

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE – REGION 6

IN THE MATTER OF:
OAK GROVE TRESTLES SITE
Mt. Hood National Forest, Oregon

PORTLAND GENERAL ELECTRIC COMPANY,
RESPONDENT

Proceeding under Sections 104, 107, and 122 of the Comprehensive
Environmental Response, Compensation, and Liability Act, as amended,
42 U.S.C. §§ 9604, 9607, and 9622

ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR A
SITE INSPECTION AND AN ENGINEERING EVALUATION/COST ANALYSIS

August 2, 2011

TABLE OF CONTENTS

I.	JURISDICTION AND GENERAL PROVISIONS	1
II.	PARTIES BOUND	2
III.	DEFINITIONS.....	3
IV.	FINDINGS OF FACT.....	6
V.	CONCLUSIONS OF LAW AND DETERMINATIONS	7
VI.	SETTLEMENT AGREEMENT AND ORDER.....	8
VII.	DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR	9
VIII.	WORK TO BE PERFORMED	12
IX.	SITE ACCESS	20
X.	ACCESS TO INFORMATION	21
XI.	RECORD RETENTION	23
XII.	COMPLIANCE WITH OTHER LAWS	24
XIII.	NOTIFICATION OF RELEASES AND IMPLEMENTATION OF RESPONSE ACTIONS	24
XIV.	AUTHORITY OF ON-SCENE COORDINATOR.....	26
XV.	PAYMENT OF RESPONSE COSTS	27
XVI.	DISPUTE RESOLUTION	30
XVII.	FORCE MAJEURE.....	31
XVIII.	STIPULATED PENALTIES	33

XIX.	COVENANT NOT TO SUE BY THE FOREST SERVICE	36
XX.	RESERVATION OF RIGHTS BY THE UNITED STATES	37
XXI.	RESERVATION OF RIGHTS BY RESPONDENT.....	39
XXII.	COVENANT NOT TO SUE BY RESPONDENT	39
XXIII.	OTHER CLAIMS.....	40
XXIV.	CONTRIBUTION	41
XXV.	INDEMNIFICATION.....	42
XXVI.	INSURANCE	43
XXVII.	FINANCIAL ASSURANCE	44
XXVIII.	MODIFICATIONS	46
XXIX.	NOTICE OF COMPLETION OF WORK.....	47
XXX.	SEVERABILITY/INTEGRATION/APPENDICES	48
XXXI.	EFFECTIVE DATE/AUTHORITY	48

Appendix 1 – Statement of Work

Appendix 2 – Work Plan

I. JURISDICTION AND GENERAL PROVISIONS

1.1. This Administrative Settlement Agreement and Order on Consent (Settlement Agreement) is entered into voluntarily by the United States Department of Agriculture, Forest Service (Forest Service), and the Portland General Electric Company (PGE or Respondent). This Settlement Agreement provides for the performance of a Site Inspection (“SI”) and, if required by the Forest Service pursuant to 40 CFR 300.415, an Engineering Evaluation/Cost Analysis (“EE/CA”) by Respondent, and the reimbursement of certain response costs incurred by the United States at or in connection with a portion of the PGE Oak Grove Hydroelectric Project (defined in Paragraph 3.1 of this Settlement Agreement as the “Site”) located within the Mt. Hood National Forest in the State of Oregon.

1.2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9607, and 9622, as amended (“CERCLA”). This authority was delegated to the Secretary of the Department of Agriculture (the “Secretary”) by Executive Order 12580, 52 Fed. Reg. 2923-36 (January 23, 1987), 3 C.F.R. Compilation, p. 193. The Secretary’s authority was further delegated to the Chief of the Forest Service (the “Chief”) by 7 C.F.R. § 2.60(a)(39). The Chief’s authority was re-delegated to Regional Foresters, pursuant to the Forest Service Manual 2164.04c, 2.1, effective November 10, 1994.

1.3. The Forest Service and Respondent recognize that this Settlement Agreement has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Settlement Agreement do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings, other than proceedings to implement or enforce this Settlement Agreement, the validity of the findings of fact, conclusions of law, and determinations in Sections IV and V of this Settlement Agreement. Respondent agrees to comply with and be bound by the terms of this Settlement Agreement and further agrees that it will not contest the basis or validity of this Settlement Agreement or its terms.

1.4. The Assistant Attorney General for the Environment and Natural Resources Division of the United States Department of Justice has concurred in this Settlement Agreement in accordance with the requirements of Section 4 of Executive Order 12580.

II. PARTIES BOUND

2.1. This Settlement Agreement applies to and is binding upon the Forest Service and upon Respondent and its successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter Respondent's responsibilities under this Settlement Agreement.

2.2. Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and comply with this

Settlement Agreement. Respondent shall be responsible for any noncompliance with this Settlement Agreement.

III. DEFINITIONS

3.1. Unless otherwise expressly provided herein, terms used in this Settlement Agreement, which are defined in CERCLA or in regulations promulgated under CERCLA, shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement Agreement or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601, *et seq.*

“Day” shall mean a calendar day. In computing any period of time under this Settlement Agreement, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

“Effective Date” shall be the effective date of this Settlement Agreement as provided in Section XXXI.

“EPA” shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

“Forest Service” shall mean the United States Department of Agriculture, Forest Service, an agency of the United States.

“DEQ” shall mean the Oregon Department of Environmental Quality and any successor departments or agencies of the State.

“Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs on or after the Effective Date in reviewing or developing plans, reports, and other items pursuant to this Settlement Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 9.2 (costs and attorneys’ fees and any monies paid to secure access, including the amount of just compensation), Paragraph 13.1 (Emergency Response), and Paragraph 20.3 (Work Takeover).

“Interest” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

“National Contingency Plan” or “NCP” shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

“PGE” shall mean Portland General Electric Company.

“Paragraph” shall mean a portion of this Settlement Agreement identified by an Arabic numeral.

”Parties” shall mean the Forest Service and Respondent.

“Past Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States paid or incurred at or in connection with the Site through the day preceding the Effective Date.

“RCRA” shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. § 6901, *et seq.* (also known as the Resource Conservation and Recovery Act).

“Respondent” shall mean the Portland General Electric Company.

“Section” shall mean a portion of this Settlement Agreement identified by a Roman numeral.

“Settlement Agreement” shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXX). In the event of conflict between this Settlement Agreement and any appendix, this Settlement Agreement shall control.

“Site” shall mean that portion of the PGE Oak Grove Hydroelectric Project located within the Mt. Hood National Forest, Clackamas County, Oregon, and depicted generally on Figure 1 attached to the Work Plan. The Site includes three trestles (Cripple Creek, Pint Creek, and Canyon Creek trestles) and the land underlying the trestles. The trestles are located in Section 22 of Township 5 South, Range 6 East (Latitude 45° 06' 57"; Longitude 122° 03' 28" - Cripple Creek Trestle); Section 35 of Township 5 South, Range 6 East (Latitude 45° 05' 22"; Longitude 122° 01' 58" - Pint Creek Trestle); and Section 31 of Township 5 South, Range 7 East (Latitude 45° 05' 14"; Longitude 121° 59' 47" - Canyon Creek Trestle) of the Willamette Meridian, Clackamas County, Oregon. The Site also includes the areal extent of contamination from the area

described in this “Site” definition, and all suitable areas in very close proximity to the contamination necessary for response action implementation.

“State” shall mean the State of Oregon.

“Statement of Work” or “SOW” shall mean the statement of work for implementation of the SI, as set forth in Appendix 1 to this Settlement Agreement, and any modifications made thereto in accordance with this Settlement Agreement, including any modifications for the preparation of an EE/CA, if required by the Forest Service.

“Waste Material” shall mean 1) any hazardous substance under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); 2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); 3) any solid waste under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and 4) any hazardous substance under ORS § 453.005(7).

“Work Plan” shall mean the work plan for implementation of the SI as set forth in Appendix 2 to this Settlement Agreement, and any modifications made thereto in accordance with this Settlement Agreement, including any modifications for the preparation of an EE/CA, if required by the Forest Service.

“Work” shall mean all activities Respondent is required to perform under this Settlement Agreement.

IV. FINDINGS OF FACT

The Forest Service makes the following “Findings of Fact:”

4.1. Respondent, Portland General Electric Company, is an Oregon domestic corporation.

4.2. The Site is located on National Forest System land.

4.3. The Site, including the three trestles, has been in operation since approximately 1955 when the Oak Grove Hydroelectric Project was constructed.

4.4. In 2008, PGE discovered soils impacted by lead and other hazardous substances in the area below trestles while preparing to repaint the trestles. PGE notified the Forest Service of its findings.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

The Forest Service makes the following Conclusions of Law and Determinations:

5.1. Based on the Findings of Fact set forth above, the Forest Service makes the following Conclusions of Law:

5.1.1. The Site is a “facility” as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

5.1.2. The contamination found at the Site, as identified in the Findings of Fact above, includes hazardous substances as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

5.1.3. Respondent is a “person” as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

5.1.4. Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is jointly and severally liable for performance of

response actions and for response costs incurred and to be incurred at the Site.

Respondent was the “owner” and/or “operator” of the facility at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2). Respondent is the current “owner” and/or “operator” of the facility as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

5.1.5. The conditions described in the Findings of Fact above constitute an actual or threatened “release” of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

5.1.6. The Work required by this Settlement Agreement is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Settlement Agreement, will be considered consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

VI. SETTLEMENT AGREEMENT AND ORDER

6.1. Based upon the foregoing Findings of Fact, Conclusions of Law, and Determinations, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Settlement Agreement, including, but not limited to, all appendices to this Settlement Agreement and all documents incorporated by reference into this Settlement Agreement.

**VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR,
AND ON-SCENE COORDINATOR**

7.1. Respondent has retained Bridgewater Group, Inc. (Bridgewater) to perform the Work. Bridgewater has subcontracted to Hahn & Associates, Inc. (HAI) to assist with certain field aspects of the project. HAI will work under the direction of Bridgewater. The Forest Service has reviewed Bridgewater's and HAI's qualifications and has no objection to Bridgewater's performance of the Work. Respondent shall notify the Forest Service of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least 15 days prior to commencement of such Work. The Forest Service retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If the Forest Service disapproves of a selected contractor, Respondent shall retain a different contractor and shall notify the Forest Service of that contractor's name and qualifications within 15 days of the Forest Service's disapproval.

7.2. Respondent designates Arya Behbehani, PGE Environmental Services Manager, as Project Coordinator. Respondent's Project Coordinator shall be responsible for administration of all actions by Respondent required by this Settlement Agreement. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. The Forest Service retains the right to disapprove of the designated Project Coordinator. If the Forest Service disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify the Forest Service of that person's name, address,

telephone number, and qualifications within 15 days following the Forest Service's disapproval.

7.3. The Forest Service has designated James Tierney, as its On-Scene Coordinator ("OSC"). Except as otherwise provided in this Settlement Agreement, Respondent shall direct all submissions required by this Settlement Agreement to the OSC.

7.4. The Forest Service and Respondent shall have the right, subject to Paragraph 7.2, to change their respective designated OSC or Project Coordinator. Respondent shall notify the Forest Service 10 days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

7.5. Respondent shall provide draft deliverables in an electronic format that can be modified. Deliverables and other written communications submitted under this Settlement Agreement shall be sent to the following persons:

For the Forest Service:

James Tierney
On-Scene Coordinator
Mt. Hood National Forest
16400 Champion Way
Sandy, OR 97055
Office: 503-668-1787
E-mail: jtierney@fs.fed.us

Julie Creed
Regional Environmental Engineer
Pacific Northwest & Alaska Regions
333 SW First Avenue
Portland, OR 97204
Phone: 503-808-2526
FAX: 503-808-2511
E-mail: jcreed01@fs.fed.us

James Alexander
USDA Office of the General Counsel
333 SW First Avenue, Room 457
Portland, OR 97204
Phone: 503-808-5976
FAX: 503-808-5977
E-mail: james.alexander@usda.gov

For the State of Oregon:

Bruce A. Gilles, Manager
Cleanup and Emergency Response
Department of Environmental Quality
NWR - Eastside Office
1550 NW Eastman Parkway, Suite 290
Gresham, OR 97030
Phone: (503)-667-8414 x 55009
FAX: (503)674-5148
Cell: (971)246-2300
Email: gilles.bruce@deq.state.or.us

For PGE:

Project Coordinator:

Arya Behbehani, PGE Environmental Services Manager
Manager Environmental Services
121 SW Salmon St. 3WTCBR05
Portland, OR 97204
Phone: 503-464-8141
Fax: 503-464-2200
E-mail: Arya.Behbehani@pgn.com

With a copy to:

J. Richard George, Assistant General Counsel
Portland General Electric Company, 1WTC1301
121 SW Salmon Street
Portland, OR 97204
Phone: (503) 464-7611
E-mail: Richard.George@pgn.com

Christopher W. Rich
Perkins Coie LLP
1120 NW Couch, 10th Floor
Portland, Oregon 97209
Phone: (503) 727-2004
Fax: (503) 727-2222
E-mail: CRich@perkinscoie.com

7.6. In addition to providing deliverables electronically, as required above, Respondent will provide a hard copy of each deliverable, if requested, to the above Forest Service and State representatives, including up to four additional hard copies of a deliverable to the OSC.

VIII. WORK TO BE PERFORMED

8.1. Respondent shall perform, at a minimum, all actions necessary to implement the Statement of Work. The actions to be implemented generally include, but are not limited to, the following:

8.1.1. A Site Inspection ("SI") to determine the nature and extent of the releases and threatened releases of hazardous substances at the Site.

