 Friables   |
| 1/2                                         |         | 60 %    | DF: 1.0:          | Wt'd Avg :       |
| 3/8                                         |         | 55 %    | 3/4:              | 1.5-3/4:         |
| 1/4                                         |         | 49 %    | 1/2:              | 3/4-3/8:         |
| # 4                                         |         | 46 %    | #4:               | 3/8- #4:         |
| # 8                                         |         | 39 %    | #8:               | #4-#16:          |
| # 10                                        |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 16                                        |         | 32 %    | Coarse:           | Lab:             |
| # 30                                        |         | 23 %    | Fine:             | Field:           |
| # 40                                        |         |         |                   |                  |
| # 50                                        |         | 17 %    |                   |                  |
| #100                                        |         | 13 %    |                   |                  |
| #200                                        |         | 9.4 %   |                   |                  |

T 327 Micro Deval  
 Grading: Loss: %

|         |            |                               |                   |        |
|---------|------------|-------------------------------|-------------------|--------|
| 3 @ t27 | = \$ 47.00 | NSM = Not Sufficient Material | TOTAL CHARGES: \$ | 210.00 |
| 3 @ t11 | = 23.00    | REMARKS:                      |                   |        |
|         |            | INFORMATION ONLY              |                   |        |

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

C: FILES CADMAN-CANBY J: CIESLAR - AGGREGATE 181023

## Page 1 of 1

15017966-3000

FAX: (503) 966-3096

18-003510

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Use: CE18-10 20-22.5' FINE AC AGGR

Size:

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\_\_\_\_\_

1055

TOTAL CHARGES: \$ 43.04

REMARKS:  
INFORMATION ONLY

APPROF. SIGN. MUST BE IN INK (SEE EX. 1) - SIGNATURE MUST BE WRITTEN APPROVAL OF THIS AGENCY

|          |          |            |          |                 |
|----------|----------|------------|----------|-----------------|
| C:\FILES | C:\FILES | APR 1 1998 | 11:12 AM | AGGREGATE 16.07 |
|----------|----------|------------|----------|-----------------|

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.:

18-003511

Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY

H1C7W0Y

County:

Data Sheet No.:

Contractor, CADMAN-CANBY

Org Unit:

FA No.

Project Manager:

Org Unit: CC

Sample No. :

Submitted By: KURT SEIGFRIED

Qty Represented.

Material Source: CANBY LOCATION

Sampled At CANBY LOCATION

Sampled By:

Witnessed By.

DATE-Sampled Received: 18/10/25 Tested: 18/10/31

Date Reported: 18/10/11

Class/type: QUALITY CONTROL

Use: CE18-10 22.5-30' FINE AC AGGR

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test               | Field   | Lab     |
|--------------------|---------|---------|
| T 176 S.F.         |         |         |
| T 89 L.S.          |         |         |
| T 90 P.I.          |         |         |
| T 335 Rel. Hum.    |         |         |
| TM 226 Dust/Clay   |         |         |
| TM 227 Cleanliness |         |         |
| TM 229 Elong. pos. |         |         |
| T 308 Incln A/C    |         |         |
| Total A/C          |         |         |
| Retention          |         |         |
| T 329 Moisture     |         |         |
| T 27/11            |         |         |
| Sieve              | Passing | Passing |
| 2.5"               |         | 100 %   |
| 2                  |         | 98 %    |
| 1.5                |         | 89 %    |
| 1                  |         | 74 %    |
| 3/4                |         | 64 %    |
| 1/2                |         | 53 %    |
| 3/8                |         | 45 %    |
| 1/4                |         | 37 %    |
| # 4                |         | 31 %    |
| # 8                |         | 27 %    |
| # 10               |         |         |
| # 16               |         | 23 %    |
| # 30               |         | 18 %    |
| # 40               |         |         |
| # 50               |         | 9 %     |
| #100               |         | 6 %     |
| #200               |         | 4.1 %   |

|          |            |
|----------|------------|
| 3 @ \$27 | = \$ 47.00 |
| 1 @ 11   | = 23.00    |

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 410.00

REMARKS:

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

PS/SM® SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THE LABORATORY.

C:\FILES\ADMIN\KABF\J:\J:\AGGREGATE: 81.02%



## Page 1 of 1

15031985-100C

FAX 15041385-1096

18-003512

Data Sheet No.:

FA No

Bid Item No.:

Sample No. :

Cly Represented.

Witnessed By:

Date Reported: 18/12/20

Use: CE18-10 30-40' FINE AC AGGR

Size:

| Test             | Field   | Lab     | T 84 P. Grav.     | T 85 C. Grav.    |
|------------------|---------|---------|-------------------|------------------|
| T 176 S.S.       |         |         | Bulk:             | Bulk:            |
| T 89 L.L.        |         |         | S.S.D.            | S.S.D.           |
| T 90 P.L.        |         |         | Appar.            | Appar.           |
| T 305 Till Frac  |         |         | Absorp            | Absorp.          |
| TM 215 Dust/Clay |         |         | T 104 Soundness   | TM 208 Degrade   |
| TM 217 Cleanness |         |         | C A: F A:         |                  |
| TM 219 Elong pas |         |         | 1/2-3/4           |                  |
| T 308 Incln A/C  |         |         | 3/4-1 1/2         |                  |
| Total A/C        |         |         | 1/8- #4           | Crse Ht          |
| Retention        |         |         | #4-#8             | P20              |
| T 319 Moisture   |         |         | #8-#16            | Fine Ht.         |
| T 27/11          |         |         | #16-#30           | P20              |
| Sieve            | Passing | Passing | #30-#50           |                  |
| 2 1/2"           |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                |         |         |                   | Plate #          |
| 1.5              |         | 100 %   |                   |                  |
| 1                |         | 85 %    | T 335 Fracture    | T 112 Friables   |
| 3/4              |         | 74 %    | DF: 1 C:          | Wt'd Avg :       |
| 1/2              |         | 58 %    | 3/4               | 1/2-3/4          |
| 3/8              |         | 51 %    | 1/2               | 3/4-1 1/8        |
| 1/4              |         | 42 %    | #4                | 3/8-#4           |
| # 4              |         | 38 %    | #8                | #4-#16           |
| # 8              |         | 32 %    | SP: #8            |                  |
| # 16             |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 30             |         | 27 %    | Coarse:           | Lab:             |
| # 40             |         | 22 %    | Fine:             | Field:           |
| # 50             |         | 9 %     |                   |                  |
| #100             |         | 5 %     |                   |                  |
| #200             |         | 4.1 %   |                   |                  |
|                  |         |         | T 327 Micro Deval |                  |
|                  |         |         | Grading:          | Loss: %          |

|                  |            |                               |                          |
|------------------|------------|-------------------------------|--------------------------|
| 3 @ 1.27         | = \$ 47.00 | NSM = Not Sufficient Material | TOTAL CHARGES: \$ 210.00 |
| 3 @ 7.11         | = 23.90    |                               |                          |
| REMARKS:         |            |                               |                          |
| INFORMATION ONLY |            |                               |                          |

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY

21. FILES : CACMAN - ANK J. JIGLAR AGGREGATE 1411

800 AIRPORT RD. SE SALEM, OR 97301-4792

Page 1 of 1

(501) 986-3000

FAX (502) 926-5096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003513

Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY

Highway

County:

Data Sheet No.:

Contractor CACMUN-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

Samp. oc Hy:

Witnessed by:

DATE Sampled:                      Received: 18/10/25      Tested: 18/10/31                      Date Reported: 18/10/31

Class/Type: QUALITY CONTROL

Use: CE18-10 40-44' FINE AC AGGR

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test             | Field   | Lab     |
|------------------|---------|---------|
| T 176 S.E.       |         |         |
| T 89 L.L.        |         |         |
| T 90 P.L.        |         |         |
| T 335 Tol 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          |         |         |
| Sieve            | Passing | Passing |
| 2.5"             |         |         |
| 2                |         |         |
| 1.5              |         | 100 %   |
| 1                |         | 89 %    |
| 3/4              |         | 78 %    |
| 1/2              |         | 68 %    |
| 3/8              |         | 50 %    |
| 1/4              |         | 40 %    |
| # 4              |         | 37 %    |
| # 8              |         | 31 %    |
| # 10             |         |         |
| # 16             |         | 27 %    |
| # 30             |         | 23 %    |
| # 40             |         |         |
| # 60             |         | 13 %    |
| #100             |         | 8 %     |
| #200             |         | 5.7 %   |

| T 84 F. Grav.   | T 85 C. Grav.  |
|-----------------|----------------|
| Bulk:           | Bulk:          |
| S.S.D.:         | S.S.D.:        |
| Appar:          | Appar:         |
| Absorp.:        | Absorp.:       |
| T 104 Soundness | TM 208 Degrade |
| C.A.            | F.A.:          |
| 1 1/2 - 3/4     |                |
| 3/4 - 3/8       |                |
| 3/8 - #4        | Crse Ht        |
| #4 - #8         | P20            |
| #8 - #16        | Fine Ht        |
| #16 - #30       | P20            |
| #30 - #50       |                |
| T 96 Abrasion   | T 21 Impurity  |
|                 | Plate #:       |

| T 335 Fracture    | T 112 Friables   |
|-------------------|------------------|
| DP:               | Wrd Avg          |
| 1 1/2             | 1 1/2 - 1 1/4    |
| 1 1/4             | 1 1/4 - 3/8      |
| 1 1/2             | 1/8 - #4         |
| #4                | #4 - #16         |
| SE:               |                  |
| #8                |                  |
| T 113 Lightweight | TM 225 Woodwaste |
| Coarse:           | Lab:             |
| Fine:             | Field:           |

|                                       |
|---------------------------------------|
| T 327 Micro Deval                     |
| Grading:                      Loss: % |

$$\begin{aligned} 3 \text{ m} \times 1.57 &= 5.47 \text{ m} \\ 3 \text{ m} \times 1.11 &= 3.33 \text{ m} \end{aligned}$$

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.00

REMARKS:

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

RECEIVED 1991 SEP 10; REVISED 1992 FEB 10; ACCEPTED 1992 APR 10. ADDRESS CORRESPONDENCE TO: DR. J. H. WITTEK, DEPARTMENT OF ANATOMY,

CE: 20154      CMB06 (CMB)      7: 111131      A020404, L200202

**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.: PRIVATE                             |                    | EA No.: PRIVATE TESTING            | Lab No.: 18-003514      |
| 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                        | Sampled By:        | Witnessed By:                      |                         |
| LATE-Sampled:                                     | Received: 18/10/25 | Tested: 18/11/ 9                   | Date Reported: 18/11/ 9 |
| Class/Type: COMPLIANCE                            |                    | Use: CE18-10 12.5-44' FINE AC AGGR |                         |

Q or G:

**AGGREGATE LABORATORY REPORT - PACAG**

Size:

| Test              | Lab          | T 84 F. Grav.            | T 85 C. Grav.           |
|-------------------|--------------|--------------------------|-------------------------|
| T 176 S.E.        |              | Bulk: 2.462              | Bulk: 2.563             |
| T 89 L.L.         |              | S.S.D.: 2.554            | S.S.D.: 2.610           |
| T 90 P.I.         |              | Appar.: 2.712            | Appar.: 2.689           |
| T 335 Ttl Frac    |              | Absorp: 3.74 %           | Absorp: 1.84 %          |
| TM226 Dust/Clay   |              | <b>T 104 Soundness</b>   | <b>TM 208 Degrade</b>   |
| TM227 Cleanliness |              | CA: 7% FA: 8%            |                         |
| TM229 Elong pcs   |              | 1.5-3/4: 1.7 %           |                         |
| T 304             |              | 3/4-3/8: 7.8 %           |                         |
| Uncomp Voids      |              | 3/8 #4: 12.6 %           | Crse Ht: 0.8 in         |
| T 19 Unit Wt      |              | #4-#8: 17.0 %            | P20: 10.4 %             |
| T 329 Moisture    |              | #8-#16: 7.8 %            | Fine Ht:                |
| <b>T 27/11</b>    | <b>27 11</b> | #16-#30: 4.2 %           | P20:                    |
| Sieve             | Passing      | #30-#50: 4.3 %           |                         |
| 2.5"              |              | <b>T 96 Abrasion</b>     | <b>T 21 Impurity</b>    |
| 2                 |              | 17.9 %                   | Plate #:                |
| 1.5               |              | Type A                   |                         |
| 1                 |              | <b>T 335 Fracture</b>    | <b>T 112 Friables</b>   |
| 3/4               |              | DF: 1.3:                 | 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               |              | <b>T 113 Lightweight</b> | <b>TM 225 Woodwaste</b> |
| # 10              |              | Coarse:                  | Lab:                    |
| # 16              |              | Fine:                    | Field:                  |
| # 30              |              |                          |                         |
| # 40              |              |                          |                         |
| # 50              |              |                          |                         |
| #100              |              |                          |                         |
| #200              |              |                          |                         |

|                          |         |
|--------------------------|---------|
| <b>T 327 Micro Deval</b> |         |
| Grading:                 | Loss: % |

1 @ T-84 = \$ 57.00  
 1 @ T-85 = 45.00  
 1 @ T-96 = 97.00  
 7 @ T-104 = 29.00  
 1 @ TM 208A = 74.00

NSM = Not Sufficient Material  
**REMARKS:**  
 INFORMATION ONLY

**TOTAL CHARGES: \$ 476.00**

**KEVIN BROPHY - LABORATORY SERVICES MANAGER**

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

## 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.: PRIVATE EA No.: PRIVATE TESTING: Lab No.: 18-003598  
 Project: PRIVATE TESTING - CADMAN, CANBY - BORING HOLES  
 Highway: County: Data Sheet No.:  
 Contractor: PA No.:  
 Project Manager: Org Unit: Bid Item No.:  
 Submitted By: KURT SEIGFRIED Org Unit: CC Sample No.:  
 Material Source: 03-108-1 CANBY PIT Qty Represented:  
 Sampled At: Sampled By: Witnessed By:  
 DATE-Sampled: Received: 18/11/1 Tested: 18/11/13 Date Reported: 18/11/14  
 Class/Type: MISC. TESTING Use: CE18-13 9.5'-20' MISCELLANEOUS

Q or G: GRAVEL

## AGGREGATE LABORATORY REPORT - CACAG

Size:

| Test            | Lab     | T 84 P. 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.:         |
| TM226 Dust/Clay |         | T 104 Soundness   | TM 208 Degrade   |
| TM227 Cleanness |         | C A: F A:         |                  |
| TM229 Elong pcs |         | 1 5-3/4:          |                  |
| T 304           |         | 3/4-3/8:          |                  |
| Uncomp. Voids   |         | 3/8- #4:          | Crse Ht:         |
| T 19 Unit Wt.   |         | #4 #8:            | P20:             |
| T 329 Moisture  |         | #8-#16:           | Fine Ht:         |
| T 27/11         | 27 11   | #16-#30:          | P20:             |
| Sieve           | Passing | #30-#50:          |                  |
| 2.5"            |         | T 96 Abrasion     | T 21 Impurity    |
| 2               | 89 %    |                   | Plate #:         |
| 1.5             | 83 %    |                   |                  |
| 1               | 76 %    | T 335 Fracture    | T 112 Friables   |
| 3/4             | 66 %    | DF: 1 0:          | Wt'd Avg:        |
| 1/2             | 55 %    | 3/4:              | 1 5-3/4:         |
| 3/8             | 49 %    | 1/2:              | 3/4-3/8:         |
| 1/4             | 41 %    | #4:               | 3/8- #4:         |
| # 4             | 37 %    | SP: #8:           | #4-#16:          |
| # 8             | 29 %    | T 113 Lightweight | TM 225 Woodwaste |
| # 10            |         | Coarse:           | Lab:             |
| # 16            | 22 %    | Fine:             | Field:           |
| # 30            | 16 %    |                   |                  |
| # 40            |         |                   |                  |
| # 50            | 11 %    |                   |                  |
| #100            | 8 %     |                   |                  |
| #200            | 5.6 %   |                   |                  |

T 327 Micro Deval

Grading: Loss: %

3 @ t27 = \$ 47.00  
 3 @ t11 = 23.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.00

REMARKS:  
 INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

C: FILES CONTR: J. CIESLAK AGGREGATE

800 AIRPORT RD. SE SALEM, OR 97301-4792

FAX (503) 986-3096

Use: CE18-13 20'-26' MISCELLANEOUS

\_\_\_\_\_ T 327 Micro Deval  
Grading:                      Loss: %

Ct FILES CONTR: \_\_\_\_\_ : J TIESLAK AGGREGATE

800 AIRPORT RD. SE SALEM. OR 97301-4792

FAX (503) 986-3096

Use: CE18-13 9.5'-26' MISCELLANEOUS

Grad: T 327 Micro Deval  
Loss: %

TOTAL CHARGES: \$ 534.00

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

MOLECULAR AGGREGATE





## 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.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18-003516  
 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: TC Sample No.:  
 Material Source: CANBY LOCATION Qty Represented:  
 Sampled At: CANBY LOCATION Sampled By: Witnessed By:  
 DATE Sampled: Received: 12/10/25 Tested: 12/10/25 Date Reported: 12/10/25  
 Class/Type: QUALITY CONTROL Use: CE18-14 13-34' FINE AC AGGR

| AGGREGATE LABORATORY REPORT - FACAG |         |         | Size:             |                  |
|-------------------------------------|---------|---------|-------------------|------------------|
| Test                                | Field   | Lab     |                   |                  |
| T 176 S.E.                          |         |         | T 84 F. Grav.     | T 85 C. Grav.    |
| T 89 S.L.                           |         |         | Bulk:             | Bulk:            |
| T 93 P.D.                           |         |         | S.S.D.            | S.S.D.           |
| T 335 Tl. Frac                      |         |         | Appar.            | Appar.           |
| TM 226 Dust/Clay                    |         |         | Absorp.           | Absorp.          |
| TM 207 Cleanmess                    |         |         | T 104 Soundness   | TM 208 Degrade   |
| TM 229 Floog pos                    |         |         | C A. F A.         |                  |
| T 306 Inclin A/C                    |         |         | 1 5-3/4           |                  |
| Total A/C                           |         |         | 3/4 3/8           |                  |
| Retention                           |         |         | 3/8- #4           | Crack Ht:        |
| T 329 Moisture                      |         |         | #4- #8            | P20:             |
|                                     |         |         | #8-#16            | Fine Ht:         |
| T 27/11                             |         |         | #16-#30           | P20:             |
| Sieve                               | Passing | Passing | #30-#50           |                  |
| 1.5"                                |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                                   |         | 100 %   |                   | plate #          |
| 1.5                                 |         | 95 %    |                   |                  |
| 1                                   |         | 86 %    | T 335 Fracture    | T 112 Friables   |
| 3/4                                 |         | 78 %    | DF:               | Wt'd Avg:        |
| 1/2                                 |         | 66 %    | 3/4               | 1 5-3/4          |
| 3/8                                 |         | 59 %    | 1/2               | 3/4-3/8          |
| 1/4                                 |         | 50 %    | #4                | 3/8- #4          |
| # 4                                 |         | 45 %    | #8                | #4-#16           |
| # 6                                 |         | 37 %    | T 113 Lightweight | TM 225 Woodwaste |
| # 10                                |         |         | Coarse:           | Lab:             |
| # 20                                |         | 32 %    | Fine:             | Field:           |
| # 30                                |         | 26 %    |                   |                  |
| # 40                                |         |         |                   |                  |
| # 50                                |         | 14 %    |                   |                  |
| #100                                |         | 9 %     |                   |                  |
| #200                                |         | 6.3 %   |                   |                  |
|                                     |         |         | T 327 Micro Deval |                  |
|                                     |         |         | Grading:          | Loss: %          |

1 - \$ 47.00  
 2 - \$ 23.00

NSM = Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 210.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL BE REPRODUCED EXACT IN FULL WITHOUT WRITTEN APPROVAL OF THIS LABORATORY

CADMAN CANBY

AGGREGATE TESTING

MATERIALS LABORATORY

4501986 3000

800 AIRPORT RD. SE SALEM, OR 97301-4792

FAX: 562-986-3096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.: 18-003517

Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY

Highway

Country:

Data Sheet No.:

Contract 01: CADMAN-CANBY

FA NC 11

Project Manager:

Org Unit

Bid Item No.:

Submitted By: KURT SEIGFRIED

Org Unit: 55

Sample No.

Material Source: CANBY LOCATION

Qty Represented:

Sampled At: CANBY LOCATION

Sampled by

We then used  $B_f$ 

DATE-Sampled: Received: 18/10/25 Tested: 18/10/25

Date Reported: 18/10/20

Class/Type: QUALITY CONTROL

Use: CE18-14 20-30' FINE AC AGGR

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test             | Field   | Lab     |
|------------------|---------|---------|
| T 176 S.E.       |         |         |
| T 89 L.L.        |         |         |
| T 90 P.I.        |         |         |
| T 335 T11 Frac   |         |         |
| TM 226 Dust/Clay |         |         |
| TM 227 Cleaness  |         |         |
| TM 229 Elong pcs |         |         |
| T 308 Incln A/C  |         |         |
| Total A/C        |         |         |
| Retention        |         |         |
| T 109 Moisture   |         |         |
| T 27/11          |         |         |
| Sieve            | Passing | Passing |
| 7 5"             |         | 100 %   |
| 2                |         | 95 %    |
| 1.5              |         | 89 %    |
| 1                |         | 74 %    |
| 3/4              |         | 59 %    |
| 1/2              |         | 48 %    |
| 3/8              |         | 42 %    |
| 1/4              |         | 36 %    |
| # 4              |         | 33 %    |
| # 8              |         | 27 %    |
| # 10             |         |         |
| # 16             |         | 25 %    |
| # 30             |         | 22 %    |
| # 40             |         |         |
| # 50             |         | 16 %    |
| #100             |         | 9 %     |
| #200             |         | 5.4 %   |

| T 84 F. Grav.     | T 85 C. Grav.    |
|-------------------|------------------|
| Bulk:             | Bulk:            |
| S.S.D.:           | S.S.D.           |
| Appar:            | Appar:           |
| Absorp:           | Absorp:          |
| T 104 Soundness   | TM 208 Degrade   |
| C A               | F A:             |
| 1-5-3/4:          |                  |
| 3/4-3/8:          |                  |
| 3/8- #4:          | Crse Ht          |
| #4-#8             | P20              |
| #8-#16:           | Fine Ht:         |
| #16-#30           | P20:             |
| #30-#50:          |                  |
| T 96 Abrasion     | T 21 Impurity    |
|                   | Plate #          |
| T 335 Fracture    | T 112 Friables   |
| DE                | Wt'd Avg         |
| 1/2:              | 1.5-1/4          |
| 1/4:              | 3/4 3/8          |
| #4:               | 3/8 #4           |
| #8                | #4-#16           |
| T 113 Lightweight | TM 225 Woodwaste |
| Coarse:           | Lab:             |
| Fine:             | Field:           |
| T 327 Micro Deval |                  |
| Grading:          | Loss: %          |

$$3 \text{ m} \times 27 = \$ 41.00$$

|          |       |
|----------|-------|
| 3 4 5 11 | 23.00 |
|----------|-------|

NSM = Not Sufficient Material

REMARKS:

INFORMATION ONLY

TOTAL CHARGES: \$ 210 00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

PEER-REVIEWED AUTHOR: NAME IS NOT IN THE INDEX OF AUTHORS WITHIN THE JOURNAL. T=12 L=9460

MATERIALS LABORATORY

:5031986-3000

800 AIRPORT RD. SE SALEM. OR 97301-4792

FAX (803) 986-1246

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003518

Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY

Highway:

County:

Data Sheet No.:

Contractor: CADMAN-CANBY

FA No.

Project Manager:

Doc Unit

| Bid Item No | Description                                   | Unit        | Quantity | Unit Price | Total Price |
|-------------|-----------------------------------------------|-------------|----------|------------|-------------|
| 1           | Excavate and backfill with compacted subgrade | cubic yard  | 100      | 1.50       | 150.00      |
| 2           | Place and compact 4" concrete                 | square yard | 200      | 2.00       | 400.00      |
| 3           | Place and compact 6" concrete                 | square yard | 100      | 3.00       | 300.00      |
| 4           | Place and compact 8" concrete                 | square yard | 50       | 4.00       | 200.00      |
| 5           | Place and compact 10" concrete                | square yard | 20       | 5.00       | 100.00      |
| 6           | Place and compact 12" concrete                | square yard | 10       | 6.00       | 60.00       |
| 7           | Place and compact 14" concrete                | square yard | 5        | 7.00       | 35.00       |
| 8           | Place and compact 16" concrete                | square yard | 2        | 8.00       | 16.00       |
| 9           | Place and compact 18" concrete                | square yard | 1        | 9.00       | 9.00        |
| 10          | Place and compact 20" concrete                | square yard | 1        | 10.00      | 10.00       |
| 11          | Place and compact 22" concrete                | square yard | 1        | 11.00      | 11.00       |
| 12          | Place and compact 24" concrete                | square yard | 1        | 12.00      | 12.00       |
| 13          | Place and compact 26" concrete                | square yard | 1        | 13.00      | 13.00       |
| 14          | Place and compact 28" concrete                | square yard | 1        | 14.00      | 14.00       |
| 15          | Place and compact 30" concrete                | square yard | 1        | 15.00      | 15.00       |
| 16          | Place and compact 32" concrete                | square yard | 1        | 16.00      | 16.00       |
| 17          | Place and compact 34" concrete                | square yard | 1        | 17.00      | 17.00       |
| 18          | Place and compact 36" concrete                | square yard | 1        | 18.00      | 18.00       |
| 19          | Place and compact 38" concrete                | square yard | 1        | 19.00      | 19.00       |
| 20          | Place and compact 40" concrete                | square yard | 1        | 20.00      | 20.00       |
| 21          | Place and compact 42" concrete                | square yard | 1        | 21.00      | 21.00       |
| 22          | Place and compact 44" concrete                | square yard | 1        | 22.00      | 22.00       |
| 23          | Place and compact 46" concrete                | square yard | 1        | 23.00      | 23.00       |
| 24          | Place and compact 48" concrete                | square yard | 1        | 24.00      | 24.00       |
| 25          | Place and compact 50" concrete                | square yard | 1        | 25.00      | 25.00       |
| 26          | Place and compact 52" concrete                | square yard | 1        | 26.00      | 26.00       |
| 27          | Place and compact 54" concrete                | square yard | 1        | 27.00      | 27.00       |
| 28          | Place and compact 56" concrete                | square yard | 1        | 28.00      | 28.00       |
| 29          | Place and compact 58" concrete                | square yard | 1        | 29.00      | 29.00       |
| 30          | Place and compact 60" concrete                | square yard | 1        | 30.00      | 30.00       |
| 31          | Place and compact 62" concrete                | square yard | 1        | 31.00      | 31.00       |
| 32          | Place and compact 64" concrete                | square yard | 1        | 32.00      | 32.00       |
| 33          | Place and compact 66" concrete                | square yard | 1        | 33.00      | 33.00       |
| 34          | Place and compact 68" concrete                | square yard | 1        | 34.00      | 34.00       |
| 35          | Place and compact 70" concrete                | square yard | 1        | 35.00      | 35.00       |
| 36          | Place and compact 72" concrete                | square yard | 1        | 36.00      | 36.00       |
| 37          | Place and compact 74" concrete                | square yard | 1        | 37.00      | 37.00       |
| 38          | Place and compact 76" concrete                | square yard | 1        | 38.00      | 38.00       |
| 39          | Place and compact 78" concrete                | square yard | 1        | 39.00      | 39.00       |
| 40          | Place and compact 80" concrete                | square yard | 1        | 40.00      | 40.00       |
| 41          | Place and compact 82" concrete                | square yard | 1        | 41.00      | 41.00       |
| 42          | Place and compact 84" concrete                | square yard | 1        | 42.00      | 42.00       |
| 43          | Place and compact 86" concrete                | square yard | 1        | 43.00      | 43.00       |
| 44          | Place and compact 88" concrete                | square yard | 1        | 44.00      | 44.00       |
| 45          | Place and compact 90" concrete                | square yard | 1        | 45.00      | 45.00       |
| 46          | Place and compact 92" concrete                | square yard | 1        | 46.00      | 46.00       |
| 47          | Place and compact 94" concrete                | square yard | 1        | 47.00      | 47.00       |
| 48          | Place and compact 96" concrete                | square yard | 1        | 48.00      | 48.00       |
| 49          | Place and compact 98" concrete                | square yard | 1        | 49.00      | 49.00       |
| 50          | Place and compact 100" concrete               | square yard | 1        | 50.00      | 50.00       |
| 51          | Place and compact 102" concrete               | square yard | 1        | 51.00      | 51.00       |
| 52          | Place and compact 104" concrete               | square yard | 1        | 52.00      | 52.00       |
| 53          | Place and compact 106" concrete               | square yard | 1        | 53.00      | 53.00       |
| 54          | Place and compact 108" concrete               | square yard | 1        | 54.00      | 54.00       |
| 55          | Place and compact 110" concrete               | square yard | 1        | 55.00      | 55.00       |
| 56          | Place and compact 112" concrete               | square yard | 1        | 56.00      | 56.00       |
| 57          | Place and compact 114" concrete               | square yard | 1        | 57.00      | 57.00       |
| 58          | Place and compact 116" concrete               | square yard | 1        | 58.00      | 58.00       |
| 59          | Place and compact 118" concrete               | square yard | 1        | 59.00      | 59.00       |
| 60          | Place and compact 120" concrete               | square yard | 1        | 60.00      | 60.00       |
| 61          | Place and compact 122" concrete               | square yard | 1        | 61.00      | 61.00       |

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: 18/10/31 Date Reported 18/10/31

Class/Type: QUALITY CONTROL

Use: CE18-14 30-34' FINE AC AGGR

Q or G:

## AGGREGATE LABORATORY REPORT - FACAG

**Size:**

| Test                       | Field   | Lab     | T 84 F. Grav.     | T 85 C. Grav.    |
|----------------------------|---------|---------|-------------------|------------------|
| T 176 S.E.                 |         |         | Bulk:             | Bulk:            |
| T 89 L.I.                  |         |         | S.S.D.:           | S.S.D.:          |
| T 93 P.I.                  |         |         | Appar:            | Appar:           |
| T 115 Ttl. Frac.           |         |         | Absorp.           | Absorp.          |
| TM 226 Dust/Clay           |         |         | T 104 Soundness   | TM 208 Degrade   |
| TM 127 Clearness           |         |         | C.A. F.A.:        |                  |
| TM 229 Elong. pos.         |         |         | 1 1/4-3/4:        |                  |
| T 308 Incl. 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.:        |
|                            |         |         | #16-#30:          | P20:             |
|                            |         |         | #30-#50:          |                  |
| T 27/11                    |         |         | T 96 Abrasion     | T 21 Impurity    |
| Sieve                      | Passing | Passing |                   | Plate #:         |
| 2 1/2"                     |         | 100 %   |                   |                  |
| 2"                         |         | 99 %    |                   |                  |
| 1 1/2"                     |         | 85 %    |                   |                  |
| 1"                         |         | 77 %    | T 335 Fracture    | T 112 Friables   |
| 3/4"                       |         | 65 %    | DF: 1 C:          | Wt'd Avg.        |
| 1/2"                       |         | 60 %    | 3/4:              | 1.5 3/4          |
| 1/8"                       |         | 54 %    | 1/2:              | 3/4-3/8          |
| 1/4"                       |         | 52 %    | #4                | 3/8-#4           |
| 1/8"                       |         | 49 %    | 48:               | #4 #14           |
| 1/16"                      |         |         | T 113 Lightweight | TM 225 Woodwaste |
| 1/32"                      |         |         | Coarse:           | Lab.             |
| 1/64"                      |         |         | Fine:             | Field            |
| 1/128"                     |         |         |                   |                  |
| 1/256"                     |         |         |                   |                  |
| 1/512"                     |         |         |                   |                  |
| 1/1024"                    |         |         |                   |                  |
| 1/2048"                    |         |         |                   |                  |
| 1/4096"                    |         |         |                   |                  |
| 1/8192"                    |         |         |                   |                  |
| 1/16384"                   |         |         |                   |                  |
| 1/32768"                   |         |         |                   |                  |
| 1/65536"                   |         |         |                   |                  |
| 1/131072"                  |         |         |                   |                  |
| 1/262144"                  |         |         |                   |                  |
| 1/524288"                  |         |         |                   |                  |
| 1/1048576"                 |         |         |                   |                  |
| 1/2097152"                 |         |         |                   |                  |
| 1/4194304"                 |         |         |                   |                  |
| 1/8388608"                 |         |         |                   |                  |
| 1/16777216"                |         |         |                   |                  |
| 1/33554432"                |         |         |                   |                  |
| 1/67108864"                |         |         |                   |                  |
| 1/134217728"               |         |         |                   |                  |
| 1/268435456"               |         |         |                   |                  |
| 1/536870912"               |         |         |                   |                  |
| 1/1073741824"              |         |         |                   |                  |
| 1/2147483648"              |         |         |                   |                  |
| 1/4294967296"              |         |         |                   |                  |
| 1/8589934592"              |         |         |                   |                  |
| 1/17179869184"             |         |         |                   |                  |
| 1/34359738368"             |         |         |                   |                  |
| 1/68719476736"             |         |         |                   |                  |
| 1/137438953472"            |         |         |                   |                  |
| 1/274877906944"            |         |         |                   |                  |
| 1/549755813888"            |         |         |                   |                  |
| 1/1099511627776"           |         |         |                   |                  |
| 1/2199023255552"           |         |         |                   |                  |
| 1/4398046511104"           |         |         |                   |                  |
| 1/8796093022208"           |         |         |                   |                  |
| 1/17592186044416"          |         |         |                   |                  |
| 1/35184372088832"          |         |         |                   |                  |
| 1/70368744177664"          |         |         |                   |                  |
| 1/140737488355328"         |         |         |                   |                  |
| 1/281474976710656"         |         |         |                   |                  |
| 1/562949953421312"         |         |         |                   |                  |
| 1/1125899906842624"        |         |         |                   |                  |
| 1/2251799813685248"        |         |         |                   |                  |
| 1/4503599627370496"        |         |         |                   |                  |
| 1/9007199254740992"        |         |         |                   |                  |
| 1/18014398509481984"       |         |         |                   |                  |
| 1/36028797018963968"       |         |         |                   |                  |
| 1/72057594037927936"       |         |         |                   |                  |
| 1/144115188075855872"      |         |         |                   |                  |
| 1/288230376151711744"      |         |         |                   |                  |
| 1/576460752303423488"      |         |         |                   |                  |
| 1/1152921504606846976"     |         |         |                   |                  |
| 1/2305843009213693952"     |         |         |                   |                  |
| 1/4611686018427387904"     |         |         |                   |                  |
| 1/9223372036854775808"     |         |         |                   |                  |
| 1/18446744073709551616"    |         |         |                   |                  |
| 1/36893488147419103232"    |         |         |                   |                  |
| 1/73786976294838206464"    |         |         |                   |                  |
| 1/147573952589676412928"   |         |         |                   |                  |
| 1/295147905179352825856"   |         |         |                   |                  |
| 1/590295810358705651712"   |         |         |                   |                  |
| 1/1180591620717411303424"  |         |         |                   |                  |
| 1/2361183241434822606848"  |         |         |                   |                  |
| 1/4722366482869645213696"  |         |         |                   |                  |
| 1/9444732965739290427392"  |         |         |                   |                  |
| 1/18889465931478580854784" |         |         |                   |                  |
| 1/37778931862957161709568" |         |         |                   |                  |
| 1/75557863725914323419136" |         |         | </                |                  |

|   |     |     |   |       |       |
|---|-----|-----|---|-------|-------|
| 3 | (b) | t27 | = | 5     | 47.00 |
| 4 | (b) | t11 | = | 23.00 |       |

NEM - Not Sufficient Material

TOTAL CHARGES: \$ 210.00

REMARKS:  
INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

MEMO. SHALL NOT BE REPRODUCED OR SET IN TYPE WITHOUT WRITTEN APPROVAL OF THE LABORATORY

C6 FLETA 700ADMAN CAN-ET 7000000000 AGGREGATE 8782

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.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

18-003519

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

Sampled By:

Witnessed By:

DATE-Sampled:

Received: 18/10/25

Tested: 18/11/ 9

Date Reported: 18/11/ 9

Class/Type: COMPLIANCE

Use: CE18-14 13-34' FINE AC AGGR

Q or G:

AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test            | Lab     | Size              |
|-----------------|---------|-------------------|
| T 176 S.E.      |         | T 84 F. Grav.     |
| T 89 L.L.       |         | Bulk: 2.480       |
| T 90 P.I.       |         | S.S.D.: 2.575     |
| T 335 Ttl Frac. |         | Appar.: 2.740     |
| TM226 Dust/Clay |         | Absorp.: 3.82 %   |
| TM227 Cleaness  |         | T 104 Soundness   |
| TM229 Elong pcs |         | C A: 9% F A: 11%  |
| T 304           |         | 1.5-3/4: 8.0 %    |
| Uncomp. Voids   |         | 3/4-3/8: 7.1 %    |
| T 19 Unit Wt.   |         | 3/8 #4: 12.3 %    |
| T 329 Moisture  |         | #4- #8: 18.5 %    |
| T 27/11         | 27 11   | #8-#16: 10.2 %    |
| Sieve           | Passing | #16 #30: 7.5 %    |
| 2.5"            |         | #30 #50: 6.8 %    |
| 2               |         | T 96 Abrasion     |
| 1.5             |         | 19.4 %            |
| 1               |         | Type B            |
| 3/4             |         | T 335 Fracture    |
| 1/2             |         | DF: 1.0:          |
| 3/8             |         | 3/4:              |
| 1/4             |         | 1/2:              |
| # 4             |         | #4:               |
| # 8             |         | SF: #8:           |
| # 10            |         | T 113 Lightweight |
| # 16            |         | Coarse:           |
| # 30            |         | Fine:             |
| # 40            |         |                   |
| # 50            |         |                   |
| #100            |         |                   |
| #200            |         |                   |
|                 |         | 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:            |
|                 |         | T 327 Micro Deval |
|                 |         | Grading: Loss: %  |

1 @ T-84 = \$ 57.00  
1 @ T-85 = 45.00  
1 @ T 96 = 97.00  
7 @ T-104 = 29.00  
1 @ TM 208A = 74.00

NSM = Not Sufficient Material  
REMARKS:  
INFORMATION ONLY

TOTAL CHARGES: \$ 476.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

## 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.: PRIVATE EA No.: PRIVATE TESTING: Lab No.: 18-003601  
 Project: PRIVATE TESTING - CADMAN, CANBY - BORING HOLES  
 Highway: County: Data Sheet No.:  
 Contractor: FA No.:  
 Project Manager: Org Unit: Bid Item No.:  
 Submitted By: KURT SEIGFRIED Org Unit: CC Sample No.:  
 Material Source: 03-108-1 CANBY PIT Qty Represented:  
 Sampled At: Sampled By: Witnessed By:  
 DATE-Sampled: Received: 18/11/14 Tested: 18/11/13 Date Reported: 18/11/14  
 Class/Type: MISC. TESTING Use: CE18-17 7'-20' MISCELLANEOUS

