

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

December 17, 2012

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 November 2012. NW Natural is completing upland investigatory activities at the subject property 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

Several e-mails were exchanged between NW Natural and DEQ during the early November timeframe related to rescheduling the monthly project meeting. The meeting was rescheduled from November 19 to December 5 in order to accommodate attendee availability.

In e-mail correspondence dated November 13, 2012 (John Renda to Dana Bayuk), Anchor QEA provided an update on the Gasco source control well installation progress.

In e-mail correspondence dated November 13, 2012 (Rob Ede to Dana Bayuk), HAI transmitted the report entitled *Waste Disposal Characterization Results for Soil, Proposed Wastewater Treatment Plant Building Area, NW Natural Gasco Property, Portland, Oregon*, dated November 13, 2012.

In e-mail correspondence dated November 13, 2012 (John Renda to Dana Bayuk), Anchor QEA described an alternative method for borehole sealing below the NAPL funnel for extraction wells scheduled for installation.

In e-mail correspondence dated November 14, 2012 (Dana Bayuk to John Renda), DEQ provided confirmation of approval for the method for sealing the borehole below the well sump as described in the November 13 e-mail from Anchor QEA.

In e-mail correspondence dated November 16, 2012 (Rob Ede to Dana Bayuk), HAI transmitted the full NW Natural routine groundwater monitoring dataset to DEQ, updated through the Second Quarter of 2012.

In e-mail correspondence dated November 21, 2012 (Rob Ede to Dana Bayuk), as follow-up to a telephone conversation of the same date, HAI provided a copy of soil management protocols to DEQ as previously approved for use by NW Natural at the Gasco and Siltronic properties.

In e-mail correspondence dated November 26, 2012 (Rob Ede to Dana Bayuk) HAI notified DEQ of pending field activities related to the fourth quarter groundwater monitoring event. In e-mail correspondence the same date, DEQ acknowledged receipt of the notification.

In e-mail correspondence dated November 26, 2012 (Dana Bayuk to Ben Hung), DEQ provided comments related to review of various documents necessary for construction of source control, including: 1) Treatment System Building Permit and Footprint Soil Sampling Report, 2) Greenway Permit Exemption, 3) Site Development Plan, and 4) Treatment System "Notice of Intent to Construct".

In e-mail correspondence dated November 29, 2012 (Dana Bayuk to John Edwards), DEQ clarified their request for weekly progress reports as related to groundwater source control construction activities.

In e-mail correspondence dated November 29, 2012 (John Edwards to Dana Bayuk), Anchor QEA transmitted a draft agenda for the scheduled December 5, 2012 project meeting.

In e-mail correspondence dated November 29, 2012 (Ben Hung to Dana Bayuk), Anchor QEA provided NW Natural responses to DEQ's November 26, 2012 comments pertaining to the Treatment System Building Permit and the Building Footprint Soil Sampling Report.

In e-mail correspondence dated November 30, 2012 (Dana Bayuk to Ben Hung), DEQ provided concurrence that NW Natural has adequately addressed those DEQ comments and requests as included in their November 26, 2012 e-mail as related to the Treatment System Building Permit and the Building Footprint Soil Sampling Report.

2.0 Field Work

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 November. The system recovered approximately 7 gallons of fluids (primarily DNAPL) during November. Approximately 1.5 gallons of DNAPL were manually removed from well PW-01-80 during November.

Discharge of treated water (groundwater from the LNG containment basin) to the City of Portland sanitary sewer was initiated on March 16, 2007 under Temporary 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 November 28, 2012 a total of 8,793,915 gallons of treated water have been discharged to the sanitary sewer in 2012.

Groundwater level measurements were collected on November 28, 2012 as part of the NW Natural fourth quarter 2012 routine monitoring event at the Gasco and Siltronic properties.

Monitoring wells MW-27L, MW-27U, MW-29U, MW-30UMW-32U, MW-33U, MW-34L, MW-34U, MW-37U, MW-38U, and piezometer OW-5F were installed in November as part of the groundwater source control performance monitoring well network. Also, pumping wells PW-6L and PW-10L were installed in November.

3.0 Anticipated Activities in December 2012 and January 2013

NW Natural and DEQ technical working group communications and meetings are anticipated to occur as needed during December 2012 and January 2013 to work toward approval of proposed workplans and discuss ongoing project tasks.

Construction related activities associated with the groundwater source control system will be conducted during this timeframe. Permits for construction of the groundwater source control wastewater treatment plant building are expected to be approved by the City of Portland in December (permit received by NW Natural week of December 10, with building construction anticipated to commence shortly thereafter and will continue into the first quarter of 2013. Installation of the approved alluvium water-bearing zone extraction wells is also expected to continue into the first quarter of 2013.

DEQ is presently reviewing information related to the Beneficial Water Use Determination for the Alluvium Water-Bearing Zone at Gasco as discussed during May and June, 2012.

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.

- *Source Control Evaluation Report, "Segment 3" Siltronic Property Related to NW Natural "Gasco" Site*, February 19, 2009, Anchor QEA. Based on DEQ feedback, DEQ review of this document is prioritized behind reviews for Segments 1 and 2 Source Control Design documents and upland Risk Assessment-related reviews.
- *Final Stormwater Source Control Data Summary Report*, September 2010, Anchor QEA. Based on DEQ feedback, DEQ review of this document is prioritized behind reviews for Segments 1 and 2 source control design documents and upland risk assessment-related reviews.
- *Remedial Investigation Data Summary Report, Historical Manufactured Gas Plant Activities, Siltronic Corporation Property*, March 31, 2011, HAI. Based on DEQ feedback, it is understood that DEQ review is being conducted at this time, but the priority is lower than source control and risk assessment items.
- *Work Plan, Human Health and Ecological Risk Assessment, NW Natural Gasco Site, March 2012* (Anchor QEA, 2012).
- *Supplemental Remedial Investigation Field Sampling Activities, Doane Creek Embankment Soil and Sediment, Siltronic Corporation Property*, dated March 29, 2012 (HAI, 2012).
- *Supplemental Remedial Investigation Field Sampling Activities, DNAPL Characterization, Siltronic Corporation Property*, dated April 23, 2012 (HAI, 2012).
- *Discharge of Groundwater Monitoring Purge Water, NW Natural – Gasco Property*, dated May 24, 2012 (HAI, 2012).
- *Supplemental Remedial Investigation Field Sampling Activities, Groundwater Monitoring Well Installations, Siltronic Corporation Property*, dated July 23, 2012 (HAI, 2012).

Should you have any questions, please contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rob Ede', with a large, sweeping flourish at the end.

Rob Ede, R.G.
Principal

robe@hahnenv.com

- c: Ms. Sandra Hart, NW Natural (electronic only)
- 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. Tom McCue, 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)