8.1.2. If required by the Forest Service, an Engineering Evaluation/Cost Analysis ("EE/CA") to identify and analyze removal action objectives and alternatives

designed to prevent, mitigate, or otherwise respond to releases, or threats of releases, of hazardous substances at, or from, the Site. The EE/CA will include Human Health and Ecological Risk Assessments for the Site.

8.2. Respondent shall prepare, perform, and submit the SI and the EE/CA in accordance with the NCP; the SOW; EPA's Guidance on Conducting Non-Time Critical Removal Actions under CERCLA, OSWER Directive 9360.0-32, August 1993; EPA's Risk Assessment Guidance for Superfund Volume I – Human Health Evaluation Manual (Part A), EPA/540/1-89/002, December 1989; EPA's Risk Assessment Guidance for Superfund Volume II – Environmental Evaluation Manual, EPA/540/1-89/001, March 1989; EPA Region 10 Supplemental Ecological Risk Assessment Guidance for Superfund, EPA 910-R-97-005, June 1997; and DEQ's 2001 Guidance for Ecological Risk Assessment.

8.3. If required, the EE/CA shall include, but is not limited to, the following:

8.3.1. An identification of removal action objectives, as more specifically set forth in the SOW and OSWER Directive 9360.0-32;

8.3.2. An identification and comparative analysis of removal action alternatives, including an analysis of their effectiveness in terms of responding to risks to human health and the environment posed by current conditions at the Site, ability to meet applicable or relevant and appropriate requirements (ARARs), cost, and ability to be implemented, as more specifically set forth in the SOW and OSWER Directive 9360.0-32;

8.3.3. Identification and analysis of the relevant removal action factors as set forth by the NCP at 40 C.F.R. § 300.415(b)(2);

8.3.4. A recommended removal action alternative based upon the comparative analysis described in Paragraph 8.3.2, above;

8.3.5. A compilation and discussion of potential ARARs, as set forth by the NCP at 40 C.F.R. § 300.415(j);

8.4. Deliverables. The documents required to be submitted to the Forest Service, pursuant to this Settlement Agreement, shall be known as “deliverables”. For the purposes of this Settlement Agreement, the deliverables include a Statement of Work (SOW), a Work Plan, a Sampling and Analysis Plan, a Health and Safety Plan, a SI Report, and, if required, an EE/CA Report, including Human Health and Ecological Risk Assessments. Respondent shall submit the deliverables required by this Settlement Agreement to the Forest Service in accordance with the schedules provided in this Settlement Agreement and the SOW, including the addition of a schedule for the completion of the EE/CA, if required. With the exception of the SOW and the Work Plan (including the Sampling and Analysis Plan), which are already attached to this Settlement Agreement as Appendices 1 and 2, all deliverables shall be submitted initially by Respondent in draft and are subject to review, comment, modification, and approval by the Forest Service. Respondent shall amend and submit all revised deliverables to the Forest Service in a redline format that incorporates all modifications required by the Forest Service and responds substantively to all the Forest Service’s comments and corrects all deficiencies identified by the Forest Service.

8.5. Work Plan and Implementation. Attached hereto, as Appendix 2, is a Work Plan for performing the SI generally described in Paragraph 8.1, above. Respondent has prepared a Sampling and Analysis Plan and a Quality Assurance Project Plan (“QAPP”) as part of the Work Plan.

8.5.1. If modifications to the Work Plan are required to perform the EE/CA as generally described in Paragraph 8.3, above or are required or proposed, as provided in Section XXVIII (Modifications) of this Settlement Agreement, the Forest Service may approve, disapprove, require revisions to, or modify the proposed modified Work Plan in whole or in part. If the Forest Service requires revisions to the proposed modified Work Plan, Respondent shall submit a revised draft modified Work Plan within 15 days of receipt of the Forest Service’s notification of the required revisions. Respondent shall implement the Work Plan in accordance with the schedule approved by the Forest Service. The Work Plan, the schedule, and any subsequent modifications, are incorporated into and are fully enforceable under this Settlement Agreement.

8.5.2. Respondent shall not commence any Work except in conformance with the terms of this Settlement Agreement.

8.6. Health and Safety Plan. Within 15 days after the Effective Date, Respondent shall submit for Forest Service review and comment a plan that ensures the protection of the public health and safety during performance of on-Site work under this Settlement Agreement. This plan shall be prepared in accordance with EPA’s Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration

(“OSHA”) regulations found at 29 C.F.R. Part 1910. Respondent shall incorporate all changes to the plan recommended by the Forest Service and shall implement the plan during the pendency of the Work.

8.7. Quality Assurance and Sampling.

8.7.1. All sampling and analyses performed pursuant to this Settlement Agreement shall conform to Forest Service direction and approval, and EPA guidance regarding sampling, quality assurance/quality control (“QA/QC”), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow, as appropriate, “Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures” (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, “Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs” (American National Standard, January 5, 1995), and “EPA Requirements for Quality Management Plans” (QA/R-2) (EPA/240/B-01/002, March 2001), or equivalent documentation as determined by the Forest Service. The Forest Service may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (“NELAP”) as meeting the Quality System requirements.

8.7.2. Upon request by the Forest Service, Respondent shall have such a laboratory analyze samples submitted by the Forest Service for QA monitoring.

Respondent shall provide to the Forest Service the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

8.7.3. Upon request by the Forest Service, Respondent shall allow the Forest Service or its authorized representatives to take split and/or duplicate samples. Respondent shall notify the Forest Service not less than 15 days in advance of any sample collection activity, unless shorter notice is agreed to by the Forest Service. The Forest Service shall have the right to take any additional samples that the Forest Service deems necessary. Upon request, the Forest Service shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

8.8. Reporting.

8.8.1. Respondent shall submit a written progress report to the Forest Service concerning actions undertaken pursuant to this Settlement Agreement every 30th day after the Effective Date until termination of this Settlement Agreement, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

8.8.2. Final Report. If the Work required under this Settlement Agreement is modified to include removal action, as contemplated by Section XIII (Notification of

Releases and Implementation of Response Actions), within 45 days after completion of all Work required by this Settlement Agreement, Respondents shall submit to the Forest Service for review and approval a Final Report summarizing the actions taken to comply with this Settlement Agreement. The Final Report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports." The Final Report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement Agreement, a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits). The Final Report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

8.9. Off-Site Shipments.

8.9.1. Respondent shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of

such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the OSC. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

8.9.1.1. Respondent shall include in the written notification the following information: 1) the name and location of the facility to which the Waste Material is to be shipped; 2) the type and quantity of the Waste Material to be shipped; 3) the expected schedule for the shipment of the Waste Material; and 4) the method of transportation. Respondent shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

8.9.1.2. The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the removal action. Respondent shall provide the information required by Paragraphs 8.9.1. and 8.9.1.1 as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

8.9.2. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-Site location, Respondent shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent shall only send hazardous substances, pollutants, or

contaminants from the Site to an off-Site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

IX. SITE ACCESS

9.1. Pursuant to the terms and conditions of this Settlement Agreement, Respondent and its authorized representatives are authorized to have access to those parts of the Site that are under the jurisdiction, custody or control of the Forest Service for the purpose of implementing the terms of this Settlement Agreement. If Respondent owns or controls any property where access is needed to implement this Settlement Agreement, Respondent shall, commencing on the Effective Date, provide the Forest Service, the State, and their representatives, including contractors, with access at all reasonable times to such property, for the purpose of conducting any activity related to this Settlement Agreement.

9.2. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Respondent or the Forest Service, Respondent shall use its best efforts to obtain all necessary access agreements within 15 days after the Effective Date, or as otherwise specified in writing by the OSC. Respondent shall immediately notify the Forest Service if, after using its best efforts, it is unable to obtain such agreements. For purposes of this Paragraph, “best efforts” includes the payment of reasonable sums of money in consideration of access. Respondent shall describe in writing its efforts to obtain access. The Forest Service may then assist Respondent in gaining access, to the extent necessary to effectuate the

response actions described herein, using such means as the Forest Service deems appropriate. Respondent shall reimburse the Forest Service for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XV (Payment of Response Costs).

9.3. Notwithstanding any provision of this Settlement Agreement, the Forest Service retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA and any other applicable statutes or regulations.

X. ACCESS TO INFORMATION

10.1. Respondent shall provide to the Forest Service, upon request, copies of all documents and information within its possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to the Forest Service, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

10.2. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to the Forest Service under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information

determined to be confidential by the Forest Service will be afforded the protection specified in 7 C.F.R. § 1.12. If no claim of confidentiality accompanies documents or information when they are submitted to the Forest Service, or if the Forest Service has notified Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 7 C.F.R. § 1.12, the public may be given access to such documents or information without further notice to Respondent.

10.3. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondent asserts such a privilege in lieu of providing documents, it shall provide the Forest Service with the following: 1) the title of the document, record, or information, with privileged information in the title, if any, redacted; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

10.4. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XI. RECORD RETENTION

11.1. Until 10 years after Respondent's receipt of the Forest Service's notification pursuant to Section XXIX (Notice of Completion of Work), Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until 10 years after Respondent's receipt of the Forest Service's notification pursuant to Section XXIX (Notice of Completion of Work), Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

11.2. At the conclusion of this document retention period, Respondent shall notify the Forest Service at least 90 days prior to the destruction of any such records or documents, and, upon request by the Forest Service, Respondent shall deliver any such records or documents to the Forest Service. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege, it shall provide the Forest Service with the following: 1) the title of the document, record, or information, with privileged information in the title, if any, redacted; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and

recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

11.3. Respondent hereby certifies that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by the Forest Service and that it has fully complied with any and all Forest Service requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e).

XII. COMPLIANCE WITH OTHER LAWS

12.1. Respondent shall perform all actions required pursuant to this Settlement Agreement in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j).

XIII. NOTIFICATION OF RELEASES AND IMPLEMENTATION OF RESPONSE ACTIONS

13.1. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes or

may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release.

Respondent shall also immediately notify the OSC of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and the Forest Service takes such action instead, Respondent shall reimburse the Forest Service all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

13.2. In addition, in the event of any release of a hazardous substance from the Site, Respondent shall immediately notify the OSC and the National Response Center at (800) 424-8802. Respondent shall submit a written report to the Forest Service within 7 days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

13.3. If the Forest Service determines that a time-critical or non-time critical removal action is needed at the Site, which Respondent is not otherwise required to address under Paragraph 13.1 of this Settlement Agreement, the Forest Service shall

notify Respondent in writing of modifications to the Work Plan, and/or the deliverables that the Forest Service deems necessary. Within fifteen (15) days of the receipt of such notification, Respondent shall notify the OSC in writing whether it agrees to perform the work required under the proposed modifications. If the Forest Service and Respondent agree in writing to the proposed modification to the Work Plan and/or the new Deliverables, the modifications to the Work Plan and/or the new Deliverables shall become an attachment to this Settlement Agreement and incorporated herein.

13.4. If Respondent does not agree to perform the Work required by the modifications proposed pursuant to Paragraph 13.3, the Forest Service may perform the proposed Work, or take any action deemed necessary, and may seek recovery of any costs it incurs performing such proposed Work pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a) or other applicable law. The Parties agree that any determination by the Forest Service that a response at the Site is required shall not be subject to the dispute resolution provisions in Section XVI of this Settlement Agreement.

XIV. AUTHORITY OF ON-SCENE COORDINATOR

14.1. The OSC shall be responsible for overseeing Respondent's implementation of this Settlement Agreement. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Settlement Agreement, or to direct any other removal action undertaken at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

XV. PAYMENT OF RESPONSE COSTS

15.1. After the Effective Date of this Settlement Agreement, the Forest Service will send Respondent a bill for Past Response Costs, which shall include such costs incurred by the Forest Service, the United States Department of Justice, and USDA OGC. Respondent shall pay the bill for Past Response Costs to the Forest Service within 60 days of receipt of the bill.

15.2. Within 60 days of the Effective Date of this Settlement Agreement Respondent shall pay to the Forest Service \$25,000 as a deposit for Future Response Costs. The amount paid to the Forest Service under this Paragraph shall be deposited by the Forest Service in the PGE Oak Grove Trestles Site Special Account. These funds will be retained as a deposit which the Forest Service may use to reimburse Future Response Costs.

15.3. Payments to the Forest Service described in Paragraphs 15.1, 15.2, and 15.5 shall be made by Electronic Funds Transfer (“EFT”), in accordance with EFT instructions provided by the Forest Service, or by submitting a certified or cashier’s check or checks made payable to “USDA Forest Service”, referencing the name and address of Respondent, and “costs incurred at the PGE Oak Grove Trestles Site”. Respondent shall send the check, with the Bill Number (for payments described in Paragraphs 15.1 and 15.5) and Respondent’s tax identification number on the check to:

USDA Forest Service
C/O Citibank
PO Box 301550
Los Angeles, CA 90030-1550

15.4. At the time of each payment, Respondent shall send notice that such payment has been made to:

Amy Paulson
USDA Forest Service
Region 6 Regional Office
Budget and Financial Management
333 S.W. First Avenue
PO Box 3623
Portland, OR 97208-3623
Phone: 503-808-2334
FAX: 503-808-2467
Email: amypaulson@fs.fed.us

James Alexander
USDA Office of the General Counsel
333 SW First Avenue, Room 457
Portland, OR 97204
Phone: 503-808-5976
FAX: 503-808-5977
E-mail: james.alexander@usda.gov

15.5. Respondent shall pay all Future Response Costs not inconsistent with the NCP. On a periodic basis, the Forest Service will send Respondent a bill requiring payment that includes a cost summary, with United States Department of Justice and USDA OGC costs itemized separately. Respondent shall make all payments within 60 days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 15.8 of this Settlement Agreement. Respondent shall make all payments required by this Paragraph in the manner required by Paragraph 15.3, with notice as required by Paragraph 15.4.

