



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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Electronic Copy

September 7, 2017

Mr. Robert Graham
18811 16th Ave S
SeaTac, WA 98188-5102

Re: Further Action at the following Site:

- **Site Name:** H&H Diesel Service Inc.
- **Site Address:** 407 Porter Way, Milton, Washington 98354 Pierce Co.
- **Facility/Site No.:** 89863773
- **Cleanup Site No.:** 4629
- **VCP Project No.:** SW1526

Dear Mr. Graham:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup at the H&H Diesel facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following Site contaminants of concern (COC[s]):

- 1) Total petroleum hydrocarbons (TPH) as gasoline (GRO) in soil and groundwater
- 2) TPH as diesel (DRO) in soil and groundwater
- 3) TPH as heavy oil (ORO) in soil and groundwater
- 4) Benzene, toluene, ethylbenzene, and total xylenes (BTEX) in soil and groundwater
- 5) Naphthalenes in soil and groundwater

- 6) 1,3,5-Trimethylbenzene in groundwater
- 7) Arsenic in soil and groundwater
- 8) Lead in soil and groundwater
- 9) Cadmium in groundwater
- 10) