

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

April 15, 2015

Mr. Dana Bayuk
Oregon Department of Environmental Quality
Northwest Region, Portland Office
Portland Harbor Section
2020 SW Fourth Avenue, Suite 400
Portland Oregon 97201-4987

HAI Project No. 2708
DEQ ECSI File No. 84

**SUBJECT: Progress Report, NW Natural Site, 7900 NW St. Helens Avenue and
7200 NW Front Avenue, Portland, Oregon**

Dear Mr. Bayuk:

Hahn and Associates, Inc. (HAI) has prepared this monthly Progress Report summarizing Remedial Investigation/Feasibility Study (RI/FS) and source control-related work activities conducted by NW Natural relating to historic manufactured gas plant (MGP) activities at the NW Natural Site during the month of March 2015. NW Natural is completing upland investigatory activities at the NW Natural Site under the Voluntary Agreement No. ECVC-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

1.0 Communications and Document Submittals

In e-mail correspondence to DEQ dated March 2, 2015 (Rob Ede to Dana Bayuk) HAI, on behalf of NW Natural, provided NW Natural's conclusions regarding the regulatory status and proposed management of oil/water mixtures recovered from within the trichloroethene (TCE) contaminated media management area (CMMA). Follow-up correspondence dated March 10, 2015 (Rob Ede to Dana Bayuk) was provided to clarify some items that were included in the March 2, 2015 correspondence.

Project manager calls were conducted with DEQ on March 3, 2015, March 17, 2015, and March 31, 2015 to discuss NW Natural program management and project schedules.

In e-mail correspondence dated March 4, 2015 (Pradeep Mugunthan to Dana Bayuk), Anchor QEA responded to DEQ questions related to the groundwater modeling during a meeting on February 25, 2015. DEQ (Dana Bayuk to Pradeep Mugunthan) replied on March 20, 2015.

Program management implementation calls were conducted with DEQ on March 5, 2015 and March 18, 2015 to discuss NW Natural program management and project schedules.

In e-mail correspondence dated March 9, 2015 (Dana Bayuk to Taku Fuji), DEQ provided topics and questions to be discussed during the March 10 teleconference related to the *Gasco Upland HERA Report*, presently under regulatory review.

A teleconference with DEQ and NW Natural was conducted on March 10, 2015 to answer DEQ questions related to the *Gasco Upland HERA Report*, presently under regulatory review.

A technical meeting with representatives of DEQ, EPA, NW Natural, and Siltronic was conducted via teleconference on March 12, 2015 to answer questions regarding the

Phase 1 HC&C Testing Report, presently under regulatory review. The start of Phase 2 HC&C testing was also discussed during the teleconference.

In e-mail correspondence dated March 12, 2015 (Dana Bayuk to Ben Hung), DEQ provided feedback to previously provided Tables of Contents for various source control documents currently under preparation by NW Natural.

In e-mail correspondence dated March 13, 2015 (Pradeep Mugunthan to Dana Bayuk), Anchor QEA, on behalf of NW Natural, transmitted bedrock contours as proposed for use with a basalt no-flow sensitivity analysis of the groundwater fate and transport model.

In e-mail correspondence dated March 18, 2014 (Taku Fuji to Dana Bayuk), Anchor QEA transmitted spreadsheets to DEQ that were used for calculating ecological cumulative risk estimates for surficial fill and alluvial water bearing zone groundwater pathways.

In e-mail correspondence dated March 20, 2015 (Rob Ede to DEQ), HAI transmitted to DEQ a report documenting results of a February geophysical investigation identifying subsurface anomalies that could be representative of the buried casing to the former industrial water supply well at the property.

In e-mail correspondence dated March 23, 2015, DEQ requested (Dana Bayuk to Pradeep Mugunthan) and AQ provided (Pradeep Mugunthan to Dana Bayuk), additional information as related to the proposed basalt no-flow sensitivity analysis for the groundwater fate and transport model.

In correspondence dated March 27, 2015 (Taku Fuji to Dana Bayuk), AQ, on behalf of NW Natural, transmitted a hard copy of the *Gasco Uplands HERA Report* to DEQ.

2.0 Field Work

HAI field activities related to monitoring and maintenance of the dense non-aqueous phase liquid (DNAPL) extraction system at surficial fill well locations MW-6-32 and MW-13-30 occurred during March 2015. The system recovered approximately 48 gallons of fluids in February, primarily DNAPL.

Tasks related to optimization and maintenance of the hydraulic control and containment (HC&C) system and the wastewater treatment system were conducted in March 2015.

Groundwater sampling activities as described in the Integrated Groundwater Monitoring Program (combined HC&C system Performance Monitoring and the Routine Monitoring Programs) were conducted between March 2, and March 30, 2015.

Fiber Optic Distributed Temperature Sensing (DTS) testing, initiated along a portion of the shoreline in February, continued through March. Full operation of the HC&C system was conducted between March 10 and March 24 as part of the DTS testing, with a reduction in pumping rates to routine maintenance levels, subsequent to March 24, 2015.