15.6. After the Forest Service issues a written notification of completion of Work pursuant to Section XXIX, and the Forest Service has performed a final accounting of all direct and indirect costs relating to Future Response Costs, the Forest Service shall apply any unused amount paid by the Respondent under this Section to any other unreimbursed response costs or response actions remaining at the Site. Any surplus or unused monies paid pursuant to this Section will be remitted to Respondent.

15.7. In the event that the payment of any costs required to be paid by this Section are not made when due, Respondent shall pay Interest on the unpaid balance, as described in this Paragraph. The Interest on Past and Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

15.8. Respondent may dispute all or part of a bill for Past Response Costs or Future Response Costs submitted under this Settlement Agreement, if Respondent alleges an accounting error, or if Respondent alleges that a cost item is inconsistent with the NCP. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent shall pay the full amount of the uncontested costs as specified in Paragraphs 15.1 or 15.5 on or before the due date. Within the same time period, Respondent shall pay the full amount of the contested costs into an interest-bearing escrow account.

Respondent shall simultaneously transmit a copy of both checks to the persons listed in Paragraph 15.4 above. Respondent shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds, plus interest, within 15 days after the dispute is resolved.

XVI. DISPUTE RESOLUTION

16.1. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

16.2. If Respondent objects to any Forest Service action taken pursuant to this Settlement Agreement, including billings for Past Response Costs or Future Response Costs, it shall notify the Forest Service in writing of its objection(s) within 15 days of such action, unless the objection(s) has/have been resolved informally. The Forest Service and Respondent shall have 15 days from the Forest Service's receipt of Respondent's written objection(s) to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of the Forest Service.

16.3. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by both Parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the Parties are unable to reach an

agreement within the Negotiation Period, a Forest Service management official at the Regional Director level, or higher, will issue a written decision on the dispute to Respondent. The Forest Service's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Respondent's obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with the Forest Service's decision.

16.4. Any determination by the Forest Service pursuant to this Section is governed by Section 113(h) and (j) of CERCLA, 42 U.S.C. § 9613(h) and (j), and shall not constitute a final agency action subject to judicial review unless and until the United States commences a judicial action to enforce this Settlement Agreement, in which case the determination shall only be reviewable in Federal Court.

XVII. FORCE MAJEURE

17.1. Respondent agrees to perform all requirements of this Settlement Agreement within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, a *force majeure* is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondent's best efforts to fulfill the obligation.

Force majeure does not include financial inability to complete the Work or increased cost of performance.

17.2. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, Respondent shall notify the Forest Service orally within five days of when Respondent first knew that the event might cause a delay. Within five days thereafter, Respondent shall provide to the Forest Service, in writing, an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if it intends to assert such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

17.3. If the Forest Service agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by the Forest Service for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If the

Forest Service does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, the Forest Service will notify Respondent in writing of its decision. If the Forest Service agrees that the delay is attributable to a *force majeure* event, the Forest Service will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. STIPULATED PENALTIES

18.1. Respondent shall be liable to the Forest Service for stipulated penalties in the amounts set forth in Paragraphs 18.2 and 18.3 for failure to comply with the requirements of this Settlement Agreement specified below, unless excused under Section XVII (*Force Majeure*). “Compliance” by Respondent shall include completion of the activities under this Settlement Agreement or any work plan or other plan approved under this Settlement Agreement in accordance with all applicable requirements of law, this Settlement Agreement, the SOW, and any plans or other documents approved by the Forest Service pursuant to this Settlement Agreement, and within the specified time schedules established by and approved under this Settlement Agreement.

18.2. Stipulated Penalty Amounts. If Respondent fails to meet any requirement of this Settlement Agreement, the following stipulated penalties shall accrue per violation per day:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$100.00	1st through 14th day
\$1,000.00	15th through 30th day
\$2,500.00	31st day and beyond

Compliance by Respondent shall include complete and timely performance of each activity required under this Settlement Agreement and complete and timely performance of all Work described in any plan, statement, or deliverable approved under this Settlement Agreement.

18.3. In the event that the Forest Service assumes performance of a portion or all of the Work pursuant to Paragraph 20.3 (Work Takeover), Respondent shall be liable for a stipulated penalty in the amount of \$25,000.00.

18.4. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: 1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 15th day after the Forest Service's receipt of such submission until the date that the Forest Service notifies Respondent of any deficiency; and 2) with respect to a decision by the Forest Service Management Official at the Regional Director level or higher, under Paragraph 16.3 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the Forest Service Management Official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

18.5. Following the Forest Service's determination that Respondent has failed to comply with a requirement of this Settlement Agreement, the Forest Service may give

Respondent written notification of the failure and describe the noncompliance. The Forest Service may send Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether the Forest Service has notified Respondent of a violation.

18.6. All penalties accruing under this Section shall be due and payable to the Forest Service within 30 days of Respondent's receipt from the Forest Service of a written demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). Respondent shall make all payments of penalties to the Forest Service, as directed in the written demand, by certified or cashier's check. Copies of check(s) required pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the Forest Service as provided in Paragraph 15.4.

18.7. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Settlement Agreement.

18.8. Penalties shall continue to accrue during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of the Forest Service's decision.

18.9. If Respondent fails to pay stipulated penalties when due, the Forest Service may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 18.6. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of the Forest Service to

seek any other remedies or sanctions available by virtue of Respondent's violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA, 42 U.S.C. § 9622(l). Provided, however, that the Forest Service shall not seek civil penalties pursuant to Section 122(l) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Settlement Agreement, or in the event that the Forest Service assumes performance of a portion or all of the Work pursuant to Paragraph 20.3 (Work Takeover). Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XIX. COVENANT NOT TO SUE BY THE FOREST SERVICE

19.1. In consideration of the actions that will be performed and the payments that will be made by Respondent under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, the Forest Service covenants not to sue or to take administrative action against Respondent pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), for the Work, Past Response Costs and Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by Respondent of all obligations under this Settlement Agreement, including, but not limited to, payment of Past Response Costs and Future Response Costs pursuant to Section XV. This

covenant not to sue extends only to Respondent and does not extend to any other person.

XX. RESERVATION OF RIGHTS BY THE UNITED STATES

20.1. Except as specifically provided in this Settlement Agreement, nothing herein shall limit the power and authority of the Forest Service or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent the Forest Service from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

20.2. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. The Forest Service reserves, and this Settlement Agreement is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

20.2.1. claims based on a failure by Respondent to meet a requirement of this Settlement Agreement;

20.2.2. liability for costs not included within the definitions of Past Response Costs or Future Response Costs;

20.2.3. liability for performance of response action other than the Work;

20.2.4. criminal liability;

20.2.5. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

20.2.6. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and

20.2.7. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

20.3. Work Takeover. In the event the Forest Service determines that Respondent has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, the Forest Service may assume the performance of all or any portion of the Work as the Forest Service determines necessary. Respondent may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute the Forest Service's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondent shall pay pursuant to Section XV (Payment of Response Costs). Notwithstanding any other provision of this Settlement Agreement, the Forest Service retains all authority and reserves all rights to take any and all response actions authorized by law.

XXI. RESERVATION OF RIGHTS BY RESPONDENT

21.1. Except as provided in, or as may be agreed to under, Section XIII (Notification of Releases and Implementation of Response Actions), nothing in this Settlement Agreement/CO or related deliverables shall be deemed to obligate Respondent to perform any removal action selected by the Forest Service to clean up or remove hazardous substances.

XXII. COVENANT NOT TO SUE BY RESPONDENT

22.1. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Past Response Costs, and Future Response Costs, or this Settlement Agreement, including, but not limited to:

22.1.1. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law.

22.1.2. any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Oregon Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

22.1.3. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work, Past Response Costs, or Future Response Costs.

22.2. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

XXIII. OTHER CLAIMS

23.1. By issuance of this Settlement Agreement, the United States and the Forest Service assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or the Forest Service shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Settlement Agreement.

23.2. Except as expressly provided in Section XIX (Covenant Not to Sue by the Forest Service), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

23.3. No action or decision by the Forest Service pursuant to this Settlement Agreement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIV. CONTRIBUTION

24.1. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Settlement Agreement. The "matters addressed" are the Work, Past Response Costs, and Future Response Costs, as defined in this Settlement Agreement.

24.2. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Respondent has, as of the Effective Date, resolved its liability to the United States for the Work, Past Response Costs, and Future Response Costs, as defined in this Settlement Agreement.

24.3. Nothing in this Settlement Agreement precludes the United States or Respondent from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not parties to this Settlement Agreement. Nothing herein diminishes the right of the United States, pursuant to Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such

persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

XXV. INDEMNIFICATION

25.1. Respondent shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Respondent agrees to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Settlement Agreement. Neither Respondent nor any such contractor shall be considered an agent of the United States.

25.2. The United States shall give Respondent written notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

25.3. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

XXVI. INSURANCE

26.1. At least seven days prior to commencing any on-Site work under this Settlement Agreement, Respondent shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of one million dollars, combined single limit. Within the same time period, Respondent shall provide the Forest Service with certificates of such insurance and a copy of each insurance policy. In addition, for the duration of the Settlement Agreement, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondent in furtherance of this Settlement Agreement. If Respondent demonstrates by evidence satisfactory to the Forest Service that any contractor or subcontractor maintains

insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVII. FINANCIAL ASSURANCE

27.1. Within 30 days of the Effective Date, Respondent shall establish and maintain financial security in the amount of \$125,000 in one or more of the following forms:

27.1.1. A surety bond guaranteeing performance of the Work;

27.1.2. One or more irrevocable letters of credit equaling the total estimated cost of the Work;

27.1.3. A trust fund;

27.1.4. A policy of insurance issued by an insurance carrier acceptable in all respects to the Forest Service, which ensures the payment and/or performance of the Work;

27.1.5. A guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with Respondent; or

27.1.6. A demonstration that Respondent satisfies the requirements of 40 C.F.R. § 264.143(f).

27.2. If Respondent seeks to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Paragraph 27.1.1 of this Section, Respondent shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. § 264.143(f). If Respondent seeks to demonstrate its ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Paragraph 27.1.5 or 27.1.6 of this Section, it shall resubmit sworn statements conveying the information required by 40 C.F.R. § 264.143(f) annually, on the anniversary of the Effective Date. In the event that the Forest Service determines at any time that the financial assurances provided pursuant to this Section are inadequate, Respondent shall, within 30 days of receipt of notice of the Forest Service's determination, obtain and present to the Forest Service for approval one of the other forms of financial assurance listed in Paragraph 27.1 of this Section. Respondent's inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Settlement Agreement.

27.3. If the estimated cost to complete the remaining Work increases from the amount set forth in Paragraph 27.1 of this Section, due to the addition of Work, as contemplated by Paragraph 13.3, the amount of financial assurance shall be increased accordingly. Respondent will provide increased financial assurance within 30 days of receipt of notice from the Forest Service that an increase is required. If, after the Effective Date, Respondent can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 27.1 of this Section, Respondent may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this

Section to the estimated cost of the remaining Work to be performed. Respondent shall submit a proposal for such reduction to the Forest Service, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval by the Forest Service. In the event of a dispute, Respondent may reduce the amount of the security in accordance with the written decision resolving the dispute.

27.4. Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and approval by the Forest Service, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXVIII. MODIFICATIONS

28.1. The OSC may make modifications to any plan, schedule, or Statement of Work in writing or by oral direction. Any oral modification will be memorialized in writing by the Forest Service promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Settlement Agreement may be modified in writing by mutual agreement of the Parties. Respondent may invoke Section XVI (Dispute Resolution) of this Settlement Agreement with respect to modifications made by the OSC.

28.2. If Respondent seeks permission to deviate from any approved work plan, schedule, or Statement of Work, Respondent's Project Coordinator shall submit to the Forest Service for approval a written request outlining the proposed modification and its

basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 28.1.

28.3. No informal advice, guidance, suggestion, or comment by the OSC or other Forest Service representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

XXIX. NOTICE OF COMPLETION OF WORK

29.1. When the Forest Service determines, after the Forest Service's review of the SI Report, the EE/CA Report (if required), the Final Report (if required), and any other Work required by this Settlement Agreement, that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, including Section XI (Record Retention), Section XX (Reservation of Rights by the United States), and Section XXV (Indemnification), and after receipt of all payments required under Section XV (Payment of Response Costs), the Forest Service will provide written notice to Respondent. If the Forest Service determines that any such Work has not been completed in accordance with this Settlement Agreement, the Forest Service will notify Respondent, provide a list of the deficiencies, and require that Respondent modify the Work Plan, if appropriate, in order to correct such deficiencies. Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the

Forest Service notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Settlement Agreement.

XXX. SEVERABILITY/INTEGRATION/APPENDICES

30.1. If a court issues an order that invalidates any provision of this Settlement Agreement or finds that Respondent has sufficient cause not to comply with one or more provisions of this Settlement Agreement, Respondent shall remain bound to comply with all provisions of this Settlement Agreement not invalidated or determined to be subject to a sufficient cause defense by the court's order.

30.2. This Settlement Agreement and its appendices constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement. The following appendices are attached to and incorporated into this Settlement Agreement:

Appendix 1 – Statement of Work

Appendix 2 – Work Plan

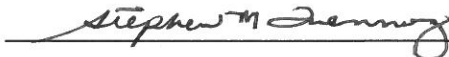
XXXI. EFFECTIVE DATE/AUTHORITY

31.1. The Effective Date of this Settlement Agreement is the later of the dates on which the Settlement Agreement has been signed by all Parties and concurred in by the United States Department of Justice.