Q or G: GRAVEL

## AGGREGATE LABORATORY REPORT - CACAG

Size:

| Test            | 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 93 P.I.       |         | Appar.:           | Appar.:          |
| T 335 Ttl Frac. |         | Absorp.:          | Absorp.:         |
| TM226 Dust/Clay |         | T 104 Soundness   | TM 208 Degrade   |
| TM227 Cleanness |         | C A: F A:         |                  |
| TM229 Elong pcs |         | 1.5-3/4:          |                  |
| T 304           |         | 3/4-3/8:          |                  |
| Uncomp. Voids   |         | 3/8- #4:          | Crse Ht:         |
| T 19 Unit Wt.   |         | #4- #8:           | P20:             |
| T 329 Moisture  |         | #8-#16:           | Fine Ht:         |
| T 27/11         | 27 11   | #16-#30:          | P20:             |
| Sieve           | Passing | #30-#50:          |                  |
| 2.5"            |         | T 96 Abrasion     | T 21 Impurity    |
| 2               |         |                   | Plate #:         |
| 1.5             | 88 %    | T 335 Fracture    | T 112 Friables   |
| 1               | 72 %    | DF: 1.0:          | Wt'd Avg:        |
| 3/4             | 66 %    | 3/4:              | 1.5-3/4:         |
| 1/2             | 57 %    | 1/2:              | 3/4 3/8:         |
| 3/8             | 51 %    | #4:               | 3/8- #4:         |
| 1/4             | 45 %    | SP: #8:           | #4-#16:          |
| # 4             | 42 %    | T 113 Lightweight | TM 225 Woodwaste |
| # 8             | 35 %    | Coarse:           | Lab:             |
| # 10            |         | Fine:             | Field:           |
| # 16            | 30 %    |                   |                  |
| # 30            | 25 %    |                   |                  |
| # 40            |         |                   |                  |
| # 50            | 20 %    |                   |                  |
| #100            | 16 %    |                   |                  |
| #200            | 11.7 %  |                   |                  |

T 327 Micro Deval  
 Grading: Loss: %

3 @ t27 = \$ 47.00  
 3 @ t11 = 23.00

NSM = Not Sufficient Material

REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 210.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

C: FILES - CONTR J CIESLAR AGGREGATE



## 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.: PRIVATE

EA No.: PRIVATE TESTING: Lab No.:

18-003602

Project: PRIVATE TESTING - CADMAN, CANBY - BORING HOLES

Highway:

County:

Data Sheet No.:

Contractor:

FA No.:

Project Manager:

Org Unit:

Bid Item No.:

Submitted By: KURT SEIGFRIED

Org Unit: CC

Sample No.:

Material Source: 03-108-1 CANBY PIT

Qty Represented:

Sampled At:

Sampled By:

Witnessed By:

DATE-Sampled:

Received: 18/11/11 Tested: 18/11/13

Date Reported: 18/11/14

Class/Type:

MISC. TESTING

Use: CE18-17 20'-25' MISCELLANEOUS

Q or G: GRAVEL

## AGGREGATE LABORATORY REPORT - CACAG

Size:

| Test            | 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.:         |
| TM226 Dust/Clay |         |    | T 104 Soundness   | TM 208 Degrade   |
| TM227 Clearness |         |    | C A: F A:         |                  |
| TM229 Elong pcs |         |    | 1.5-3/4:          |                  |
| T 304           |         |    | 3/4-3/8:          |                  |
| Uncomp. Voids   |         |    | 3/8- #4:          | Crse Ht:         |
| T 19 Unit Wt.   |         |    | #4- #8:           | P20:             |
| T 329 Moisture  |         |    | #8-#16:           | Fine Ht:         |
| T 27/11         | 27      | 11 | #16-#30:          | P20:             |
| Sieve           | Passing |    | #30-#50:          |                  |
| 2.5"            |         |    | T 96 Abrasion     | T 21 Impurity    |
| 2               | 90 %    |    |                   | Plate #:         |
| 1.5             | 85 %    |    |                   |                  |
| 1               | 67 %    |    | T 335 Fracture    | T 112 Friables   |
| 3/4             | 58 %    |    | DF: 1.0:          | Wt'd Avg :       |
| 1/2             | 50 %    |    | 3/4:              | 1.5-3/4:         |
| 3/8             | 47 %    |    | 1/2:              | 3/4-3/8:         |
| 1/4             | 41 %    |    | #4:               | 3/8 #4:          |
| # 4             | 38 %    |    | SF: #8:           | #4-#16:          |
| # 8             | 33 %    |    | T 113 Lightweight | TM 225 Woodwaste |
| # 10            |         |    | Coarse:           | Lab:             |
| # 16            | 28 %    |    | Fine:             | Field:           |
| # 30            | 24 %    |    |                   |                  |
| # 40            |         |    |                   |                  |
| # 50            | 20 %    |    |                   |                  |
| #100            | 17 %    |    |                   |                  |
| #200            | 12.9 %  |    |                   |                  |

T 327 Micro Deval

Grading: Loss: %

3 @ t27 = \$ 47.00  
 3 @ t11 = 23.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.00

REMARKS:

INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

C: FILES : TINTN

J. CIESLAK AGGREGATE

OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503)986-3000

FAX (503)986-3096

|                                                         |                   |                                             |                         |
|---------------------------------------------------------|-------------------|---------------------------------------------|-------------------------|
| Contract No.: PRIVATE                                   |                   | EA No.: PRIVATE TESTING: Lab No.: 18-003603 |                         |
| Project: PRIVATE TESTING - CADMAN, CANBY - BORING HOLES |                   |                                             |                         |
| Highway:                                                | County:           | Data Sheet No.:                             |                         |
| Contractor:                                             |                   | FA No.:                                     |                         |
| Project Manager:                                        | Org Unit:         | Bid Item No.:                               |                         |
| Submitted By: KURT SEIGFRIED                            | Org Unit: CC      | Sample No.:                                 |                         |
| Material Source: 03-108-1 CANBY PIT                     |                   | Qty Represented:                            |                         |
| Sampled At:                                             | Sampled By:       | Witnessed By:                               |                         |
| DATE-Sampled:                                           | Received: 18/11/1 | Tested: 18/11/13                            | Date Reported: 18/11/14 |
| Class/Type:                                             | MISC. TESTING     | Use: CE18-17 25'-31'                        | MISCELLANEOUS           |

Q or G: GRAVEL

AGGREGATE LABORATORY REPORT - CACAG

Size:

| Test            | 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.:         |
| TM226 Dust/Clay |         | T 104 Soundness   | TM 208 Degrade   |
| TM227 Cleanness |         | C A: F A:         |                  |
| TM229 Elong pcs |         | 1.5-3/4:          |                  |
| T 304           |         | 3/4-3/8:          |                  |
| Uncomp. Voids   |         | 3/8- #4:          | Crse Ht:         |
| T 19 Unit WL    |         | #4- #8:           | P20:             |
| T 329 Moisture  |         | #8-#16:           | Fine Ht:         |
| T 27/11         | 27 11   | #16-#30:          | P20:             |
| Sieve           | Passing | #30-#50:          |                  |
| 2.5"            |         | T 96 Abrasion     | T 21 Impurity    |
| 2               | 100 %   |                   | Plate #:         |
| 1.5             | 97 %    |                   |                  |
| 1               | 82 %    | T 335 Fracture    | T 112 Friables   |
| 3/4             | 70 %    | DF: 1.0:          | Wt'd Avg :       |
| 1/2             | 59 %    | 3/4:              | 1.5-3/4:         |
| 3/8             | 53 %    | 1/2:              | 3/4-3/8:         |
| 1/4             | 46 %    | #4:               | 3/8 #4:          |
| # 4             | 43 %    | SF: #8:           | #4-#16:          |
| # 8             | 37 %    | T 113 Lightweight | TM 225 Woodwaste |
| # 10            |         | Coarse:           | Lab:             |
| # 16            | 33 %    | Fine:             | Field:           |
| # 30            | 25 %    |                   |                  |
| # 40            |         |                   |                  |
| # 50            | 11 %    |                   |                  |
| #100            | 6 %     |                   |                  |
| #200            | 4.6 %   |                   |                  |

T 327 Micro Deval  
Grading: Loss: %

3 @ t27 = \$ 47.00  
3 @ t11 = 23.00

NSM = Not Sufficient Material

TOTAL CHARGES: \$ 210.00

REMARKS:  
INFORMATION ONLY

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

C: FILES CONTR: \_\_\_\_\_ MATERIAL AGGREGATE

## OREGON DEPARTMENT OF TRANSPORTATION

## MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

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Contract No.: PRIVATE EA No.: PRIVATE TESTING: Lab No.: 18-003600  
 Project: PRIVATE TESTING - CADMAN, CANBY - BORING HOLES  
 Highway: County: Data Sheet No.:  
 Contractor: FA No.:  
 Project Manager: Org Unit: Bid Item No.:  
 Submitted By: KURT SEIGFRIED Org Unit: CC Sample No.:  
 Material Source: 03-108-1 CANBY PIT Qty Represented:  
 Sampled At: Sampled By: Witnessed By:  
 DATE-Sampled: Received: 18/11/11 Tested: 18/11/26 Date Reported: 18/11/26  
 Class/Type: MISC. TESTING Use: CE18-17 7'-31' MISCELLANEOUS

Q or G: GRAVEL

## AGGREGATE LABORATORY REPORT - CACAG

Size:

| Test            | Lab     | Size              |
|-----------------|---------|-------------------|
| T 176 S.E.      |         | T 84 F. Grav.     |
| T 89 L.L.       |         | Bulk: 2.499       |
| T 90 P.L.       |         | S.S.D.: 2.592     |
| T 335 Ttl Frac. |         | Appar.: 2.755     |
| TM226 Dust/Clay |         | Absorp.: 3.72 %   |
| TM227 Cleanness |         | T 104 Soundness   |
| TM229 Elong pcs |         | C A: 9% F A: 14%  |
| T 304           |         | 1.5-3/4: 4.2 %    |
| Uncomp. Voids   |         | 3/4-3/8: 7.6 %    |
| T 19 Unit Wt.   |         | 3/8- #4: 15.0 %   |
| T 329 Moisture  |         | #4 #8: 24.9 %     |
| T 27/11         | 27 11   | #8-#16: 16.8 %    |
| Sieve           | Passing | #16-#30: 8.3 %    |
| 2.5"            |         | #30-#50: 6.2 %    |
| 2               |         | T 96 Abrasion     |
| 1.5             |         | 18.8 %            |
| 1               |         | Type A            |
| 3/4             |         | T 335 Fracture    |
| 1/2             |         | DF: 1.0:          |
| 3/8             |         | 3/4:              |
| 1/4             |         | 1/2:              |
| # 4             |         | #4:               |
| # 8             |         | SF: #8:           |
| # 10            |         | T 113 Lightweight |
| # 16            |         | Coarse:           |
| # 30            |         | Fine:             |
| # 40            |         |                   |
| # 50            |         |                   |
| #100            |         |                   |
| #200            |         |                   |

T 327 Micro Deval  
 Grading: Loss: %

1 @ t84 = \$ 57.00  
 1 @ t85 = 45.00  
 1 @ t96 = 97.00  
 9 @ t104 = 29.00  
 1 @ tm208 = 74.00

NSM = Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 534.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

C: FILES CONT:

J. CIESLAK - AGGREGATE

OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

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|                                                   |                    |                         |                         |
|---------------------------------------------------|--------------------|-------------------------|-------------------------|
| Contract No.: PRIVATE                             |                    | EA No.: PRIVATE TESTING | Lab No.: 18-003520      |
| 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 SEIGERFRIED                    | 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: 18/10/30        | Date Reported: 18/10/31 |
| Class/Type: QUALITY CONTROL                       |                    |                         |                         |
| Use: CE18-19 10-20' FINE AC AGGR                  |                    |                         |                         |

| AGGREGATE LABORATORY REPORT - FACAG |       |     | Size:             |
|-------------------------------------|-------|-----|-------------------|
| Test                                | Field | Lab |                   |
| T 176 S.E.                          |       |     | T 84 F. Grav.     |
| T 89 L.L.                           |       |     | Bulk:             |
| T 90 P.I.                           |       |     | S.S.D.:           |
| T 335 Ttl Frac.                     |       |     | Appar.:           |
| TM 226 Dust/Clay                    |       |     | Absorp.:          |
| TM 227 Cleanness                    |       |     | T 104 Soundness   |
| TM 229 Elong pcs                    |       |     | C A: F A:         |
| T 308 Incin A/C                     |       |     | 1.5 3/4:          |
| Total A/C                           |       |     | 3/4-3/8:          |
| Retention                           |       |     | 3/8- #4:          |
| T 329 Moisture                      |       |     | #4 #8:            |
|                                     |       |     | #8 #16:           |
|                                     |       |     | #16-#30:          |
|                                     |       |     | #30-#50:          |
|                                     |       |     | T 96 Abrasion     |
|                                     |       |     | T 21 Impurity     |
|                                     |       |     | Plate #:          |
|                                     |       |     | T 335 Fracture    |
|                                     |       |     | DF: 1.0:          |
|                                     |       |     | 3/4:              |
|                                     |       |     | 1/2:              |
|                                     |       |     | #4:               |
|                                     |       |     | SF: #8:           |
|                                     |       |     | T 113 Lightweight |
|                                     |       |     | Coarse:           |
|                                     |       |     | Fine:             |
|                                     |       |     | TM 225 Woodwaste  |
|                                     |       |     | Lab:              |
|                                     |       |     | Field:            |
|                                     |       |     | T 327 Micro Deval |
|                                     |       |     | Grading:          |
|                                     |       |     | Loss: %           |

3 @ t27 -\$ 47.00  
1 @ t11 = 23.00

NSM = Not Sufficient Material  
REMARKS:  
INFORMATION ONLY

TOTAL CHARGES: \$ 70.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

## OREGON DEPARTMENT OF TRANSPORTATION

## MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

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**Contract No.: PRIVATE****EA No.: PRIVATE TESTING\_ Lab No.:****18-003521****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**Sampled By:****Witnessed By:****DATE-Sampled:****Received:** 18/10/25**Tested:** 18/10/29**Date Reported:** 18/10/30**Class/Type:** QUALITY CONTROL**Use:** CE18-19 20-30' FINE AC AGGR**Q or G:****AGGREGATE LABORATORY REPORT - FACAG****Size:**

| Test             | Field   | Lab     |
|------------------|---------|---------|
| 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 308 Incin A/C  |         |         |
| Total A/C        |         |         |
| Retention        |         |         |
| T 329 Moisture   |         |         |
| <b>T 27/11</b>   |         |         |
| Sieve            | Passing | Passing |
| 2.5"             |         |         |
| 2                |         | 100 %   |
| 1.5              |         | 90 %    |
| 1                |         | 77 %    |
| 3/4              |         | 69 %    |
| 1/2              |         | 60 %    |
| 3/8              |         | 56 %    |
| 1/4              |         | 50 %    |
| # 4              |         | 47 %    |
| # 8              |         | 41 %    |
| # 10             |         |         |
| # 16             |         | 35 %    |
| # 30             |         | 30 %    |
| # 40             |         |         |
| # 50             |         | 25 %    |
| #100             |         | 19 %    |
| #200             |         | 14.2 %  |

|                          |                         |
|--------------------------|-------------------------|
| <b>T 84 F. Grav.</b>     | <b>T 85 C. Grav.</b>    |
| Bulk:                    | Bulk:                   |
| S.S.D.:                  | S.S.D.:                 |
| Appar.:                  | Appar.:                 |
| Absorp.:                 | Absorp.:                |
| <b>T 104 Soundness</b>   | <b>TM 208 Degrade</b>   |
| C A:                     | F A:                    |
| 1.5-3/4:                 |                         |
| 3/4-3/8:                 |                         |
| 3/8- #4:                 | Crse Ht:                |
| #4- #8:                  | P20:                    |
| #8-#16:                  | Fine Ht:                |
| #16-#30:                 | P20:                    |
| #30-#50:                 |                         |
| <b>T 96 Abrasion</b>     | <b>T 21 Impurity</b>    |
|                          | Plate #:                |
| <b>T 335 Fracture</b>    | <b>T 112 Friables</b>   |
| DF:                      | Wt'd Avg :              |
| 1.0:                     | 1.5-3/4:                |
| 3/4:                     | 3/4-3/8:                |
| 1/2:                     | 3/8- #4:                |
| #4:                      | #4-#16:                 |
| SF:                      |                         |
| #8:                      |                         |
| <b>T 113 Lightweight</b> | <b>TM 225 Woodwaste</b> |
| Coarse:                  | Lab:                    |
| Fine:                    | Field:                  |

|                          |
|--------------------------|
| <b>T 327 Micro Deval</b> |
| Grading: Loss: %         |

2 @ t27 = \$ 47.00  
 2 @ t11 = 23.00

NSM = Not Sufficient Material

**TOTAL CHARGES:** \$ 140.00**REMARKS:****INFORMATION ONLY****KEVIN BROPHY - LABORATORY SERVICES MANAGER**

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

C: FILES ; CADMAN-CANBY ; J CIESLAK - AGGREGATE 181023

**OREGON DEPARTMENT OF TRANSPORTATION**

**MATERIALS LABORATORY**

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

FAX (503) 986-3096

**Contract No.: PRIVATE**

**EA No.: PRIVATE TESTING\_ Lab No.:**

**18-003522**

**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**

**Sampled By:**

**Witnessed By:**

**DATE-Sampled:**

**Received: 18/10/25**

**Tested: 18/10/29**

**Date Reported: 18/10/30**

**Class/Type: QUALITY CONTROL**

**Use: CE18-19 30-40' FINE AC AGGR**

**Q or G:**

**AGGREGATE LABORATORY REPORT - FACAG**

**Size:**

| Test             | Field   | Lab     |
|------------------|---------|---------|
| 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 308 Incin A/C  |         |         |
| Total A/C        |         |         |
| Retention        |         |         |
| T 329 Moisture   |         |         |
| <b>T 27/11</b>   |         |         |
| Sieve            | Passing | Passing |
| 2.5"             |         |         |
| 2                |         | 100 %   |
| 1.5              |         | 97 %    |
| 1                |         | 85 %    |
| 3/4              |         | 76 %    |
| 1/2              |         | 66 %    |
| 3/8              |         | 60 %    |
| 1/4              |         | 52 %    |
| # 4              |         | 48 %    |
| # 8              |         | 42 %    |
| # 10             |         |         |
| # 16             |         | 37 %    |
| # 30             |         | 31 %    |
| # 40             |         |         |
| # 50             |         | 22 %    |
| #100             |         | 16 %    |
| #200             |         | 12.2 %  |

|                          |                         |
|--------------------------|-------------------------|
| <b>T 84 F. Grav.</b>     | <b>T 85 C. Grav.</b>    |
| Bulk:                    | Bulk:                   |
| S.S.D.:                  | S.S.D.:                 |
| Appar.:                  | Appar.:                 |
| Absorp.:                 | Absorp.:                |
| <b>T 104 Soundness</b>   | <b>TM 208 Degrade</b>   |
| C A:                     | F A:                    |
| 1.5-3/4:                 |                         |
| 3/4-3/8:                 |                         |
| 3/8- #4:                 | Crse Ht:                |
| #4- #8:                  | P20:                    |
| #8-#16:                  | Fine Ht:                |
| #16-#30:                 | P20:                    |
| #30-#50:                 |                         |
| <b>T 96 Abrasion</b>     | <b>T 21 Impurity</b>    |
|                          | Plate #:                |
| <b>T 335 Fracture</b>    | <b>T 112 Friables</b>   |
| DF:                      | Wt'd Avg :              |
| 1.0:                     | 1.5-3/4:                |
| 3/4:                     | 3/4-3/8:                |
| 1/2:                     | 3/8- #4:                |
| #4:                      | #4-#16:                 |
| SF:                      |                         |
| #8:                      |                         |
| <b>T 113 Lightweight</b> | <b>TM 225 Woodwaste</b> |
| Coarse:                  | Lab:                    |
| Fine:                    | Field:                  |

|                          |
|--------------------------|
| <b>T 327 Micro Deval</b> |
| Grading: Loss: %         |

2 @ t27 = \$ 47.00  
2 @ t11 = 23.00

NSM = Not Sufficient Material

**TOTAL CHARGES: \$ 140.00**

**REMARKS:**

**INFORMATION ONLY**

**KEVIN BROPHY - LABORATORY SERVICES MANAGER**

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

C: FILES ; CADMAN-CANBY ; J CIESLAK - AGGREGATE 181023



## OREGON DEPARTMENT OF TRANSPORTATION

## MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

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**Contract No.: PRIVATE****EA No.: PRIVATE TESTING\_ Lab No.:****18-003523****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**Sampled By:****Witnessed By:****DATE-Sampled:****Received:** 18/10/25**Tested:** 18/10/29**Date Reported:** 18/10/30**Class/Type:** QUALITY CONTROL**Use:** CE18-19 40-47' FINE AC AGGR**Q or G:****AGGREGATE LABORATORY REPORT - FACAG****Size:**

| Test             | Field   | Lab     |
|------------------|---------|---------|
| 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 308 Incin A/C  |         |         |
| Total A/C        |         |         |
| Retention        |         |         |
| T 329 Moisture   |         |         |
| <b>T 27/11</b>   |         |         |
| Sieve            | Passing | Passing |
| 2.5"             |         |         |
| 2                |         | 100 %   |
| 1.5              |         | 98 %    |
| 1                |         | 90 %    |
| 3/4              |         | 81 %    |
| 1/2              |         | 72 %    |
| 3/8              |         | 67 %    |
| 1/4              |         | 62 %    |
| # 4              |         | 60 %    |
| # 8              |         | 54 %    |
| # 10             |         |         |
| # 16             |         | 49 %    |
| # 30             |         | 39 %    |
| # 40             |         |         |
| # 50             |         | 29 %    |
| #100             |         | 22 %    |
| #200             |         | 17.8 %  |

|                          |                         |
|--------------------------|-------------------------|
| <b>T 84 F. Grav.</b>     | <b>T 85 C. Grav.</b>    |
| Bulk:                    | Bulk:                   |
| S.S.D.:                  | S.S.D.:                 |
| Appar.:                  | Appar.:                 |
| Absorp.:                 | Absorp.:                |
| <b>T 104 Soundness</b>   | <b>TM 208 Degrade</b>   |
| C A:                     | F A:                    |
| 1.5-3/4:                 |                         |
| 3/4-3/8:                 |                         |
| 3/8- #4:                 | Crse Ht:                |
| #4- #8:                  | P20:                    |
| #8-#16:                  | Fine Ht:                |
| #16-#30:                 | P20:                    |
| #30-#50:                 |                         |
| <b>T 96 Abrasion</b>     | <b>T 21 Impurity</b>    |
|                          | Plate #:                |
| <b>T 335 Fracture</b>    | <b>T 112 Friables</b>   |
| DF:                      | Wt'd Avg :              |
| 1.0:                     | 1.5-3/4:                |
| 3/4:                     | 3/4-3/8:                |
| 1/2:                     | 3/8- #4:                |
| #4:                      | #4-#16:                 |
| SF:                      |                         |
| #8:                      |                         |
| <b>T 113 Lightweight</b> | <b>TM 225 Woodwaste</b> |
| Coarse:                  | Lab:                    |
| Fine:                    | Field:                  |

|                          |
|--------------------------|
| <b>T 327 Micro Deval</b> |
| Grading: Loss: %         |

2 @ t27 = \$ 47.00  
 2 @ t11 = 23.00

NSM = Not Sufficient Material

**TOTAL CHARGES:** \$ 140.00**REMARKS:****INFORMATION ONLY****KEVIN BROPHY - LABORATORY SERVICES MANAGER**

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

C: FILES ; CADMAN-CANBY ; J CIESLAK - AGGREGATE 181023

OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503)986-3000

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Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 18-003524  
 Project: PRIVATE AGGREGATE TESTING - CADMAN-CANBY  
 Highway: County: Data Sheet No.:  
 Contractor: CADMAN-CANBY PA 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: 18/11/9 Date Reported: 18/11/13  
 Class/Type: COMPLIANCE Use: CE18-19 10-47 FINE AC AGGR

Q or G:

AGGREGATE LABORATORY REPORT - FACAG

Size:

| Test            | Lab     | Size              |
|-----------------|---------|-------------------|
| T 176 S.E.      |         | T 84 F. Grav.     |
| T 89 L.L.       |         | Bulk: 2.439       |
| T 90 P.I.       |         | S.S.D.: 2.547     |
| T 335 Ttl Prac. |         | Appar: 2.735      |
| TM226 Dust/Clay |         | Absorp.: 4.44 %   |
| TM227 Cleaness  |         | T 104 Soundness   |
| TM229 Elong pcs |         | C A 5% P A: 9%    |
| T 304           |         | 1 5-3/4: 2.0 %    |
| Uncomp. Voids   |         | 3/4-3/8: 5.2 %    |
| T 19 Unit Wt.   |         | 3/8- #4: 8.9 %    |
| T 329 Moisture  |         | #4-#8: 14.1 %     |
| T 27/11         | 27 11   | #8-#16: 7.3 %     |
| Sieve           | Passing | #16-#30: 6.7 %    |
| 2.5"            |         | #30-#50: 6.2 %    |
| 2               |         | T 96 Abrasion     |
| 1.5             |         | 18.0 %            |
| 1               |         | Type A            |
| 3/4             |         | T 335 Fracture    |
| 1/2             |         | DF: 1-0:          |
| 3/8             |         | 3/4:              |
| 1/4             |         | 1/2:              |
| # 4             |         | #4:               |
| # 8             |         | SF: #8            |
| # 10            |         | T 113 Lightweight |
| # 16            |         | Coarse:           |
| # 30            |         | Fine:             |
| # 40            |         |                   |
| # 50            |         |                   |
| #100            |         |                   |
| #200            |         |                   |
|                 |         | T 85 C. Grav.     |
|                 |         | Bulk: 2.594       |
|                 |         | S.S.D.: 2.638     |
|                 |         | Appar: 2.714      |
|                 |         | Absorp.: 1.70 %   |
|                 |         | TM 208 Degrade    |
|                 |         | Crse Ht: 1.0 in   |
|                 |         | P20: 12.2 %       |
|                 |         | 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            |
|                 |         | TM 225 Woodwaste  |
|                 |         | Lab:              |
|                 |         | Field:            |
|                 |         | T 327 Micro Deval |
|                 |         | Grading:          |
|                 |         | Loss: %           |