Baseline DNAPL removal as needed to maintain at levels below the top of the well sumps was conducted by Anchor QEA during March 2015 in the following wells near the river shoreline.

- MW-18-30
- MW-26U

- MW-38U
- MW-PW-2L
- PW-2L

On March 31, 2014 NW Natural discontinued discharges of treated groundwater to the sanitary sewer (Industrial Wastewater Discharge Permit 500.022). All water is now directed to NW Natural's on-site wastewater treatment plant and discharged to the Willamette River consistent with National Pollutant Discharge Elimination System (NPDES) Permit No. 103061 (expires August 31, 2018). Results from NW Natural's NPDES effluent sampling are provided to DEQ in Discharge Monitoring Reports that are submitted on a monthly basis in accordance with the permit. As of March 31, 2015 a total of 96,205,318 gallons of treated water were discharged under the NPDES permit.

3.0 Anticipated Activities April and May 2015

NW Natural and DEQ technical working group communications and meetings are anticipated to occur as needed during April and May 2015 to discuss ongoing project tasks.

The *HC&C Model Calibration and Validation Report* is in preparation for submittal to DEQ after agreements with the agency are reached related to model calibration.

Maintenance of HC&C Pumping wells using Aqua Gard CO2 injections is scheduled for the week of April 27, 2015.

HC&C and Wastewater Treatment System Operation and Maintenance and Performance Monitoring documents are in preparation with submittal to DEQ scheduled to occur during May 2015.

Initiation of supplemental Doane Creek investigation activities is contingent upon receipt of DEQ confirmation of recent agreements with the analyte list and screening levels. Legal access agreements with the off-site property owners will also be necessary prior to initiation of field activities.

Disposition of the oil-water mixture originating from the TCE CMMA at the Siltronic property will be scheduled following feedback from DEQ regarding NW Natural's waste determination and intended management as described in e-mail correspondence dated March 2, 2015, with follow-up clarification provided March 10, 2015 (Rob Ede to Dana Bayuk).

NW Natural is currently developing a Contaminated Materials Management Plan for the Site. Submittal of this plan was previously scheduled to occur in May. However, due to outstanding questions related to management of some materials, (e.g. the management of the oil-water mixture originating from the TCE CMMA), a submittal date for this Contaminated Materials Management Plan has yet to be determined. In the meantime, materials will be managed according to protocols already in place at the Site.

NW Natural anticipates completion of test pitting activities at selected locations during April in order to determine if the location of the former MGP-era bedrock water supply well can be determined. The test pitting work will be initiated after discussion with DEQ regarding the geophysical investigation results.

The *Fill WBZ Design Evaluation Report* is in preparation for submittal to DEQ during April 2015 (submitted April 8, 2015).

The following reports and work plans for the Site have been submitted to DEQ through the date of this progress report. Unless otherwise noted, NW Natural has not received DEQ comments on these documents.

- *Human Health and Ecological Risk Assessment Report, NW Natural Gasco Site*, Prepared for Oregon DEQ by Anchor QEA, dated December 2014.
- *Gasco Source Control Phase 1 Testing Data Summary and Analysis Report*, prepared by Anchor QEA, dated January 2015.
- *Isoconcentration contour maps for chemicals in soil and groundwater at the Gasco Site*, transmitted to DEQ in correspondence dated February 16, 2015 and February 27, 2015 (Halal Voges to Dana Bayuk).
- NW Natural's April 1, 2015 (Rob Ede to Dana Bayuk) *Summary of Agreements: Doane Creek Area Sampling*. NW Natural will initiate actions necessary to conduct this work once DEQ concurrence regarding the content of the Summary of Agreements is received.
- *Fill WBZ Trench Design Evaluation Report, Gasco/Siltronic*, prepared by Anchor QEA, dated April 8, 2015.

Should you have any questions, please contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Rob Ede", followed by a horizontal line.

Rob Ede, R.G.
Principal

robe@hahnenv.com

- c:
- Mr. Bob Wyatt, NW Natural (electronic only)
 - Ms. Patty Dost, Pearl Legal Group PC (electronic only)
 - Ms. Sarah Riddle, Pearl Legal Group PC (electronic only)
 - Mr. Carl Stivers, Anchor QEA, L.L.C. (electronic only)
 - Mr. John Edwards, Anchor QEA, L.L.C. (electronic only)
 - Mr. Ben Hung, Anchor QEA, L.L.C. (electronic only)
 - Mr. Ryan Barth, Anchor QEA, L.L.C. (electronic only)
 - Ms. Halal Voges, Anchor QEA, L.L.C., (electronic only)
 - Mr. Henning Larsen, DEQ NW Region (electronic only)
 - Mr. Tom Gainer, DEQ NW Region (electronic only)
 - Mr. Keith Johnson, DEQ NW Region (electronic only)
 - Mr. Myron Burr, Siltronic Corporation (electronic only)
 - Ms. Kristine Koch, Region 10 EPA (electronic only)
 - Mr. Sean Sheldrake, Region 10 EPA (electronic only)
 - Mr. Rene Fuentes, Region 10 EPA (electronic only)
 - Mr. Lance Peterson, CDM, Inc. (electronic only)