31.2. The undersigned representative of Respondent certifies that he/she is fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind Respondent to this Settlement Agreement.

Agreed this 9 day of August, 2011

For Respondent:

By: 



Name: STEPHEN M. QUENNOZ

Title: VICE PRESIDENT

It is so ORDERED and Agreed this 24th day of August, 2011

By: 

Name: Kevin Connaughton

For Title: Regional Forester (or designee)
Forest Service Region 6

Oak Grove Hydroelectric Project Maintenance Facility

Statement of Work

The purpose of this Statement of Work (SOW) is to describe the work that Portland General Electric Company (PGE) agrees to perform at three Oak Grove Hydroelectric Project Water Conveyance Trestles; Canyon Creek, Cripple Creek, and Pint Creek (Trestles). The work described herein will be performed under an Administrative Settlement Agreement and Order on Consent (AOC) negotiated with the U.S. Department of Agriculture, Forest Service (Forest Service).

Previous soil sampling at the Trestles indicates additional site investigation (SI) activities are necessary to delineate the nature and extent of hazardous substances impacted soils. PGE has previously completed a SI at the Canyon Creek and preliminary soil sampling at Cripple and Pint Creeks. Canyon Creek's hazardous substances impacted soil is partially delineated; however focused sampling is needed to complete the delineation. Cripple Creek and Pint Creek require a comprehensive SI to evaluate the nature and extent of hazardous substances impacted soil. The data from the prior sampling activities will be relied upon and incorporated into the proposed SI activities. The Trestles' SI results will be screened against generic human health and ecological risk values and documented in a SI report. The schedule, objectives, and deliverables are described below.

Schedule

Actions/Deliverables	Schedule (Completion Date)
Work Plan	Effective Date of AOC
Sampling and Analysis Plan (SAP)	Included in Work Plan
Health & Safety Plan (HSP)	15 days prior to the start of Field Work
SI Field Work	September 15, 2011
Supplemental Work Plan/SAP (if needed)	October 15, 2011
Supplemental SI Field Work (if needed)	October 30, 2011
Draft SI Summary Report	November 30, 2011
Final SI Summary Report	30 days after receipt of Forest Service comments

Objectives

Site Investigation

I. Sampling and Analysis

PGE has encountered soil impacted by grit blast and paint containing hazardous substances. The hazardous substances impacted soils were encountered in the process of repainting the Canyon Creek Trestle, which is one of three trestles that support the flowline to the Three Lynx Hydroelectric Plant. The original paint was applied during construction 88 years ago and sandblasted and repainted in the 1970's. PGE's painting contractor requested the soils below the trestle be tested to ensure that their company was not liable for previous contamination that may be present beneath the trestle. PGE initially collected and analyzed six random soil samples for Resource Conservation and Recovery Act (RCRA) metals. Based on the initial results, PGE performed additional sampling to further characterize and delineate the presence of hazardous substances in the soils below the Canyon Creek Trestle. The first phase of sampling was performed in July 2008 and a second phase in October 2008. In total, samples were collected and analyzed from 60 locations at the Canyon Creek Trestle.

The additional sampling identified the presence of metals that exceed Oregon Department of Environmental Quality (DEQ) human health and ecological risk screening values and/or default background concentrations for Arsenic, Cadmium, Chromium, Lead, and Silver.

There are two other Trestles in the Oak Grove Hydroelectric Project that were constructed, sandblasted, and repainted in a similar fashion as Canyon Creek Trestle; Pint Creek and Cripple Creek Trestles. PGE collected random soil samples at both Cripple and Pint Creek Trestles and analyzed them for RCRA metals. The Cripple and Pint Creek soil sample results were similar to Canyon Creek. Consequently, these two Trestles require further assessment.

A detailed description of the existing and proposed sample locations, sampling methods, and laboratory analytical methods is provided in the Work Plan. The sampling methods and procedures used to collect and analyze soil samples are described in the Sampling and Analysis Plan appended to the Work Plan. The results of the completed and proposed SI activities will be presented in a SI Report that will be submitted to the Forest Service for review and comments.

PGE will perform a topographic survey to established gradients and stream bank limits.

II. Preliminary Risk Evaluation

The objective of the human health and ecological risk evaluations are to characterize the potential current and reasonably likely future risks to human health and the environment as a result of a threatened or actual release of a hazardous substance. The magnitude of potential risk at the site will be used to support risk management decisions and evaluate if a Non-Time-Critical Removal Action under CERCLA should follow.

Preliminary screening-level human health and ecological risk evaluations will be completed by comparing the exposure point concentrations calculated using the SI results against generic human health and ecological risk-based screening levels. The preliminary human health risk to soil will be evaluated by comparing the detected hazardous substance concentrations to DEQ's generic Risk-Based Concentrations for Individual Chemicals,

September 15, 2009. Ecological risks from exposure to soil will be evaluated using DEQ Guidance for Ecological Risk Assessment dated September 22, 2003; that references the Level II Screening Level Values (SLVs) for Soil, December 2001. Human health and ecological risks for exposure to sediment with hazardous substances will be evaluated using DEQ's Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, April 2007.

The risk screening evaluation will include an opinion from a PGE biologist regarding the presence of threatened and endangered species. An aquatics or wetlands biologist will also provide an opinion regarding the limits of the stream channels so the data can be factored into the topographic survey.

III. Reporting

The SI Report will document the results of the soil sampling, including previous sample results, and preliminary risk screening.

The SI Report will include an executive summary; an introduction providing the site description, site history, discussion of previous investigations, and extent of impacts; and a risk evaluation. Sample locations and metals concentrations will be shown on figures and photographic documentation included in the SI Report.

Deliverables

Deliverables for the SI include this Statement of Work and Work Plan, which includes the relevant Sampling and Analysis Plan, which will all be submitted at the effective date of the AOC. A health and safety plan will be developed prior to the implementation of the SI Work Plan. Supplemental work plans will be developed if additional soil sampling is needed to delineate the hazardous substances impacted soil.

Final Work Plan


Oak Grove Hydroelectric Project

Water Conveyance Trestles

July 11 2011

Prepared for:
Portland General Electric
121 SW Salmon Street
Portland, OR 97204

Prepared by:



BRIDGEWATER GROUP, INC.
4500 SW Kruse Way, Suite 110
Lake Oswego, OR 97035

[Page left blank intentionally]

Table of Contents

1.0	Introduction.....	1
2.0	Project Site Description	1
3.0	Background	1
4.0	Scope of Work	2
5.0	Preliminary Risk Evaluation.....	4
6.0	Site Investigation Report.....	4
7.0	Schedule	4

Tables

Table 1 – Detected Metals Concentrations – Canyon Creek

Figures

Figure 1 – Site Vicinity

Figure 2 – Existing Locations, Lead Results, & Proposed Sample Locations - Canyon Creek

Figure 3 – Proposed Sample Locations – Pint Creek

Figure 4 – Proposed Sample Locations – Cripple Creek

Appendixes

A – Sampling and Analysis Plan

[This page left blank intentionally]

1.0 Introduction

This Work Plan presents background information and a scope of work to complete a Site Investigation (SI) at three Oak Grove Hydroelectric Project Water Conveyance Trestles (Trestles).

The SI is being performed at the request of the United States Department of Agriculture, Forest Service (Forest Service). The SI will include soil sampling and sediment sampling beneath the Canyon Creek, Pint Creek, and Cripple Creek Trestles where historical sand blasting maintenance was performed to remove paint from the steel Trestles. The sand blast grit and/or the paint contain heavy metals that have impacted soils beneath the Trestles. The results of the SI will be screened against the generic human and ecological screening values to evaluate if a removal action may be warranted at one or more of the Trestles.

The Trestles are located southeast of the PGE Oak Grove Hydroelectric Project in Clackamas County within the Mt. Hood National Forest (Figure 1).

2.0 Project Site Description

The Three Lynx Hydroelectric Powerhouse (Powerhouse) is located approximately 22 miles southeast of Estacada in Clackamas County, Oregon. The 6.4 mile long water conveyance pipeline (pipeline) conveys water that is diverted from Lake Harriet, north to the Powerhouse for the generation of electricity. The Trestles are located at three different locations along the pipeline between Lake Harriet and the Powerhouse at the following approximate locations:

Trestle	Section Township Range	Latitude, Longitude	Elevation
Cripple Creek	S22 T5S R6E	45° 6' 57", 122° 03' 28"	1,640
Pint Creek	S35 T5S R6E	45° 05' 22", 122° 01' 58"	1,910
Canyon Creek	S31 T5S R7E	45° 05' 14", 121° 59' 47"	1,960

The Cripple Creek Trestle supports a pipeline span of approximately 192 feet. The Pint Creek Trestle is approximately 92 feet across, while the Canyon Creek Trestle is approximately 163 feet across.

3.0 Background

The pipeline has been in operation since approximately 1924 when the Oak Grove Hydroelectric Project was constructed. The original paint was applied to the Cripple Creek, Pint Creek, and Canyon Creek support trestles during construction 88 years ago. Records indicate that these Trestles were grit blasted in 1968, 1970, and 1971, respectively, during repainting. PGE covered the creeks beneath the Trestles to protect them from grit blast and paint chips, consistent with the common practice at that time. However, soil containing some heavy metals was observed during the ramp-up process for repainting the Canyon Creek Trestle in 2008.

PGE initially collected and analyzed six random soil samples for Resource Conservation and Recovery Act (RCRA) heavy metals. Based on the initial results, PGE performed additional site sampling to further characterize and delineate the presence of heavy metals in the soils below the Canyon Creek Trestle. The first phase of soil sampling was performed in July 2008 and a second phase in October 2008. In total, 87 soil samples were tested from 60 locations at the Canyon Creek Trestle. Results of these soil samples were provided to the Forest Service in a letter dated September 17, 2008, and February 19, 2009. The soil

sampling at Canyon Creek identified the presence of metals that exceed EPA and DEQ human health and ecological risk screening values and/or default background concentrations for Arsenic, Cadmium, Chromium, Lead, and Silver. Table 1 from the February 19, 2009 letter has been reproduced for this Work Plan (Table 1).

Figure 2 illustrates the sample locations and lead¹ results at the Canyon Creek Trestle. The data from the prior soil sampling activities will be relied upon and incorporated into the proposed SI. Canyon Creek Trestle heavy metal impacted soil has been partially delineated; however some additional focused sampling is needed to complete the delineation.

PGE collected two random soil samples at both Cripple Creek and Pint Creek Trestles and analyzed them for RCRA metals. These results were provided to the Forest Service in the letter dated February 19, 2009. The Cripple Creek and Pint Creek soil sample results also showed the presence of heavy metals. Consequently, PGE believes these two Trestles are appropriate for further assessment.

Cripple Creek has year round flow. Canyon Creek flows above ground during high flow seasons and underground in the vicinity of the trestle during low flow seasons. Pint Creek flows year round with seasonal fluctuations.

No soil removal or groundwater sampling has occurred.

4.0 Scope of Work

4.1. Sampling and Analysis

The SI will utilize analytical data collected from the prior soil sampling, described above. Figure 2 illustrates the locations where soil samples were collected during the 2008 sampling work at the Canyon Creek Trestle in addition to the lead¹ concentrations detected in soil.

Sections 4.1.1 and 4.1.2 summarize the site investigation activities that will further delineate metals impacted soil at the three Trestle units.

4.1.1. Soil Sampling

As summarized on Table 1, data from samples collected during the 2008 Canyon Creek Trestle soil sampling activities detected the metals arsenic, cadmium, chromium, lead, and silver in near surface soils at concentrations greater than both conservative risk-screening levels and concentrations deemed typical (e.g., DEQ default levels) of naturally-occurring background for the region. Of these metals, chromium and lead were detected above these levels in a number of samples and over the largest areal extent. The 2008 Toxicity Characteristic Leaching Procedure (TCLP) data suggests the metal levels detected are not leachable at levels that would constitute a RCRA hazardous waste.

The 2008 Canyon Creek soil samples were collected at 3-inch depth intervals at each sampling station, with concentrations attenuating vertically with increased depth, and with the deepest sampling interval of 6 to 9-inches below ground surface. Although significantly attenuated, lead and chromium were detected in soil samples from the 6 to 9-inch depth interval and the furthest lateral locations in certain areas at Canyon Creek greater than conservative risk-screening levels and concentrations deemed typical of naturally-occurring background for the region (Table 1).

¹ Lead is plotted as an indicator constituent because it is the metal mostly widely detected above its conservative risk screening values and default background concentration show in Table 1.

For the preceding reasons, additional soil sampling for vertical and lateral delineation of arsenic, cadmium, chromium, lead, and silver in soil is deemed appropriate for the Canyon Creek Trestle area. Because existing data does not suggest significant attenuation between the 0 to 3-inch and the 3 to 6-inch depth intervals at many locations; and because a 3-inch resolution will not likely be relevant for evaluating removal action alternatives, all additional soil sampling at the Canyon Creek, Cripple Creek, and Pint Creek Trestles will be conducted using 6-inch depth intervals for characterization and delineation purposes. Specifically, depth intervals for all new sampling stations, or in areas where additional vertical delineation is needed, will be: 0 to 0.5 feet; 0.5 to 1.0 feet; and 1.0 to 1.5 feet.