1 @ T-84 = \$ 57.00  
 1 @ T-85 = 45.00  
 1 @ T-96 = 97.00  
 7 @ T-104 = 29.00  
 1 @ TM208A = 74.00

NSM - Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 476.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

## 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.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 19-000663  
 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.: 4-20-30  
 Material Source: Qty Represented:  
 Sampled At: Sampled By: Witnessed By:  
 DATE-Sampled: Received: 19/ 3/ 5 Tested: 19/ 3/20 Date Reported: 19/ 3/20  
 Class/Type: COMPLIANCE Use: AGGREGATE BASE

| 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 Cleaness                      |         |         | C A: 10% F A: 10% |                  |
| TM 229 Elong pcs                     |         |         | 1.5-3/4: 3.6 %    |                  |
| T 304                                |         |         | 3/4-3/8: 14.9 %   |                  |
| Uncomp. Voids                        |         |         | 3/8- #4: 12.6 %   | Crse Ht: 0.7 in  |
| T 19 Unit Wt.                        |         |         | #4- #8: 18.9 %    | P20: 16.4 %      |
| T 329 Moisture                       |         |         | #8-#16: 9.7 %     | Fine Ht:         |
| T 27/11                              |         |         | #16-#30: 5.6 %    | P20:             |
| Sieve                                | Passing | Passing | #30-#50: 5.1 %    |                  |
| 2.5                                  |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                                    |         |         | 19.8 %            | Plate #:         |
| 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:         |
| 3/8                                  |         |         | 3/8:              | 3/4-3/8:         |
| 1/4                                  |         |         | 1/4:              | 3/8- #4:         |
| # 4                                  |         |         | #10:              | #4-#16:          |
| # 8                                  |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 10                                 |         |         | Coarse:           | Lab:             |
| # 16                                 |         |         | Fine:             | Field:           |
| # 30                                 |         |         | AASHTO T 288/289  | AASHTO T 267     |
| # 40                                 |         |         | Resist: $\Omega$  | Organic:         |
| # 50                                 |         |         | pH:               |                  |
| #100                                 |         |         | AASHTO T 291      | AASHTO T 290     |
| #200                                 |         |         | Chloride:         | Sulfate:         |
| T 327 Micro Deval ==> Grading:       |         |         | Loss: %           |                  |

1 @ t96 = \$125.00  
 9 @ t104 = 38.00  
 1 @ tm208 = 96.00

NSM = Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 563.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

## OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

FAX (503) 986-3096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

19-000664

Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY

Highway:

County:

Data Sheet No.:

Contractor: H.G. SCHLICKE &amp; ASSOCIATES

FA No.:

Project Manager: DOUG GLESS

Org Unit:

Bid Item No.:

Submitted By: ADAM LARGE

Org Unit:

Sample No.: 4-30-40

Material Source:

Qty Represented:

Sampled At:

Sampled By:

Witnessed By:

DATE-Sampled:

Received: 19/ 3/ 5 Tested: 19/ 3/20

Date Reported: 19/ 3/20

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 |         |         | C A: 9% F A: 14%  |                  |
| TM 229 Elong pcs |         |         | 1.5-3/4: 2.7 %    |                  |
| T 304            |         |         | 3/4-3/8: 11.2 %   |                  |
| Uncomp. Voids    |         |         | 3/8- #4: 12.2 %   | Crse Ht: 1.5 in  |
| T 19 Unit Wt.    |         |         | #4- #8: 24.1 %    | P20: 15.5 %      |
| T 329 Moisture   |         |         | #8-#16: 17.5 %    | Fine Ht:         |
| T 27/11          |         |         | #16-#30: 9.0 %    | P20:             |
| Sieve            | Passing | Passing | #30-#50: 6.7 %    |                  |
| 2.5              |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                |         |         | 17.2 %            | Plate #:         |
| 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:         |
| 3/8              |         |         | 3/8:              | 3/4-3/8:         |
| 1/4              |         |         | 1/4:              | 3/8- #4:         |
| # 4              |         |         | #10:              | #4-#16:          |
| # 8              |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 10             |         |         | Coarse:           | Lab:             |
| # 16             |         |         | Fine:             | Field:           |
| # 30             |         |         | AASHTO T 288/289  | AASHTO T 267     |
| # 40             |         |         | Resist: Ω         | Organic:         |
| # 50             |         |         | pH:               |                  |
| #100             |         |         | AASHTO T 291      | AASHTO T 290     |
| #200             |         |         | Chloride:         | Sulfate:         |

T 327 Micro Deval ==&gt; Grading:

Loss: %

1 @ t96 = \$125.00  
 9 @ t104 = 38.00  
 1 @ tm208 = 96.00

NSM = Not Sufficient Material

REMARKS:

INFORMATION ONLY

TOTAL CHARGES: \$ 563.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

## OREGON DEPARTMENT OF TRANSPORTATION

MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

FAX (503) 986-3096

Contract No.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

19-000665

Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY

Highway: County:

Data Sheet No.:

Contractor: H.G. SCHLICKER &amp; ASSOCIATES

FA No.:

Project Manager: DOUG GLESS

Org Unit:

Bid Item No.:

Submitted By: ADAM LARGE

Org Unit:

Sample No.: 4-40-50

Material Source:

Qty Represented:

Sampled At:

Sampled By:

Witnessed By:

DATE-Sampled:

Received: 19/ 3/ 5 Tested: 19/ 3/20

Date Reported: 19/ 3/20

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 |         |         | C A: 14% F A: 12% |                  |
| TM 229 Elong pcs |         |         | 1.5-3/4: 8.5 %    |                  |
| T 304            |         |         | 3/4-3/8: 15.9 %   |                  |
| Uncomp. Voids    |         |         | 3/8- #4: 17.3 %   | Crse Ht: 1.7 in  |
| T 19 Unit Wt.    |         |         | #4- #8: 25.2 %    | P20: 16.7 %      |
| T 329 Moisture   |         |         | #8-#16: 13.0 %    | Fine Ht:         |
| T 27/11          |         |         | #16-#30: 6.9 %    | P20:             |
| Sieve            | Passing | Passing | #30-#50: 4.5 %    |                  |
| 2.5              |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                |         |         | 16.0 %            | Plate #:         |
| 1.5              |         |         | Type B            |                  |
| 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:              | 3/4-3/8:         |
| 1/4              |         |         | 1/4:              | 3/8- #4:         |
| # 4              |         |         | #10:              | #4-#16:          |
| # 8              |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 10             |         |         | Coarse:           | Lab:             |
| # 16             |         |         | Fine:             | Field:           |
| # 30             |         |         | AASHTO T 288/289  | AASHTO T 267     |
| # 40             |         |         | Resist: $\Omega$  | Organic:         |
| # 50             |         |         | pH:               |                  |
| #100             |         |         | AASHTO T 291      | AASHTO T 290     |
| #200             |         |         | Chloride:         | Sulfate:         |

T 327 Micro Deval ==&gt; Grading:

Loss: %

1 @ t96 = \$125.00  
 9 @ t104 = 38.00  
 1 @ tm208 = 96.00

NSM = Not Sufficient Material  
**REMARKS:**  
 INFORMATION ONLY

TOTAL CHARGES: \$ 563.00

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 &amp; ASSOCIATES ; J CIESLAK - AGGREGATE HQS@TELEPORT.COM

## OREGON DEPARTMENT OF TRANSPORTATION

## MATERIALS LABORATORY

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

FAX (503) 986-3096

Contract No.: PRIVATE EA No.: PRIVATE TESTING Lab No.: 19-000666  
 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.: 5-12-20  
 Material Source: Qty Represented:  
 Sampled At: Sampled By: Witnessed By:  
 DATE-Sampled: Received: 19/ 3/ 5 Tested: 19/ 3/20 Date Reported: 19/ 3/20  
 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 |         |         | C A: 12% F A: 14% |                  |
| TM 229 Elong pcs |         |         | 1.5-3/4: 6.2 %    |                  |
| T 304            |         |         | 3/4-3/8: 11.1 %   |                  |
| Uncomp. Voids    |         |         | 3/8- #4: 19.0 %   | Crse Ht: 2.4 in  |
| T 19 Unit Wt.    |         |         | #4- #8: 28.4 %    | P20: 20.0 %      |
| T 329 Moisture   |         |         | #8-#16: 14.5 %    | Fine Ht:         |
| T 27/11          |         |         | #16-#30: 8.2 %    | P20:             |
| Sieve            | Passing | Passing | #30-#50: 6.7 %    |                  |
| 2.5              |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                |         |         | 19.4 %            | Plate #:         |
| 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:         |
| 3/8              |         |         | 3/8:              | 3/4-3/8:         |
| 1/4              |         |         | 1/4:              | 3/8- #4:         |
| # 4              |         |         | #10:              | #4 #16:          |
| # 8              |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 10             |         |         | Coarse:           | Lab:             |
| # 16             |         |         | Fine:             | Field:           |
| # 30             |         |         | AASHTO T 288/289  | AASHTO T 267     |
| # 40             |         |         | Resist: Ω         | Organic:         |
| # 50             |         |         | pH:               |                  |
| #100             |         |         | AASHTO T 291      | AASHTO T 290     |
| #200             |         |         | Chloride:         | Sulfate:         |

T 327 Micro Deval ==&gt; Grading:

Loss: %

1 @ t96 = \$125.00  
 9 @ t104 = 38.00  
 1 @ tm208 = 96.00

NSM = Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 563.00

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 &amp; ASSOCIATES : J CIESLAK : AGGREGATE HGS@TELEPORT.COM



**OREGON DEPARTMENT OF TRANSPORTATION**

**MATERIALS LABORATORY**

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

FAX (503) 986-3096

|                                                            |  |                                |  |                                |  |
|------------------------------------------------------------|--|--------------------------------|--|--------------------------------|--|
| <b>Contract No.: PRIVATE</b>                               |  | <b>EA No.: PRIVATE TESTING</b> |  | <b>Lab No.: 19-000667</b>      |  |
| <b>Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY</b> |  |                                |  |                                |  |
| <b>Highway:</b>                                            |  | <b>County:</b>                 |  | <b>Data Sheet No.:</b>         |  |
| <b>Contractor: H.G. SCHLICHER &amp; ASSOCIATES</b>         |  | <b>Org Unit:</b>               |  | <b>FA No.:</b>                 |  |
| <b>Project Manager: DOUG GLESS</b>                         |  | <b>Org Unit:</b>               |  | <b>Bid Item No.:</b>           |  |
| <b>Submitted By: ADAM LARGE</b>                            |  | <b>Org Unit:</b>               |  | <b>Sample No.: 5-20-30</b>     |  |
| <b>Material Source:</b>                                    |  | <b>Sampled By:</b>             |  | <b>Qty Represented:</b>        |  |
| <b>Sampled At:</b>                                         |  | <b>Received: 19/ 3/ 5</b>      |  | <b>Tested: 19/ 3/21</b>        |  |
| <b>DATE-Sampled:</b>                                       |  | <b>Witnessed By:</b>           |  | <b>Date Reported: 19/ 3/21</b> |  |
| <b>Class/Type: COMPLIANCE</b>                              |  | <b>Use: AGGREGATE BASE</b>     |  |                                |  |

| Q or G:                                     |         |         | AGGREGATE LABORATORY REPORT - BASEAG |  | Size: 3" - 0     |  |
|---------------------------------------------|---------|---------|--------------------------------------|--|------------------|--|
| Test                                        | Field   | Lab     |                                      |  |                  |  |
| T 176 S.E.                                  |         |         | T 84 F. Grav.                        |  | T 85 C. Grav.    |  |
| T 89 L.L.                                   |         |         | Bulk:                                |  | Bulk:            |  |
| T 90 P.I.                                   |         |         | S.S.D.:                              |  | S.S.D.:          |  |
| T 335 Ttl Frac.                             |         |         | Appar.:                              |  | Appar.:          |  |
| TM 226 Dust/Clay                            |         |         | Absorp.:                             |  | Absorp.:         |  |
| TM 227 Cleanness                            |         |         | T 104 Soundness                      |  | TM 208 Degrade   |  |
| TM 229 Elong pcs                            |         |         | C A: 6%      F A: 8%                 |  |                  |  |
| T 304                                       |         |         | 1.5-3/4: 4.0 %                       |  |                  |  |
| Uncomp. Voids                               |         |         | 3/4-3/8: 3.6 %                       |  |                  |  |
| T 19 Unit Wt.                               |         |         | 3/8- #4: 10.2 %                      |  | Crse Ht: 1.1 in  |  |
| T 329 Moisture                              |         |         | #4- #8: 16.1 %                       |  | P20: 16.0 %      |  |
|                                             |         |         | #8-#16: 9.4 %                        |  | Fine Ht:         |  |
|                                             |         |         | #16-#30: 3.8 %                       |  | P20:             |  |
|                                             |         |         | #30-#50: 2.8 %                       |  |                  |  |
| T 27/11                                     |         |         | T 96 Abrasion                        |  | T 21 Impurity    |  |
| Sieve                                       |         |         | 16.3 %                               |  | Plate #:         |  |
| 2.5                                         | Passing | Passing | Type A                               |  |                  |  |
| 2                                           |         |         | T 335 Fracture                       |  | T 112 Friables   |  |
| 1.5                                         |         |         | 3/4:                                 |  | Wt'd Avg :       |  |
| 1                                           |         |         | 1/2:                                 |  | 1.5-3/4:         |  |
| 3/4                                         |         |         | 3/8:                                 |  | 3/4-3/8:         |  |
| 1/2                                         |         |         | 1/4:                                 |  | 3/8- #4:         |  |
| 3/8                                         |         |         | #10:                                 |  | #4-#16:          |  |
| 1/4                                         |         |         | T 113 Lightweight                    |  | TM 225 Woodwaste |  |
| # 4                                         |         |         | Coarse:                              |  | Lab:             |  |
| # 8                                         |         |         | Fine:                                |  | Field:           |  |
| # 10                                        |         |         | AASHTO T 288/289                     |  | AASHTO T 267     |  |
| # 16                                        |         |         | Resist: Ω                            |  | Organic:         |  |
| # 30                                        |         |         | pH:                                  |  | AASHTO T 290     |  |
| # 40                                        |         |         | AASHTO T 291                         |  | Sulfate:         |  |
| # 50                                        |         |         | Chloride:                            |  |                  |  |
| # 100                                       |         |         |                                      |  |                  |  |
| # 200                                       |         |         |                                      |  |                  |  |
| T 327 Micro Deval ==> Grading:      Loss: % |         |         |                                      |  |                  |  |

|                           |                               |                               |
|---------------------------|-------------------------------|-------------------------------|
| 1 @ t96      =\$125.00    | NSM = Not Sufficient Material | TOTAL CHARGES: \$      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.

