

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

May 15, 2014

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 Gasco Property, 7900 NW St. Helens 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 that have occurred relating to the Gasco property during the month of April 2014. NW Natural is completing upland investigatory activities at the subject property under the Voluntary Agreement No. ECVV-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

1.0 Communications and Document Submittals

In correspondence dated April 3, 2014 (Rob Ede to Dana Bayuk), HAI provided notice of pending field activities related to the installation of wells on the Siltronic property in accordance with the *DEQ-approved RI FSP for Monitoring Well Installations, Siltronic Corporation Property*, dated July 23, 2014.

In correspondence dated April 10, 2014 (John Edwards to Dana Bayuk), Anchor QEA, on behalf of NW Natural, transmitted to DEQ the *Data Report: Groundwater Source Control Extraction System Test - Phase 1 Step 4, NW Natural Gasco Site*, dated April 10, 2014. Hard copies were subsequently provided to DEQ in correspondence dated April 14, 2014 (John Edwards to Dana Bayuk).

In correspondence dated April 14, 2014 (Ben Hung to Dana Bayuk) NW Natural proposed that the standing Gasco Technical meeting for April be cancelled.

Program Management Implementation meetings were conducted with DEQ on April 3 and 17, 2014 to discuss the NW Natural program management and project schedules.

In correspondence dated April 15, 2014 (Dana Bayuk to Ben Uhl), DEQ provided approval of soil management and disposal protocols as described within a March 21, 2014 document related to a NW Natural pipeline excavation and repair project on the Gasco and Siltronic properties.

In correspondence dated April 24, 2014 (Dana Bayuk to Rob Ede), DEQ provided comments from review of NW Natural's March 14, 2014 correspondence regarding implementation of field sampling plans needed for completion of NW Natural's RI on the Siltronic property.

In correspondence dated April 28, 2014 (Dana Bayuk to Bob Wyatt), DEQ provided NW Natural with conditional approval and comments from review of NW Natural's *Fill WBZ Trench Investigation Work Plan, Gasco / Siltronic*, dated November 18, 2013.

In correspondence dated April 28, 2014 (Rob Ede to Dana Bayuk), HAI, on behalf of NW Natural, requested clarification related to the analyte list and screening criteria that will satisfy DEQ with regard to the Human Health and Ecological Risk Assessment for the Doane Creek area.

2.0 Field Work

Monitoring wells NWN-11-24, NWN-12-20, NWN-13-23; NWN-13-73, and NWN-13-106 were installed and developed by NW Natural between April 7 and May 1, 2014 as part of NW Natural MGP-related RI activities at the Siltronic property. Installation activities were conducted in accordance with the July 23, 2012 DEQ-approved field sampling plan.

Piezometers PZ9-5, PZ9-50, PZ9-75, PZ9-110, and PZ9-150 approved by DEQ for installation within the Willamette River as part of the HC&C Performance Monitoring Program were installed by NW Natural during the weeks of March 28 and April 7, 2014, with development occurring as river levels allow through the remainder of April and into May 2014.

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 April. The system recovered approximately 66 gallons of fluids, primarily DNAPL, during this time.

Tasks related to optimization of the hydraulic control and containment system and the wastewater treatment system were conducted in April 2014 with continued operation and testing.

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

- PW-01-80
- PW-2L
- MW-PW2L
- MW-38U

Discharge of treated water to the City of Portland sanitary sewer was initiated on March 16, 2007 under Industrial Wastewater Discharge Permit 500.022 (expires February 15, 2017). Results from NW Natural's effluent sampling are provided to BES in Discharge Monitoring Reports that are submitted for any month that effluent sampling occurs – which is at least quarterly in accordance with the permit. As of April 30, 2014 a total of 4,749,977 gallons of treated water have been discharged to the sanitary sewer in 2014, of which 2,454,723 gallons were treated groundwater from the LNG containment basin, with the remainder being treated groundwater from the source control extraction system.

On February 17, 2014, NW Natural began discharging treated groundwater from the source control extraction system to the river under National Pollutant Discharge Elimination System (NPDES) Permit No. 103061 (expires August 31, 2018). On March 31, 2014 NW Natural also discontinued discharges of treated groundwater from the LNG basin to the sanitary sewer, with all water being directed to NW Natural's on-site wastewater treatment plant followed by discharge to the Willamette River via permitted

outfall. 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 April 30, 2014 a total of 22,549,312 gallons of treated water were discharged under the NPDES permit.

The existing (now dormant) treatment system plumbed to the sanitary sewer as described in Industrial Wastewater Discharge Permit 500.022 will be maintained as a backup through at least May 2014, subsequent to which it is anticipated to be decommissioned and removed from the site.

3.0 Anticipated Activities May and June 2014

NW Natural and DEQ technical working group communications and meetings are anticipated to occur as needed during May and June 2014 to discuss ongoing project tasks.

Supplemental DNAPL investigation-related activities associated with the approved RI Field Sampling Plan are anticipated to be initiated by NW Natural during the referenced timeframe. Initiation of supplemental Doane Creek investigation activities remain contingent upon receipt of DEQ confirmation that the analyte list and screening levels are suitable for the Human Health and Ecological Risk Assessment.

Groundwater sampling activities as described within the Integrated Groundwater Monitoring Program (combined HC&C system Performance Monitoring and the Routine Monitoring Programs) will be completed on behalf of NW Natural in June by representatives of Anchor QEA and HAI. The scheduling of this sampling event could be affected by DEQ's May 8, 2014 request to add TPH to the groundwater analyte list. This request was part of agency comments on the draft Upland HERA report for the Gasco site.

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.

- *Gasco Upland Human Health and Ecological Risk Assessment Report*, dated October 24, 2013, Anchor QEA. (DEQ comments and conditional approval received May 8, 2014).
- NW Natural's April 28, 2014 responses to April 24, 2014 DEQ correspondence providing approval for implementation of Doane Creek and DNAPL Characterization field sampling plans related to NW Natural's RI on the Siltronic property. NW Natural has asked for DEQ feedback on the proposed analyte list and screening levels prior to implementation of the Doane Creek-related FSP.
- *Final Hydraulic Source Control and Containment System Groundwater Model Update Report*, dated March 25, 2014, Anchor QEA.
- *Data Report: Groundwater Source Control Extraction System Test - Phase 1 Step 4, NW Natural Gasco Site*, dated April 10, 2014, Anchor QEA.

Should you have any questions, please contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Rob Ede". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

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)
- 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. Chip Humphrey, Region 10 EPA (electronic only)
- Mr. Lance Peterson, CDM, Inc. (electronic only)