Additional proposed soil sampling locations for the Canyon Creek Trestle project area are depicted on Figure 2. The additional sample locations have been selected with the objective of further delineating heavy metal detections in soil at or above concentrations equivalent to potentially applicable human health and ecological screening levels, or to naturally-occurring background levels. For those metals where screening levels are at concentrations less than naturally-occurring background, then delineation to naturally-occurring background levels will be sufficient. Certain other supplemental sampling locations have been included to provide additional data coverage proximate to trestle support structures, with these data to assist in evaluating remedial options with regard to structural stability.

As noted above, lead and chromium are metals most widely detected above the conservative risk screening values and default background concentrations. As a result, lead and chromium will be used as indicator constituents and additional soil samples collected at Canyon Creek during this SI will be analyzed for lead and chromium.

Cripple Creek Trestle and Pint Creek Trestle samples will initially be collected from a modified grid, based upon approximate staggered 50-foot centers (Cripple Creek) and 20-foot centers (Pint Creek). The difference in the initial sampling grid size between the different trestles is a function of the anticipated area of metals impact to soil. The difference relates to trestle size and the topography and openness of the land surrounding the trestles. In addition, sampling of creek bank soil/sediment will be conducted below and downstream of all three trestles to assess potential waterborne migration from the area.

Supplemental sampling locations for the Canyon Creek Trestle are shown on Figure 2. Sampling locations for the Cripple Creek and Pint Creek Trestles are shown on Figures 3 and 4, respectively.

Field procedures and protocols, as well as project quality assurance (QA/QC) details, are provided in the SAP presented as Appendix A.

4.1.2. Groundwater Sampling

Groundwater has not been encountered in soil borings and groundwater sampling is not anticipated. The nature and extent of metal impacted soil identified at Canyon Creek suggest that groundwater is not a likely migration pathway. If groundwater is encountered in borings, and total or dissolved metals are present in soil that is in contact with groundwater, then PGE will re-evaluate the Work Plan and need for groundwater sampling.

4.1.3. Laboratory Analyses

Soil samples collected at Canyon Creek will be analyzed for lead and chromium using EPA Method 6010/7000 series.

At Pint Creek and Cripple Creek, surface soil samples (0 to 0.5 feet) from all sampling stations will be analyzed for the heavy metals arsenic, cadmium, chromium, lead and silver using EPA Method 6010/7000. Deeper soil samples (e.g., 0.5 to 1.0 feet or 1.0 to 1.5 feet) may be analyzed at any station for those metals detected at concentrations greater than both potentially applicable human health and ecological screening levels (Section 5), and naturally-occurring background levels to delineate the vertical extent of metal impacts.

Select soil samples (approximately 2 to 4 samples per trestle area) will be analyzed for leachable RCRA metals using the TCLP to provide for evaluation of disposal options.

All samples will be maintained in storage at the laboratory for the duration of the method-specific holding time for metals testing (6 months). This will allow for follow-up testing of deeper sample intervals or for follow-up leachability testing or other follow-up tests as may be determined necessary.

5.0 Preliminary Risk Evaluation

Preliminary screening-level human health and ecological risk evaluations will be completed by comparing the exposure point concentrations calculated using the SI results against EPA and DEQ generic human health and ecological risk-based screening levels. The preliminary human health risk from exposure to soil will be evaluated by comparing the detected hazardous substance concentrations to DEQ's generic Risk-Based Concentrations for Individual Chemicals, September 15, 2009. Ecological risks from exposure to soil will be evaluated using DEQ Guidance for Ecological Risk Assessment dated September 22, 2003; that references the Level II Screening Level Values (SLVs) for Soil, December 2001. Human health and ecological risks for exposure to sediment with hazardous substances will be evaluated using DEQ's Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, April 2007.

The preliminary risk screening evaluation will include an opinion from a PGE biologist regarding the presence of threatened and endangered species. An aquatics or wetlands biologist will also provide an opinion regarding the limits of the stream channels so the data can be factored into the topographic survey.

6.0 Site Investigation Report

The SI Report will be prepared for the Trestles. The SI Report will include an executive summary; an introduction providing a site description; site history; field sampling procedures and methodology; discussion of SI results; explanation of sources; extent of contaminants; and a preliminary evaluation of risk.

7.0 Schedule

PGE will submit the draft SI Report by November 30, 2011. PGE will submit the Final SI Report 30 days after receiving the Forest Service's comments.

Tables

[This page left blank intentionally]

TABLE 1 – Detected Metals Concentrations in Soil- Canyon Creek Trestle

Screening Levels in mg/kg (ppm)	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Human Health: Occupational ==>	1.7 ¹	>Max ¹	500. ¹	190. ¹	800. ¹	310. ¹	5,100. ²	5,100. ¹
Lowest Terrestrial Ecological Screening Level ==>	10. ³	85. ³	4. ³	0.4 ³	16. ³	0.1 ³	1. ³	2. ³
Erosion to Sediments ==>	7. ^{4a}	nc	1. ^{4a}	111. ^{4b}	17. ^{4a}	0.07 ^{4a}	2. ^{4a}	5. ^{4c}
Default Naturally-Occurring Background Level ==>	7. ⁵	670. ⁶	1. ⁵	42. ⁵	17. ⁵	0.07 ⁵	2. ⁵	1. ⁵

Laboratory Analytical Testing Results in mg/kg (ppm)

Sampling Station	Number	Sample Date	Sample Depth (feet bgs)	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
001	001	16-Jul-08	0.0 - 0.25	15.7	77.5	2.64 U	1,050.	288.	0.0826 U	2.64 U	2.64 U
	001B	17-Oct-08	0.25 - 0.50	na	na	na	141.	47.1	na	na	na
	001C	17-Oct-08	0.5 - 0.75	na	na	na	66.	na	na	na	na
002	002	16-Jul-08	0.0 - 0.25	58.6	248.	19.6	611.	1,990.	0.069 U	2.59 U	5.01
	002B	17-Oct-08	0.25 - 0.50	25.3 U	na	4.4	64.1	216.	na	na	3.03 U
	002C	17-Oct-08	0.5 - 0.75	na	na	na	na	26.5	na	na	na
003	003	16-Jul-08	0.0 - 0.25	4.49	59.6	2.66 U	46.5	155.	0.247 U	2.66 U	2.66 U
004	004	16-Jul-08	0.0 - 0.25	28.1	159.	14.7	666.	1,550.	0.093 U	2.51 U	3.23
005	005	16-Jul-08	0.0 - 0.25	21.6	110.	7.1	777.	958.	0.0809 U	2.55 U	2.55 U
006	006	16-Jul-08	0.0 - 0.25	11.1	162.	2.63 U	58.3	208.	0.0566	2.63 U	2.63 U
007	007	16-Jul-08	0.0 - 0.25	60.7	272.	25.2	370.	2,850.	0.0775 U	2.6 U	6.22
	007B	17-Oct-08	0.25 - 0.50	24.3 U	na	5.89	12.	18.5	na	na	2.91 U
	007C	17-Oct-08	0.5 - 0.75	na	na	3.46 U	na	na	na	na	na
008	008	16-Jul-08	0.0 - 0.25	24.	124.	2.64	725.	468.	0.0863 U	2.55 U	2.55 U
009	009	16-Jul-08	0.0 - 0.25	15.6	116.	2.62 U	439.	227.	0.0771 U	2.62 U	2.62 U
010	010	16-Jul-08	0.0 - 0.25	8.2	40.8	2.44 U	1,400.	152.	0.0909 U	2.44 U	2.44 U
	010B	17-Oct-08	0.25 - 0.50	na	na	na	151.	1,280.	na	na	na
	010C	17-Oct-08	0.5 - 0.75	na	na	na	38.9	1,690.	na	na	na
011	011	16-Jul-08	0.0 - 0.25	11.3	96.	2.6 U	92.7	486.	0.0452 U	2.6 U	2.6 U
012	012	16-Jul-08	0.0 - 0.25	48.5	293.	1.45	410.	424.	0.0842 U	2.85 U	0.964
013	013	16-Jul-08	0.0 - 0.25	25.1	135.	0.493 U	1,210.	259.	0.0596 U	2.47 U	0.493 U
	013B	17-Oct-08	0.25 - 0.50	na	na	na	31.9	9.71 U	na	na	na
014	014	16-Jul-08	0.0 - 0.25	61.7	231.	0.557 U	832.	213.	0.0807 U	2.79 U	0.852
	014B	17-Oct-08	0.25 - 0.50	25. U	na	na	117.	97.6	na	na	na
	014C	17-Oct-08	0.5 - 0.75	na	na	na	48.8	na	na	na	na
015	015	16-Jul-08	0.0 - 0.25	20.5	169.	0.554 U	525.	195.	0.0668 U	2.77 U	0.599
016	016	16-Jul-08	0.0 - 0.25	53.7	298.	0.515 U	442.	171.	0.0685 U	2.58 U	1.13
	016B	17-Oct-08	0.25 - 0.50	32.1 U	na	na	348.	101.	na	na	na
	016C	17-Oct-08	0.5 - 0.75	na	na	na	87.9	na	na	na	na
017	017	16-Jul-08	0.0 - 0.25	5.25	264.	0.537 U	93.5	35.2	0.064 U	2.68 U	0.537 U
018	018	16-Jul-08	0.0 - 0.25	3.03 U	113.	0.606 U	290.	67.9	0.0902 U	3.03 U	0.606 U

TABLE 1 – Detected Metals Concentrations in Soil- Canyon Creek Trestle

Screening Levels in mg/kg (ppm)				Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Human Health: Occupational ==>				1.7 ¹	>Max ¹	500. ¹	190. ¹	800. ¹	310. ¹	5,100. ²	5,100. ¹
Lowest Terrestrial Ecological Screening Level ==>				10. ³	85. ³	4. ³	0.4 ³	16. ³	0.1 ³	1. ³	2. ³
Erosion to Sediments ==>				7. ^{4a}	nc	1. ^{4a}	111. ^{4b}	17. ^{4a}	0.07 ^{4a}	2. ^{4a}	5. ^{4c}
Default Naturally-Occurring Background Level ==>				7. ⁵	670. ⁶	1. ⁵	42. ⁵	17. ⁵	0.07 ⁵	2. ⁵	1. ⁵
019	019	16-Jul-08	0.0 - 0.25	4.89 U	59.1	0.978 U	956.	82.3	0.138 U	4.89 U	0.978 U
020	020	16-Jul-08	0.0 - 0.25	4.9	65.9	0.515 U	997.	86.5	0.0794 U	2.58 U	0.515 U
021	021	16-Jul-08	0.0 - 0.25	4.71	64.6	0.507 U	598.	856.	0.0683 U	2.53 U	0.507 U
	021B	17-Oct-08	0.25 - 0.50	na	na	na	70.7	2,160.	na	na	na
	021C	17-Oct-08	0.5 - 0.75	na	na	na	na	2,160.	na	na	na
022	022	16-Jul-08	0.0 - 0.25	2.69 U	133.	0.537 U	149.	76.9	0.091 U	2.69 U	0.537 U
023	023	16-Jul-08	0.0 - 0.25	2.57 U	67.3	0.513 U	714.	411.	0.0766 U	2.57 U	0.513 U
024	024	16-Jul-08	0.0 - 0.25	5.37	80.5	0.489 U	1,010.	116.	0.0791 U	2.45 U	0.489 U
025	025	16-Jul-08	0.0 - 0.25	4.68 U	78.2	0.936 U	721.	159.	0.175 U	4.68 U	0.936 U
026	026	16-Jul-08	0.0 - 0.25	5.16	104.	0.499 U	1,050.	92.9	0.0697 U	2.49 U	0.499 U
	026B	17-Oct-08	0.25 - 0.50	na	na	na	384.	597.	na	na	na
	026C	17-Oct-08	0.5 - 0.75	na	na	na	82.	141.	na	na	na
027	027	16-Jul-08	0.0 - 0.25	6.9	113.	0.495 U	1,030.	122.	0.0686 U	2.47 U	0.495 U
	027B	17-Oct-08	0.25 - 0.50	na	na	na	81.6	314.	na	na	na
	027C	17-Oct-08	0.5 - 0.75	na	na	na	na	65.1	na	na	na
028	028	16-Jul-08	0.0 - 0.25	2.66 U	115.	2.66 U	313.	41.9	0.0784 U	2.66 U	2.66 U
029	029	16-Jul-08	0.0 - 0.25	5.68	103.	2.47 U	1,290.	157.	0.0795 U	2.47 U	2.47 U
	029B	17-Oct-08	0.25 - 0.50	na	na	na	44.3	132.	na	na	na
	029C	17-Oct-08	0.5 - 0.75	na	na	na	na	309.	na	na	na
030	030	16-Jul-08	0.0 - 0.25	5.17	119.	2.78 U	862.	66.	0.0742 U	2.78 U	2.78 U
031	031	16-Jul-08	0.0 - 0.25	0.49 U	7.79	0.49 U	3.47	2.85	0.186 U	0.49 U	0.49 U
032	032	16-Jul-08	0.0 - 0.25	1.92	23.3	0.505 U	13.8	3.89	0.149 U	0.505 U	0.505 U
033	033	16-Jul-08	0.0 - 0.25	2.87	67.8	0.51 U	273.	98.8	0.0899 U	0.51 U	0.51 U
034	034	16-Jul-08	0.0 - 0.25	1.48	48.6	0.505 U	22.5	6.26	0.159	0.505 U	0.505 U
035	035	16-Jul-08	0.0 - 0.25	2.22	146.	0.495 U	40.5	5.4	0.0892	0.495 U	0.495 U
036	036	16-Jul-08	0.0 - 0.25	2.12	50.7	0.521 U	31.5	9.56	0.157 U	0.521 U	0.521 U
037	037A	17-Oct-08	0.0 - 0.25	na	na	na	32.9	9.9 U	na	na	na
038	038A	17-Oct-08	0.0 - 0.25	na	na	na	30.5	10.6	na	na	na
039	039A	17-Oct-08	0.0 - 0.25	na	na	na	75.	363.	na	na	na
	039B	17-Oct-08	0.25 - 0.50	na	na	na	na	87.7	na	na	na
040	040A	17-Oct-08	0.0 - 0.25	na	na	na	83.1	110.	na	na	na
041	041A	17-Oct-08	0.0 - 0.25	na	na	na	35.7	10. U	na	na	na
042	042A	17-Oct-08	0.0 - 0.25	na	na	na	48.6	9.9 U	na	na	na
043	043A	17-Oct-08	0.0 - 0.25	na	na	na	72.5	61.4	na	na	na