**OREGON DEPARTMENT OF TRANSPORTATION**

**MATERIALS LABORATORY**

800 AIRPORT RD. SE SALEM, OR 97301-4792

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(503) 986-3000

FAX (503) 986-3096

|                                                            |                                |                                |                      |                           |
|------------------------------------------------------------|--------------------------------|--------------------------------|----------------------|---------------------------|
| <b>Contract No.: PRIVATE</b>                               |                                | <b>EA No.: PRIVATE TESTING</b> |                      | <b>Lab No.: 19-000668</b> |
| <b>Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY</b> |                                |                                |                      |                           |
| <b>Highway:</b>                                            | <b>County:</b>                 | <b>Data Sheet No.:</b>         |                      |                           |
| <b>Contractor: H.G. SCHLICKER &amp; ASSOCIATES</b>         | <b>Org Unit:</b>               | <b>FA No.:</b>                 |                      |                           |
| <b>Project Manager: DOUG GLESS</b>                         | <b>Org Unit:</b>               | <b>Bid Item No.:</b>           |                      |                           |
| <b>Submitted By: ADAM LARGE</b>                            | <b>Org Unit:</b>               | <b>Sample No.: 5-30-40</b>     |                      |                           |
| <b>Material Source:</b>                                    | <b>Sampled By:</b>             | <b>Qty Represented:</b>        |                      |                           |
| <b>Sampled At:</b>                                         | <b>Received: 19/ 3/ 5</b>      | <b>Tested: 19/ 3/21</b>        | <b>Witnessed By:</b> |                           |
| <b>DATE-Sampled:</b>                                       | <b>Date Reported: 19/ 3/21</b> |                                |                      |                           |
| <b>Class/Type: COMPLIANCE</b>                              | <b>Use: AGGREGATE BASE</b>     |                                |                      |                           |

| Q or G:                        |         |         | AGGREGATE LABORATORY REPORT - BASEAG |  | Size: 3" - 0     |  |
|--------------------------------|---------|---------|--------------------------------------|--|------------------|--|
| Test                           | Field   | Lab     |                                      |  |                  |  |
| T 176 S.E.                     |         |         | T 84 F. Grav.                        |  | T 85 C. Grav.    |  |
| T 89 L.L.                      |         |         | Bulk:                                |  | Bulk:            |  |
| T 90 P.I.                      |         |         | S.S.D.:                              |  | S.S.D.:          |  |
| T 335 Ttl Frac.                |         |         | Appar.:                              |  | Appar.:          |  |
| TM 226 Dust/Clay               |         |         | Absorp.:                             |  | Absorp.:         |  |
| TM 227 Cleanness               |         |         | T 104 Soundness                      |  | TM 208 Degrade   |  |
| TM 229 Elong pcs               |         |         | C A: 7% F A: 7%                      |  |                  |  |
| T 304                          |         |         | 1.5 3/4: 3.7 %                       |  |                  |  |
| Uncomp. Voids                  |         |         | 3/4-3/8: 7.9 %                       |  |                  |  |
| T 19 Unit Wt.                  |         |         | 3/8- #4: 10.4 %                      |  | Crse Ht: 1.8 in  |  |
| T 329 Moisture                 |         |         | #4 #8: 14.5 %                        |  | P20: 16.7 %      |  |
| T 27/11                        |         |         | #8 #16: 8.2 %                        |  | Fine Ht:         |  |
| Sieve                          | Passing | Passing | #16-#30: 4.6 %                       |  | P20:             |  |
| 2.5                            |         |         | #30-#50: 2.5 %                       |  |                  |  |
| 2                              |         |         | T 96 Abrasion                        |  | T 21 Impurity    |  |
| 1.5                            |         |         | 16.5 %                               |  | Plate #:         |  |
| 1                              |         |         | Type A                               |  |                  |  |
| 3/4                            |         |         | T 335 Fracture                       |  | T 112 Friables   |  |
| 1/2                            |         |         | 3/4:                                 |  | Wt'd Avg :       |  |
| 3/8                            |         |         | 1/2:                                 |  | 1.5-3/4:         |  |
| 1/4                            |         |         | 3/8:                                 |  | 3/4-3/8:         |  |
| # 4                            |         |         | 1/4:                                 |  | 3/8- #4:         |  |
| # 8                            |         |         | #10:                                 |  | #4 #16:          |  |
| # 10                           |         |         | T 113 Lightweight                    |  | TM 225 Woodwaste |  |
| # 16                           |         |         | Coarse:                              |  | Lab:             |  |
| # 30                           |         |         | Fine:                                |  | Field:           |  |
| # 40                           |         |         | AASHTO T 288/289                     |  | AASHTO T 267     |  |
| # 50                           |         |         | Resist: Ω                            |  | Organic:         |  |
| #100                           |         |         | pH:                                  |  |                  |  |
| #200                           |         |         | AASHTO T 291                         |  | AASHTO T 290     |  |
|                                |         |         | Chloride:                            |  | Sulfate:         |  |
| T 327 Micro Deval ==> Grading: |         |         | Loss: %                              |  |                  |  |

|                    |                               |                                 |
|--------------------|-------------------------------|---------------------------------|
| 1 @ t96 = \$125.00 | NSM = Not Sufficient Material | <b>TOTAL CHARGES: \$ 563.00</b> |
| 9 @ t104 = 38.00   | <b>REMARKS:</b>               |                                 |
| 1 @ tm28 = 96.00   | <b>INFORMATION ONLY</b>       |                                 |

**KEVIN BROPHY - LABORATORY SERVICES MANAGER**

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

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.: 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:

DATE-Sampled:

Received: 19/ 3/ 5 Tested: 19/ 3/21

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 |         |         | C A: 12% F A: 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:             |
| Sieve            | Passing | Passing | #30-#50: 5.7 %    |                  |
| 2.5              |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                |         |         | 17.5 %            | Plate #:         |
| 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:         |
| 3/8              |         |         | 3/8:              | 3/4-3/8:         |
| 1/4              |         |         | 1/4:              | 3/8- #4:         |
| # 4              |         |         | #10:              | #4-#16:          |
| # 8              |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 10             |         |         | Coarse:           | Lab:             |
| # 16             |         |         | Fine:             | Field:           |
| # 30             |         |         | AASHTO T 288/289  | AASHTO T 267     |
| # 40             |         |         | Resist: Ω         | Organic:         |
| # 50             |         |         | pH:               |                  |
| #100             |         |         | AASHTO T 291      | AASHTO T 290     |
| #200             |         |         | Chloride:         | Sulfate:         |

T 327 Micro Deval ==> Grading:

Loss: %

1 @ t96 = \$125.00  
9 @ t104 = 38.00  
1 @ tm208 = 96.00

NSM = Not Sufficient Material  
REMARKS:  
INFORMATION ONLY

TOTAL CHARGES: \$ 563.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

C: FILES / PROC MGR: DOUG GLESS / H.G. SCHLICKER & ASSOCIATES / J CIESLAK - AGGREGATE HGSA@TELEPORT.COM

## 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.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

19-000670

Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY

Highway: County:

Data Sheet No.:

Contractor: H.G. SCHLICKE &amp; ASSOCIATES

FA No.:

Project Manager: DOUG GLESS

Org Unit:

Bid Item No.:

Submitted By: ADAM LARGE

Org Unit:

Sample No.: 7-30-42

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

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 Cleaness                |         |         | C A: 11% F A: 15% |                  |
| TM 229 Elong pcs               |         |         | 1.5-3/4: 8.5 %    |                  |
| T 304                          |         |         | 3/4-3/8: 9.3 %    |                  |
| Uncomp. Voids                  |         |         | 3/8- #4: 14.7 %   | Crse Ht: 1.6 in  |
| T 19 Unit Wt.                  |         |         | #4- #8: 23.4 %    | P20: 16.4 %      |
| T 329 Moisture                 |         |         | #8-#16: 12.6 %    | Fine Ht:         |
| T 27/11                        |         |         | #16-#30: 11.4 %   | P20:             |
| Sieve                          | Passing | Passing | #30-#50: 11.4 %   |                  |
| 2.5                            |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                              |         |         | 17.0 %            | Plate #:         |
| 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:         |
| 3/8                            |         |         | 3/8:              | 3/4-3/8:         |
| 1/4                            |         |         | 1/4:              | 3/8- #4:         |
| # 4                            |         |         | #10:              | #4-#16:          |
| # 8                            |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 10                           |         |         | Coarse:           | Lab:             |
| # 16                           |         |         | Fine:             | Field:           |
| # 30                           |         |         | AASHTO T 288/289  | AASHTO T 267     |
| # 40                           |         |         | Resist: Ω         | Organic:         |
| # 50                           |         |         | pH:               |                  |
| #100                           |         |         | AASHTO T 291      | AASHTO T 290     |
| #200                           |         |         | Chloride:         | Sulfate:         |
| T 327 Micro Deval ==> Grading: |         |         | Loss: %           |                  |

1 @ t96 = \$125.00  
 9 @ t104 = 38.00  
 1 @ tm208 = 96.00

NSM = Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 563.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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

## 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.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

19-000671

Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY

Highway:

County:

Data Sheet No.:

Contractor: H.G. SCHLICKE &amp; ASSOCIATES

FA No.:

Project Manager: DOUG GLESS

Org Unit:

Bid Item No.:

Submitted By: ADAM LARGE

Org Unit:

Sample No.: 18-20-30

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

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 |         |         | C A: 13% F A: 12% |                  |
| TM 229 Elong pcs |         |         | 1.5-3/4: 6.1 %    |                  |
| T 304            |         |         | 3/4-3/8: 16.5 %   |                  |
| Uncomp. Voids    |         |         | 3/8 #4: 15.4 %    | Crse Ht: 1.4 in  |
| T 19 Unit Wt.    |         |         | #4- #8: 21.2 %    | P20: 17.3 %      |
| T 329 Moisture   |         |         | #8-#16: 11.5 %    | Fine Ht:         |
| T 27/11          |         |         | #16-#30: 6.6 %    | P20:             |
| Sieve            | Passing | Passing | #30-#50: 6.7 %    |                  |
| 2.5              |         |         | T 96 Abrasion     | T 21 Impurity    |
| 2                |         |         | 18.8 %            | Plate #:         |
| 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:         |
| 3/8              |         |         | 3/8:              | 3/4-3/8:         |
| 1/4              |         |         | 1/4:              | 3/8- #4:         |
| # 4              |         |         | #10:              | #4-#16:          |
| # 8              |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 10             |         |         | Coarse:           | Lab:             |
| # 16             |         |         | Fine:             | Field:           |
| # 30             |         |         | AASHTO T 288/289  | AASHTO T 267     |
| # 40             |         |         | Resist: $\Omega$  | Organic:         |
| # 50             |         |         | pH:               |                  |
| #100             |         |         | AASHTO T 291      | AASHTO T 290     |
| #200             |         |         | Chloride:         | Sulfate:         |

T 327 Micro Deval ==&gt; Grading:

Loss: %

1 @ t96 = \$125.00  
 9 @ t104 = 38.00  
 1 @ tm208 = 96.00

NSM = Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 563.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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## 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.: PRIVATE

EA No.: PRIVATE TESTING Lab No.:

19-000672

Project: PRIVATE AGGREGATE TESTING - CADMAN - CANBY

Highway:

County:

Data Sheet No.:

Contractor: H.G. SCHLICKER &amp; 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:

DATE-Sampled:

Received: 19/ 3/ 5 Tested: 19/ 3/21

Date Reported: 19/ 3/21

Class/Type: COMPLIANCE

Use: AGGREGATE BASE

| AGGREGATE LABORATORY REPORT - BASEAG |         |         | Size: 3" - 0      |                  |
|--------------------------------------|---------|---------|-------------------|------------------|
| Test                                 | Field   | Lab     |                   |                  |
| T 176 S.E.                           |         |         | T 84 F. Grav.     | T 85 C. Grav.    |
| T 89 L.L.                            |         |         | Bulk:             | Bulk:            |
| T 90 P.I.                            |         |         | S.S.D.:           | S.S.D.:          |
| T 335 Ttl Frac.                      |         |         | Appar.:           | Appar.:          |
| TM 226 Dust/Clay                     |         |         | Absorp.:          | Absorp.:         |
| TM 227 Cleanness                     |         |         | T 104 Soundness   | TM 208 Degrade   |
| TM 229 Elong pcs                     |         |         | C A: 10% F A: 13% |                  |
| T 304                                |         |         | 1.5-3/4: 3.5 %    |                  |
| Uncomp. Voids                        |         |         | 3/4-3/8: 10.7 %   |                  |
| T 19 Unit Wt.                        |         |         | 3/8- #4: 15.6 %   | Crse Ht: 1.2 in  |
| T 329 Moisture                       |         |         | #4- #8: 20.6 %    | P20: 16.6 %      |
| T 27/11                              |         |         | #8-#16: 12.0 %    | Fine Ht:         |
| Sieve                                | Passing | Passing | #16-#30: 8.8 %    | P20:             |
| 2.5                                  |         |         | #30-#50: 10.1 %   |                  |
| 2                                    |         |         | T 96 Abrasion     | T 21 Impurity    |
| 1.5                                  |         |         | 16.5 %            | Plate #:         |
| 1                                    |         |         | Type A            |                  |
| 3/4                                  |         |         | T 335 Fracture    | T 112 Friables   |
| 1/2                                  |         |         | 3/4:              | Wt'd Avg :       |
| 3/8                                  |         |         | 1/2:              | 1.5-3/4:         |
| 1/4                                  |         |         | 3/8:              | 3/4-3/8:         |
| # 4                                  |         |         | 1/4:              | 3/8- #4:         |
| # 8                                  |         |         | #10:              | #4-#16:          |
| # 10                                 |         |         | T 113 Lightweight | TM 225 Woodwaste |
| # 16                                 |         |         | Coarse:           | Lab:             |
| # 30                                 |         |         | Fine:             | Field:           |
| # 40                                 |         |         | AASHTO T 288/289  | AASHTO T 267     |
| # 50                                 |         |         | Resist: $\Omega$  | Organic:         |
| #100                                 |         |         | pH:               |                  |
| #200                                 |         |         | AASHTO T 291      | AASHTO T 290     |
|                                      |         |         | Chloride:         | Sulfate:         |
| T 327 Micro Deval ==> Grading:       |         |         | Loss: %           |                  |

1 @ t96 = \$125.00  
 9 @ t104 = 38.00  
 1 @ tm208 = 96.00

NSM = Not Sufficient Material  
 REMARKS:  
 INFORMATION ONLY

TOTAL CHARGES: \$ 563.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

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





Project #Y184200

Appendix F

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



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

| Boring<br>(PDH)<br>or<br>Test Pit<br>(TP) | Depth<br>Interval | Combine<br>Sample Bag(s) ID | Los Angeles Abrasion<br>ASTM C 131<br>(ODOT Requirement: 35% maximum loss<br>at 500 revolutions) |             | Oregon Air Degradation<br>OSHD TM 208<br>(ODOT Requirement: 30% maximum passing<br>No. 20 sieve; maximum sediment height 3") |                          |             | Sodium Sulfate Soundness<br>ASTM C 88<br>(ODOT Requirement for EAC and PCC Coarse<br>Aggregate: 12% maximum loss at 5 cycles) |             | Soil Classification<br>USCS |
|-------------------------------------------|-------------------|-----------------------------|--------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------|
|                                           |                   |                             | % Loss                                                                                           | Pass / Fail | % passing<br>No. 20<br>Sieve                                                                                                 | Sediment<br>Height (in.) | Pass / Fail | % Loss                                                                                                                        | Pass / Fail |                             |
| PDH 1                                     | 7'-20'            | A1 + A2                     | 19.0                                                                                             | Pass        | 23.2                                                                                                                         | 1.1                      | Pass        | 5.4                                                                                                                           | Pass        | GW-GM                       |
| PDH 1                                     | 20'-25'           | A3 + A4                     | 16.8                                                                                             | Pass        | 17.3                                                                                                                         | 0.9                      | Pass        | 2.5                                                                                                                           | Pass        | GW-GM                       |
| PDH 1                                     | 25'-30'           | A5 + A6                     | 16.0                                                                                             | Pass        | 10.0                                                                                                                         | 0.9                      | Pass        | 1.1                                                                                                                           | Pass        | SW-SM                       |
| PDH 2                                     | 5'-20'            | B1 + B2                     | 17.7                                                                                             | Pass        | 21.8                                                                                                                         | 0.7                      | Pass        | 1.3                                                                                                                           | Pass        | GW-GM                       |
| PDH 2                                     | 25'-30'           | B5 + B6                     | 21.1                                                                                             | Pass        | 18.1                                                                                                                         | 0.9                      | Pass        | 7.4                                                                                                                           | Pass        | GW-GM                       |
| PDH 2                                     | 30'-40'           | B7 + B8                     | 19.4                                                                                             | Pass        | 21.5                                                                                                                         | 1.0                      | Pass        | 5.1                                                                                                                           | Pass        | GW-GM                       |
| PDH 3                                     | 10'-20'           | C3 + C4                     | 19.9                                                                                             | Pass        | 13.6                                                                                                                         | 0.8                      | Pass        | 3.6                                                                                                                           | Pass        | GW                          |
| PDH 3                                     | 22'-30'           | C6 + C7                     | 20.5                                                                                             | Pass        | 20.2                                                                                                                         | 0.8                      | Pass        | 6.4                                                                                                                           | Pass        | GW-GM                       |
| PDH 3                                     | 30'-39'           | C8 + C9                     | 18.0                                                                                             | Pass        | 19.8                                                                                                                         | 0.7                      | Pass        | 6.1                                                                                                                           | Pass        | GW-GM                       |
| PDH 4                                     | 5'-20'            | D1 + D2                     | 20.3                                                                                             | Pass        | 17.7                                                                                                                         | 0.6                      | Pass        | 4.5                                                                                                                           | Pass        | GW-GM                       |
| PDH 4                                     | 27'-40'           | D5 + D6                     | 16.7                                                                                             | Pass        | 20.6                                                                                                                         | 0.6                      | Pass        | 3.6                                                                                                                           | Pass        | GW-GM                       |
| PDH 4                                     | 40'-45'           | D7 + D8                     | 19.0                                                                                             | Pass        | 6.6                                                                                                                          | 0.6                      | Pass        | 1.1                                                                                                                           | Pass        | GW-GM                       |
| PDH 5                                     | 5'-20'            | E1 + E2                     | 19.6                                                                                             | Pass        | 19.6                                                                                                                         | 0.7                      | Pass        | 3.4                                                                                                                           | Pass        | GW-GM                       |
| PDH 5                                     | 26'-40'           | E4 + E5                     | 18.2                                                                                             | Pass        | 15.6                                                                                                                         | 0.6                      | Pass        | 4.2                                                                                                                           | Pass        | GW-GM                       |
| PDH 6                                     | 15'-30'           | F4 + F5                     | 19.3                                                                                             | Pass        | 18.1                                                                                                                         | 0.5                      | Pass        | 3.8                                                                                                                           | Pass        | GW-GM                       |
| PDH 6                                     | 30'-40'           | F6 + F7                     | 16.7                                                                                             | Pass        | 15.9                                                                                                                         | 0.6                      | Pass        | 1.8                                                                                                                           | Pass        | GW-GM                       |
| PDH 6                                     | 50'-60'           | F10 + F11                   | 15.9                                                                                             | Pass        | 16.0                                                                                                                         | 0.5                      | Pass        | 5.0                                                                                                                           | Pass        | GW-GM                       |
| TP 1                                      | 20'-22'           | G3 + G4                     | 17.7                                                                                             | Pass        | 20.4                                                                                                                         | 1.6                      | Pass        | 3.0                                                                                                                           | Pass        | GW-GM                       |
| TP 2                                      | 13'-15'           | H1 + H2                     | 19.0                                                                                             | Pass        | 21.4                                                                                                                         | 0.9                      | Pass        | 2.4                                                                                                                           | Pass        | GW                          |
| TP 3                                      | 10'-12'           | I1 + I2                     | 17.7                                                                                             | Pass        | 24.1                                                                                                                         | 1.2                      | Pass        | 2.0                                                                                                                           | Pass        | GW                          |
| TP 4                                      | 21'-23'           | J3 + J4                     | 18.9                                                                                             | Pass        | 22.2                                                                                                                         | 1.1                      | Pass        | 1.5                                                                                                                           | Pass        | GW-GM                       |
| TP 5                                      | 8'-10'            | K1 + K2                     | 20.5                                                                                             | Pass        | 11.5                                                                                                                         | 1.2                      | Pass        | 1.9                                                                                                                           | Pass        | GW-SW                       |
| TP 5                                      | 20'-22'           | K3 + K4                     | 17.8                                                                                             | Pass        | 19.6                                                                                                                         | 0.8                      | Pass        | 2.9                                                                                                                           | Pass        | GW                          |

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



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

$$4,290,660 \text{ ft}^2 \text{ area} \times 33 \text{ ft resource thickness} = 141,591,780 \text{ ft}^3$$

$$= 5,244,140 \text{ yd}^3$$

(assuming vertical sidewall at property lines)

**Resource to remain in setback area:**

- 1) 30 ft width along Highway 99E:

$$30 \text{ ft width} \times 33 \text{ ft resource thickness} \times 1700 \text{ feet length} = 1,683,000 \text{ ft}^3$$

$$= 62,333 \text{ yd}^3$$

- 2) 30 ft width plus 35 ft width LNG easement along Barlow Road:

$$30 \text{ ft width} \times 33 \text{ ft resource thickness} \times 1300 \text{ feet length} = 2,211,000 \text{ ft}^3$$

$$+ 35 \text{ ft width} \times 33 \text{ ft resource thickness} \times 800 \text{ feet length} = 81,889 \text{ yd}^3$$

- 3) 30 ft width along southern property boundary:

$$30 \text{ ft width} \times 33 \text{ ft resource thickness} \times 3500 \text{ feet length} = 3,465,000 \text{ ft}^3$$

$$= 128,333 \text{ yd}^3$$

**Resource to remain in slopes:**

1) along Highway 99E:

$$\begin{aligned} 1581.75 \text{ ft}^2 \text{ resource X 1700 feet length} &= 2,688,975 \text{ ft}^3 \\ &= 99,592 \text{ yd}^3 \end{aligned}$$

2) along Barlow Road:

$$\begin{aligned} 1581.75 \text{ ft}^2 \text{ resource X 1300 feet length} &= 2,056,275 \text{ ft}^3 \\ &= 76,158 \text{ yd}^3 \end{aligned}$$

3) along southern property boundary:

$$\begin{aligned} 1581.75 \text{ ft}^2 \text{ resource X 3500 feet length} &= 5,536,125 \text{ ft}^3 \\ &= 205,042 \text{ yd}^3 \end{aligned}$$

**Resource lost in Setbacks and Slopes**

$$\text{Loss in setback along Highway 99E} = 62,333 \text{ yd}^3$$

$$\text{Loss in setback along Barlow Road} = 81,889 \text{ yd}^3$$

$$\text{Loss in setback along southern property boundary} = 128,333 \text{ yd}^3$$

$$\text{Loss in slopes along Highway 99E} = 99,592 \text{ yd}^3$$

$$\text{Loss in slopes along Barlow Road} = 76,158 \text{ yd}^3$$

$$\text{Loss in slopes along southern property boundary} = 205,042 \text{ yd}^3$$

$$\begin{aligned} \text{Total Resource Loss due to Setbacks and Slopes} &= 653,347 \text{ yd}^3 \\ \text{(exclusive of BPA tower requirements)} & \end{aligned}$$

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.

$$\begin{aligned}\text{Resource to remain in BPA setback} &= 1,492,885 \text{ ft}^3 \\ &= 55,292 \text{ yd}^3\end{aligned}$$

$$\begin{aligned}\text{Resource to remain in 2H:1V slope around BPA setback} &= 1,647,564 \text{ ft}^3 \\ &61,021 \text{ yd}^3\end{aligned}$$

$$\text{Total Resource Loss due to BPA Setbacks and Slopes} = 116,313 \text{ yd}^3$$

$$\begin{aligned}\text{Total resource loss from setbacks, slopes and BPA setback} &= 769,660 \text{ yd}^3 \\ \text{and slope requirements}\end{aligned}$$

$$\text{Total resource on site} = 5,244,140 \text{ yd}^3$$

$$\text{Resource lost to setbacks and slopes} = 769,660 \text{ yd}^3$$

$$\text{Remaining resource available} = 4,474,480 \text{ yd}^3$$

$$\begin{aligned}\text{Using a conversion factor for cubic yards to tons of 1.54} \\ \text{tons/yd}^3, \text{ give a tonnage of:}\end{aligned} \quad 6,890,699 \text{ tons}$$