TABLE 1 – Detected Metals Concentrations in Soil- Canyon Creek Trestle

Screening Levels in mg/kg (ppm)				Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Human Health: Occupational ==>				1.7 ¹	>Max ¹	500. ¹	190. ¹	800. ¹	310. ¹	5,100. ²	5,100. ¹
Lowest Terrestrial Ecological Screening Level ==>				10. ³	85. ³	4. ³	0.4 ³	16. ³	0.1 ³	1. ³	2. ³
Erosion to Sediments ==>				7. ^{4a}	nc	1. ^{4a}	111. ^{4b}	17. ^{4a}	0.07 ^{4a}	2. ^{4a}	5. ^{4c}
Default Naturally-Occurring Background Level ==>				7. ⁵	670. ⁶	1. ⁵	42. ⁵	17. ⁵	0.07 ⁵	2. ⁵	1. ⁵
044	044A	17-Oct-08	0.0 - 0.25	na	na	na	65.	24.9	na	na	na
045	045A	17-Oct-08	0.0 - 0.25	na	na	na	136.	434.	na	na	na
	045B	17-Oct-08	0.25 - 0.50	na	na	na	69.3	454.	na	na	na
046	046A	17-Oct-08	0.0 - 0.25	na	na	na	109.	39.	na	na	na
047	047A	17-Oct-08	0.0 - 0.25	na	na	na	266.	53.9	na	na	na
	047B	17-Oct-08	0.25 - 0.50	na	na	na	33.3	na	na	na	na
048	048A	17-Oct-08	0.0 - 0.25	na	na	na	43.1	20.6 U	na	na	na
049	049A	17-Oct-08	0.0 - 0.25	na	na	na	51.1	21.4	na	na	na
050	050A	17-Oct-08	0.0 - 0.25	na	na	na	75.	12.5	na	na	na
051	051A	17-Oct-08	0.0 - 0.25	na	na	na	59.	12.9 U	na	na	na
052	052A	17-Oct-08	0.0 - 0.25	na	na	na	929.	500.	na	na	na
	052B	17-Oct-08	0.25 - 0.50	na	na	na	49.1	245.	na	na	na
053	053A	17-Oct-08	0.0 - 0.25	na	na	na	40.6	12.8	na	na	na
054	054A	17-Oct-08	0.0 - 0.25	na	na	na	9.76	33.7	na	na	na
055	055A	17-Oct-08	0.0 - 0.25	na	na	na	49.6	12.4 U	na	na	na
056	056A	17-Oct-08	0.0 - 0.25	na	na	na	79.4	23.9	na	na	na
057	057A	17-Oct-08	0.0 - 0.25	na	na	na	95.6	31.2	na	na	na
058	058A	17-Oct-08	0.0 - 0.25	na	na	na	165.	44.1	na	na	na
	058B	17-Oct-08	0.25 - 0.50	na	na	na	73.7	na	na	na	na
059	059A	17-Oct-08	0.0 - 0.25	na	na	na	539.	127.	na	na	na
	059B	17-Oct-08	0.25 - 0.50	na	na	na	187.	na	na	na	na
060	060A	17-Oct-08	0.0 - 0.25	na	na	na	59.2	12.7 U	na	na	na

1 = DEQ Risk-Based Concentrations (RBCs) for Occupational Worker (Revised Sept. 15, 2009), DEQ Risk-Based Decision Making for the Remediation of Petroleum Contaminants
 2 = EPA Region 3, 6, 9 Regional Screening Levels, Human Health Screening Levels for Industrial Worker, Revised Nov. 2010
 3 = Level II Screening Level Values (updated December 2001), *DEQ Guidance for Ecological Risk Assessment: Levels I, II, III, IV, Final*, dated April 1998
 4a = Presumed Background - DEQ Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, January 31, 2007
 4b = MacDonald DD, Ingersoll C.G., Berger T.A. (2000) Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems. Environment
 4c = Quoted in MacDonald et al. (1999); Appendix 3-1; Lowest Apparent Effects Threshold (LAET), Table 11, WDOE (1997)
 5 = DEQ Default Background Concentrations for Metals, October 2002
 6 = *Elemental Concentrations in Soils of the Conterminous United States* (Arithmetic Mean, Western US), USGS 1984

Bold and Highlighted = Concentration exceeds both lowest Screening Level and the Default Background Concentration

bgs = below ground surface

DEQ = Oregon Department of Environmental Quality

EPA = U.S. Environmental Protection Agency

mg/kg = milligrams/kilogram

na = no analysis

nc = no criteria

ppm = parts per million

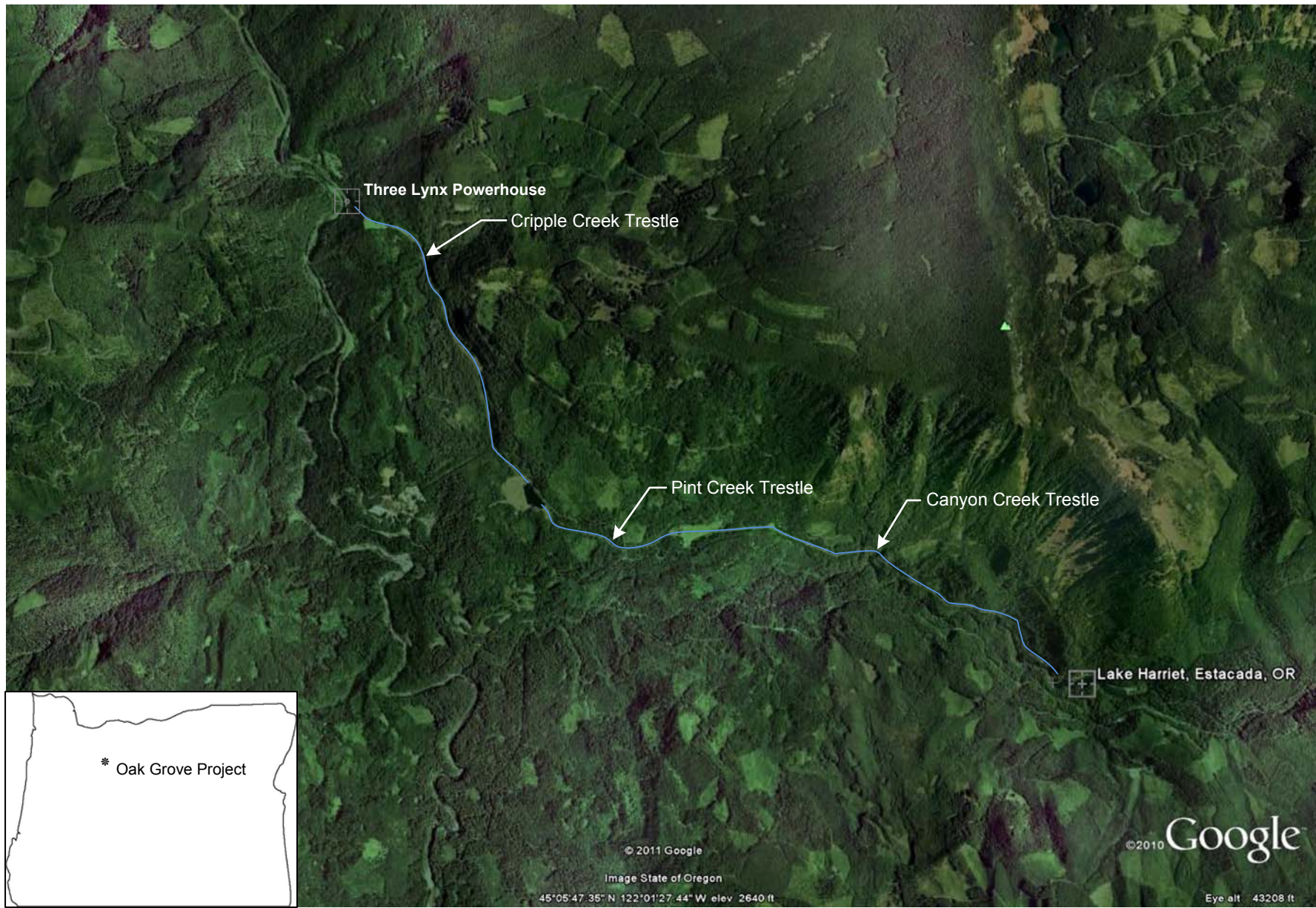
U = not detected above concentration indicated

>Max = The RBC is greater than 100,000 mg/kg

[This page left blank intentionally]

Figures

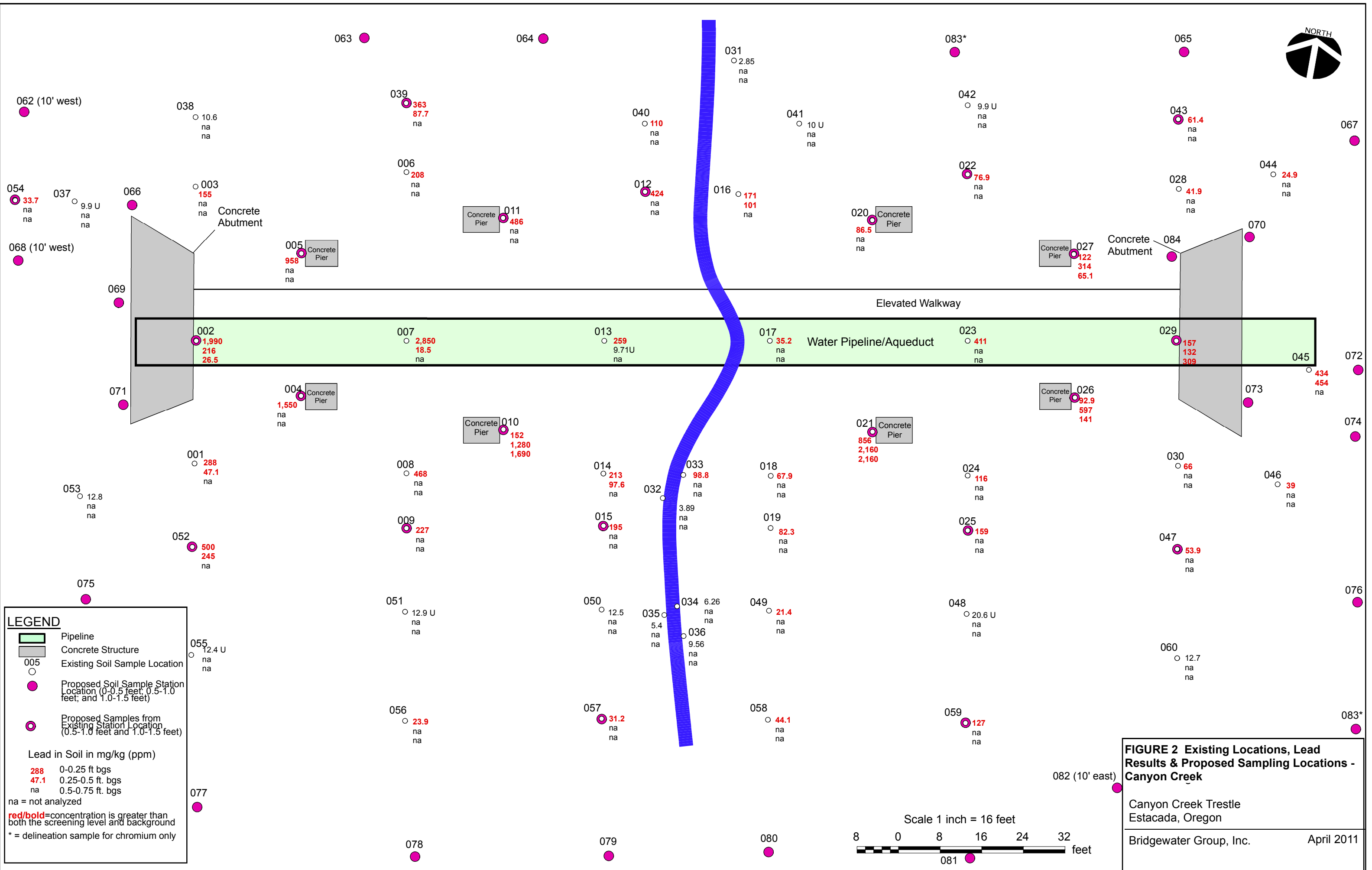
[This page left blank intentionally]



1 mile
Approx. Scale

Figure 1
Trestles Site Vicinity
Oak Grove Hydroelectric Project

BRIDGEWATER GROUP, INC.



LEGEND

- Pipeline
- Concrete Structure
- Existing Soil Sample Location
- Proposed Soil Sample Station Location (0-0.5 feet, 0.5-1.0 feet; and 1.0-1.5 feet)
- Proposed Samples from Existing Station Location (0.5-1.0 feet and 1.0-1.5 feet)

Lead in Soil in mg/kg (ppm)

288	0-0.25 ft bgs
47.1	0.25-0.5 ft. bgs
na	0.5-0.75 ft. bgs

na = not analyzed

red/bold=concentration is greater than both the screening level and background

* = delineation sample for chromium only

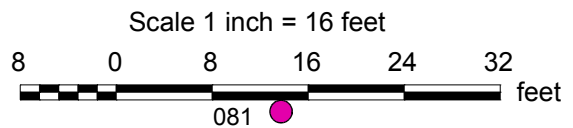
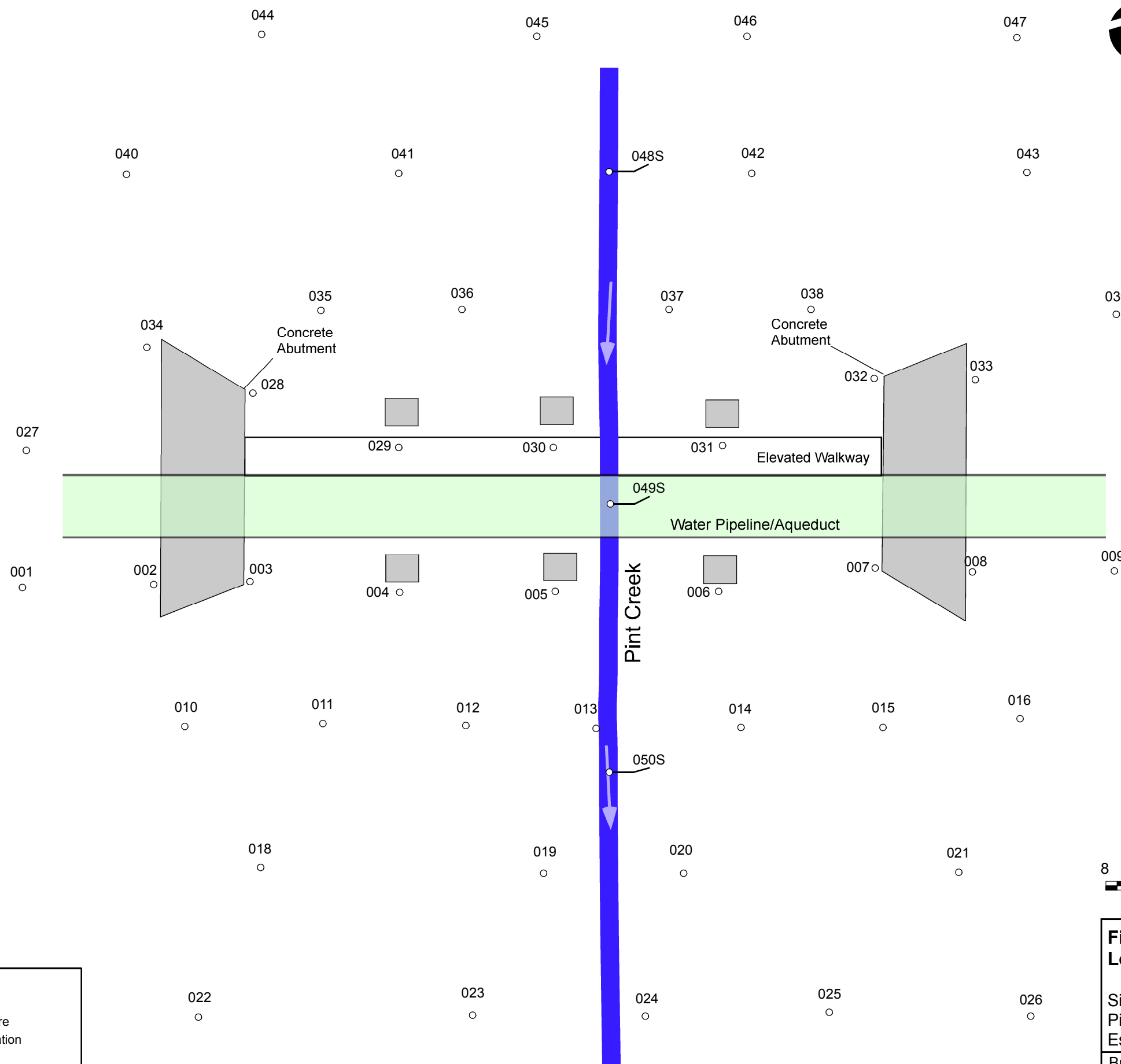





FIGURE 2 Existing Locations, Lead Results & Proposed Sampling Locations - Canyon Creek

Canyon Creek Trestle
Estacada, Oregon

Bridgewater Group, Inc. April 2011



LEGEND

-  Pipeline
-  Concrete Structure
-  Soil Sample Location

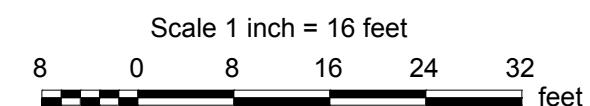


Figure 3 - Proposed Sample Locations - Pint Creek

Site Investigation
Pint Creek Trestle
Estacada, Oregon

Bridgewater Group, Inc. April 2011

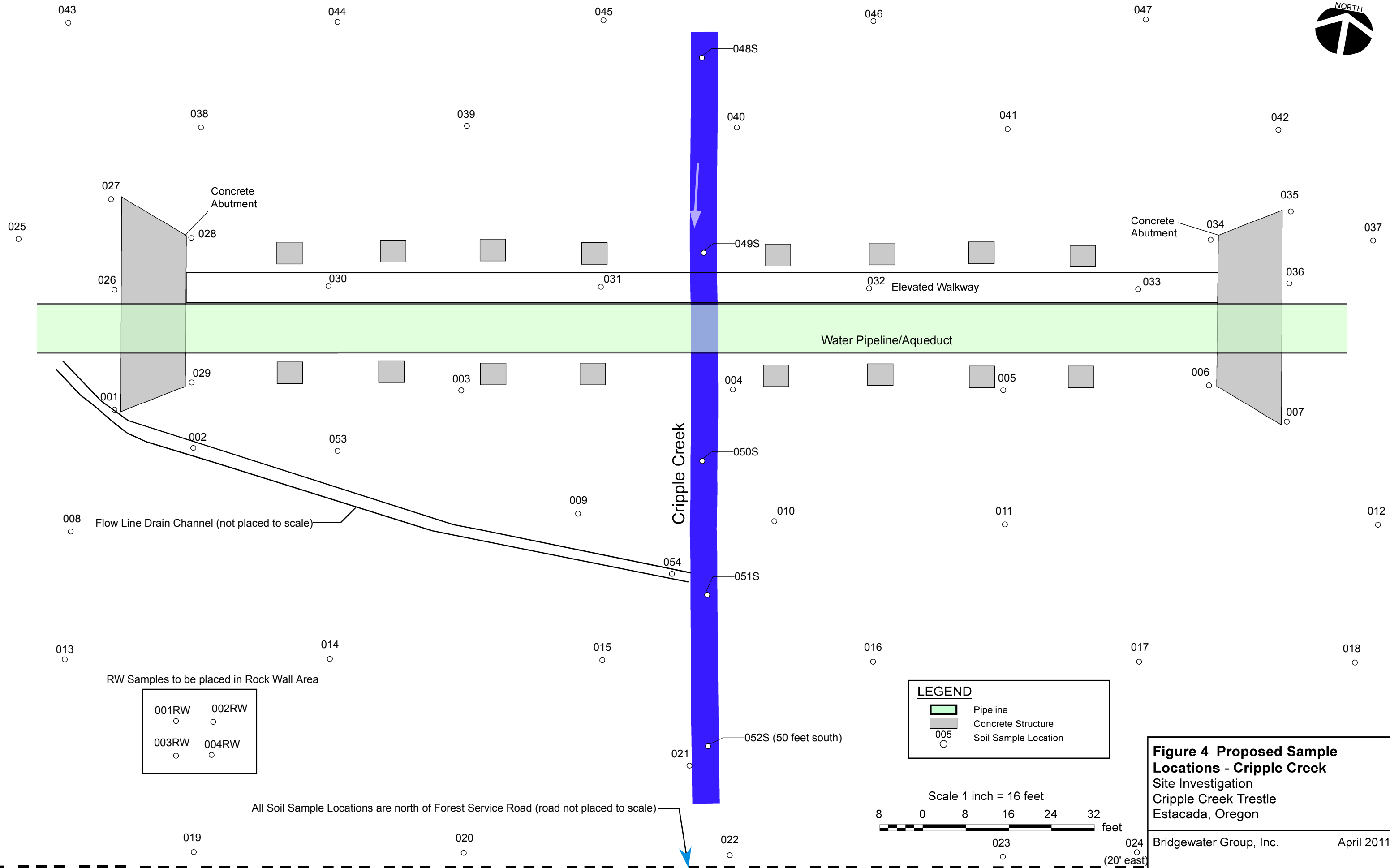


Figure 4 Proposed Sample Locations - Cripple Creek
 Site Investigation
 Cripple Creek Trestle
 Estacada, Oregon
 Bridgewater Group, Inc. April 2011

Appendix A

Draft Sampling and Analysis Plan

[This page left blank intentionally]

FINAL

SAMPLING AND ANALYSIS PLAN

OAK GROVE HYDROELECTRIC PROJECT

WATER CONVEYANCE TRESTLES

Prepared for:
Portland General Electric
121 SW Salmon Street
Portland, OR 97204

Prepared by:



BRIDGEWATER GROUP, INC. BRIDGEWATER GROUP, INC.
4500 SW Kruse Way, Suite 110
Lake Oswego, OR 97035

[This page left blank intentionally]

Table of Contents

1.	Introduction.....	1
2.	Data Quality Objectives	1
3.	Investigation Methods.....	1
3.1	Soil Sampling Grid Layout and Sample Depth Intervals.....	1
3.2	Sample Collection Procedures	2
4.	Sample Designation	3
5.	Decontamination Procedures	3
6.	Investigation-Derived Waste	3
7.	Sampling Handling and Custody	4
7.1	Sample Collection	4
7.2	Sample Containers.....	4
7.3	Sample Labels	4
7.4	Sample Custody Procedures.....	4
7.5	Analytical Testing	5
8.	Quality Assurance Project Plan	5
8.1	QA/QC Procedures.....	5
8.2	Equipment Calibration Procedures.....	5
8.3	Laboratory QA/QC Samples	5
8.4	Field QA/QC Samples.....	5
8.5	Laboratory Deliverables.....	6
8.6	Review of Field and Laboratory QA/QC Data.....	6
8.7	Blanks.....	6
8.8	Methods Detection Limits.....	7
8.9	Holding Times.....	7
8.10	Reporting, Documentation, Data Reduction, and Corrective Action	7

Tables

Table 1 Sample Method, Containers, Preservation, and Holding Times

Oak Grove Hydroelectric Project Water Pipeline Trestles-
Final Sampling and Analysis Plan

[This page left blank intentionally]

1. INTRODUCTION

This Sampling and Analysis Plan (SAP) was prepared to detail the methods and procedures for soil sampling and analysis at the Oak Grove Hydroelectric Project Water Conveyance Trestles; Canyon Creek, Cripple Creek, and Pint Creek (Trestles). These three trestles support the water pipeline that extends 6.4 miles from Harriet Lake to the Three Lynx Hydroelectric Plant.

Previous soil sampling at the Trestles indicates additional site investigation (SI) activities are appropriate to delineate the nature and extent of heavy metals impacted soils. Heavy metals that exceed Oregon Department of Environmental Quality (DEQ) human health and ecological risk screening values and/or default background concentrations are arsenic, cadmium, chromium, lead, and silver.

Heavy metals impacted soils were encountered in the process of repainting the Canyon Creek Trestle in 2008, with the impacts likely attributable to historic sandblasting of trestle in the early 1970s to prepare it for repainting.

PGE has previously completed soil sampling at the Canyon Creek and preliminary soil sampling at Cripple Creek and Pint Creeks. Canyon Creek heavy metal impacted soil is partially delineated; however focused sampling is needed to complete the delineation. Cripple Creek and Pint Creek require a comprehensive SI to evaluate the nature and extent of heavy metals impacted soil.

The field exploration activities described herein consist of obtaining soil samples for purposes of defining the lateral and vertical extent of impacts associated with heavy metals in surface or near surface soil at the Trestles.

2. DATA QUALITY OBJECTIVES

The overall project data quality objective is to provide valid data of known and documented quality to characterize sources, determine location of contaminants at levels equal to or above screening or natural background quality levels, and screen for threats the site may pose to human health and/or the environment. Data gathered during the site investigation will provide the basis for decisions relating to future investigation requirements, human health and ecological risk screening or assessment, and remedial measures.

The data quality assurance objectives for this project are to develop and implement procedures to collect representative samples and to provide chemical data of known quality. In order to meet these objectives, all field activities will be conducted according to the methods described in this SAP. Of particular importance will be to obtain data of sufficient quantity and quality, with appropriately low method detection limits, to support appropriate risk screening.

3. INVESTIGATION METHODS

3.1 Soil Sampling Grid Layout and Sample Depth Intervals

Soil sampling will be conducted at the Trestle locations using a modified grid approach with sampling stations to be established at all grid nodes. Additional sampling stations will be placed based on localized features such as near trestle supports or at stream bank or stream sediment sampling locations. All sampling station locations will be

Oak Grove Hydroelectric Project Water Pipeline Trestles- Final Sampling and Analysis Plan

plotted on a site topographic map prepared for each trestle area and will be surveyed and staked prior to or subsequent to sampling activities.

Except for the sampling already completed at the Canyon Creek Trestle (where 3-inch depth intervals were used), soil samples at all established sampling stations will be collected through 6-inch intervals to target the following depths:

- 0 to 0.5 feet
- 0.5 to 1.0 feet
- 1 to 1.5 feet

It is possible that refusal on hard cobble substrate may occur at sampling stations prior to achieving the full targeted sample interval depth. In such an instance, and assuming the cobble or other interference cannot be removed from the sampling location or bypassed at a new adjacent location, then the depth of sampling refusal and the actual sample interval for the sample that encountered refusal will be recorded in field sampling documentation.

3.2 Sample Collection Procedures

3.2.1 Soil Sample Collection

Each soil sample will be a homogenization of mineral soil (vegetative matter will be removed) across the specified sampling interval collected with a decontaminated hand auger or shovel and hand trowel, as deemed appropriate. Homogenization of the sample interval will be completed by hand mixing using new, disposable nitrile gloves in a new, disposable food-grade polyethylene container.

In areas where cobbles are encountered within the sampling interval, it may be necessary to enlarge the sampling station location with a pick-axe or pry bar to achieve the specified depth. In such a case, once the desired depth is achieved, the soil sample will be collected from a freshly scraped section of the sampling station sidewall to ensure that representative in-place soils from across that depth interval are sampled. Extreme care to avoid incorporation of shallower soils as may slump down the sampling station sidewall into the lower-depth sampling intervals will be made. In certain cases it may be necessary to declare sampler refusal in very dense substrate prior to achieving the targeted sample depth.

3.2.2 Stream Sediment Sample Collection

There are instances where the Site Investigation Work Plan may include the collection of stream sediment samples within either Canyon Creek, Pint Creek, or Cripple Creek. In such instances, sediment samples will be collected from below the water line (if stream flow is present, or from within the central portion of the streambed if the stream is dry). All sediment samples will be collected from the upper 6-inches of material with the use of a decontaminated stainless steel hand trowel. Sampling will proceed from downstream locations toward upstream locations if stream flow is present to avoid disturbance of sediment that could cause increased solids content downstream of sampling locations.

3.2.3 Soil Sample Description

The physical properties of all soils observed will be logged in the field by a field representative experienced in such work under the supervision of an Oregon-licensed geologist or registered professional engineer.

Oak Grove Hydroelectric Project Water Pipeline Trestles- Final Sampling and Analysis Plan

Coarse-grained soil descriptions will include group name, color, moisture and environmental observations. Fine-grained soil descriptions will include group name, color, moisture, plasticity, and environmental observations. All properties and observations will be recorded.

Site reconnaissance indicates that black granular sandblast grit is visually present and mixed into uppermost soils at certain locations beneath the trestles. As described in Section 3.2.2, the presence or absence of visual sandblast grit or other anthropogenic materials will be noted in field documentation across all sample depth intervals at all sampling station locations.

3.2.4 Soil Field Screening Procedures

Soil samples will be screened in the field for the presence of potential contamination by visual methods. The contamination source of interest is black sandblast grit that is readily visible in the soil, where present. Visual observation will be conducted at all sample locations and field notes will describe the presence, depth interval, and relative magnitude of the sandblast grit at all sampling locations. Other observations of note (paint chips or other anthropogenic materials) will also be recorded in field documentation for all sampling station locations.

4. SAMPLE DESIGNATION

Each sample collected during field activities will be identified by a sample designation that will be included on the sample label. Soil samples will be designated using the format of "Trestle Name-Collection Date-Sample Station ID-Depth Interval". Labels will be completed in indelible ink.

Trestle Name will be either "Canyon", "Cripple", or "Pint". Sample Station Designation will be the unique ID assigned to each sample station (e.g., -01). Collection date will be the date that the sample is collected in the form of year-month-day. Depth interval will be designated with the suffix "A" for uppermost, with increasing alphabetical designations (B, C) for subsequently deeper sampling intervals. The specific depth interval in feet below ground surface for all samples will be recorded in field documentation, including the comment field of the sample chain-of-custody form.

Based on the preceding, a sample designation of "Pint-110615-08-A" would designate a soil sample collected on June 15, 2011 through the uppermost sampling interval from Sampling Station 08 at the Pint Creek trestle.

5. DECONTAMINATION PROCEDURES

Reusable sampling equipment (i.e. hand tools) that comes into contact with soil will be decontaminated prior to each sample being collected by washing with a phosphate free detergent wash (Alconox), followed by a potable water rinse, a deionized water rinse, and allowing to air dry.

6. INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) will be managed in a manner that is consistent with the current solid and hazardous waste regulations. Soil waste and decontamination waste water will be placed in Department of Transportation (DOT) approved 55-gallon drums and stored at the Oak Grove Facility in a secure location pending laboratory results.

All disposable personal protective equipment (gloves, etc.) and disposable sampling equipment (sleeves, bailers, tubing, etc.) generated during any sampling event will be disposed of at a permitted municipal solid waste disposal facility.

7. SAMPLING HANDLING AND CUSTODY

This subsection addresses the sampling program requirements for maintaining custody of the samples throughout the sample collection and shipping process, and provides specific procedures for sample shipping.

7.1 Sample Collection

Soil samples will be collected by hand utilizing a new pair of nitrile gloves, from soil collected using the above-described sampling methods, and placed directly into a laboratory provided sampling container. Sample containers will be filled to minimize headspace, and upon collection, will be labeled and transferred to a chilled container for shipment directly to the analytical laboratory.

7.2 Sample Containers

Sample containers will be selected based on the laboratory parameter analyzed. All containers will be provided by the analytical laboratory in a new pre-cleaned condition, collected into the appropriate sampling container, and placed in a chilled cooler for shipment to the analytical laboratory. All sample containers will be packed in a way that minimizes breakage.

7.3 Sample Labels

Each sampling container will be labeled prior to shipment to the analytical laboratory. At a minimum, each sample will be labeled with the date, time, project number, sampling personnel, company, and a unique sampling number. Individual and unique sample numbers will be selected utilizing as described in Section 4.

7.4 Sample Custody Procedures

Chain-of-custody will be maintained for all samples collected as part of this project. Samples are considered to be in one's custody if they are: (1) in the custodian's possession or view; (2) in a secured location (under lock) with restricted access; or (3) in a container that is secured with an official seal(s) such that the sample cannot be reached without breaking the seal(s).

Chain-of-custody procedures will be followed for all samples throughout the collection, handling, and analytical testing that will be tracked on the chain-of-custody form. Each sample will be documented on the chain-of-custody record in indelible ink pen or type-written text. Any corrections necessary, will be made by drawing a single line through the error, initialing, then writing in the correct information and dating the change.

A chain-of-custody form will accompany samples to the analytical laboratory. Custody will be documented by the laboratory signing the chain-of-custody acknowledging receipt and responsibility for the samples. The chain-of-custody form will then be used by the analytical laboratory to track sample handling and final disposition. The laboratory will return a signed chain-of-custody at the time of custody transfer that will serve as a written record of sample transfer.

7.5 Analytical Testing

Soil samples will be shipped on ice with chain-of-custody documentation in sealed coolers to an accredited laboratory for analytical testing.

A summary of analytical methods that will be utilized are summarized in Table 1.

8. QUALITY ASSURANCE PROJECT PLAN

All chemical analysis will be performed in accordance with EPA standard analytical methodologies, as specified in EPA's Test Method for Evaluation of Solid Waste-Physical/Chemical Methods, 3rd Edition, EQP-SW846, September 1986 and all subsequent updates.

8.1 QA/QC Procedures

The overall QA objective for measurement data is to ensure that data of known and acceptable quality are provided. All measurements will be made to yield accurate and precise results representative of the media and conditions measured. QA objective for precision, accuracy, and completeness have been established for each measurement variable, where possible. An accredited laboratory with a documented quality assurance program will provide chemical analytical services for the project.

The selected laboratory will be required to have and maintain an internal QA program, documented in their laboratory QA manuals. The selected laboratory will use a combination of blanks, surrogates, duplicates, matrix spike/matrix spike duplicate (MS/MSD), and laboratory control samples blank spike/blank spike duplicate (BS/BSD) to demonstrate analytical QA/QC. The laboratory will be required to have established control limits for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The specific procedures to be completed for this project are identified in Table 1.

8.2 Equipment Calibration Procedures

The selected laboratory will follow equipment calibration procedures, calibration frequency, and calibration standards in accordance with the EPA- or DEQ-specified test methods. All instruments and equipment used by the selected laboratory will be operated, calibrated, and maintained according to manufacturers' guidelines and recommendations. Personnel who have been properly trained in these procedures will perform operation, calibration, and maintenance. A routine schedule and record of instrument calibration and maintenance will be kept on file.

8.3 Laboratory QA/QC Samples

Analytical procedures will be evaluated by analyzing reagent or method blanks, surrogates, MS/MSDs, BS/BSDs, and laboratory duplicates, as appropriate for each method. The selected laboratory's QA/QC samples and frequency of analysis to be completed for this project will be consistent with EPA test methodologies.

8.4 Field QA/QC Samples

Field quality assurance/quality control (QA/QC) samples will be collected to evaluate variability resulting from sample handling and the completeness of field decontamination procedures. One duplicate soil sample will be collected and analyzed from sampling locations at a 5% frequency (1 duplicate for every 20 samples analyzed). The duplicate will be a split of sampled material into two unique samples (original and duplicate). The

Oak Grove Hydroelectric Project Water Pipeline Trestles- Final Sampling and Analysis Plan

duplicate will be managed and processed identically to the original sample. The duplicate samples will be analyzed for the same parameters as the original sample.

8.5 Laboratory Deliverables

The analytical data package will be prepared in accordance with EPA-established Level II analytical support protocol. The following will be provided in the laboratory reports for this project:

- Transmittal letter, including information regarding the receipt of samples, the test methodology performed, deviation from the required procedures, problems encountered in the analysis of the samples, problems meeting the method holding times or laboratory control limits, and corrective actions taken by the laboratory relative to the quality of the data contained in the report.
- Sample analytical results, including sampling data, date of sample extraction or preparation, data of sample analysis, dilution factors and test methods identification, soil sample results in milligrams per kilogram or micrograms per kilogram dry-weight basis, water sample results in milligrams per liter or micrograms per liter, and reporting limits for undetected analytes. Results will be reported for all field samples or blanks submitted for analysis.
- Methods blank results, including reporting limits for undetected analytes.
- Surrogate recovery results, and corresponding control limits for samples and method blanks (organic analysis only).
- MS/MSD and BS/BSD spike concentrations, percent recoveries, relative percent differences (RPDs), and corresponding control limits.
- Laboratory duplicate results for inorganic analyses, including RPDs and corresponding control limits.
- Sample Chain-of-custody documentation.

The raw analytical data (including calibration curves, instrument calibration data, data calculation worksheets, and other laboratory support data for samples from this project) will be compiled and kept on file at the selected laboratory's office for reference, if necessary.

8.6 Review of Field and Laboratory QA/QC Data

The sample data, field, and laboratory QA/QC results will be evaluated for acceptability. Each group of samples will be compared with the data quality objective and evaluated using current EPA published data validation guidelines. The review will incorporate industry acceptable methods to evaluate the precision, accuracy, completeness, representativeness, and comparability of the data.

8.7 Blanks

The analytical results of laboratory blanks will be reviewed to evaluate the possibility of contamination caused by the analytical procedures. Blanks are appropriate for water samples only. If contaminants are detected in laboratory blanks, the sample data will be qualified, as appropriate.

8.8 Methods Detection Limits

Method detection limits will be review with respect to the intended use of the data. A discussion relevant to the method detection limits will be included in the investigation summary report.

8.9 Holding Times

As specified by EPA protocol, the sampling, extraction, and analysis dates will be reviewed to confirm that extraction and analyses were completed within the recommended holding times. Appropriate data qualifiers will be noted if holding times are exceeded. Table 2 contains the current EPA method holding times.

8.10 Reporting, Documentation, Data Reduction, and Corrective Action

Upon receipt of each laboratory data package, data will be evaluated against the criteria outlines in the previous sections. Any deviation from the established criteria will be noted and the data will be qualified, as appropriate. The data from each phase, with any qualifiers, will be reported in the work plan addenda, if appropriate. Data validation procedures for all samples will include checking the following, when appropriate:

- Holding times,
- Detection limits
- Laboratory blanks
- Laboratory MS
- Laboratory MSDs
- Laboratory BS
- Laboratory BSDs
- Surrogate recoveries

If significant QA problems are encountered, appropriate corrective action as determined by Bridgewater's project manager and will be implemented as appropriate. All corrective action will be defensible and the corrected data will be qualified.

Tables

[This page left blank intentionally]

**Oak Grove Hydroelectric Project Water Pipeline Trestles-
Final Sampling and Analysis Plan**

Table 1					
Sample Method, Containers, Preservation, and Holding Time					
<i>Oak Grove Hydroelectric Water Conveyance Trestles</i>					
Parameter	Analytical Method	Sample Matrix	Sample Container	Preservative	Maximum Holding Times
Total Metals	EPA Method 6010-7000	Soil	4 or 9-ounce jar	Cool to 4 C	6 months (Hg is 28 days)
Dissolved Metals-TCLP	EPA Method 1311/6010-7000	Soil	4 or 9-ounce jar	Cool to 4 C	6 months to extract (Hg is 28 days); 12 months (Hg is 56 days) to analysis
Dissolved Metals-SPLP	EPA Method 1312/6010-7000	Soil	4 or 9-ounce jar	Cool to 4 C	6 months to extract (Hg is 28 days); 12 months (Hg is 56 days) to analysis

EPA = U.S. Environmental Protection Agency
 SPLP = Synthetic Precipitation Leaching Procedure
 TCLP = Toxicity Characteristic Leaching Procedure

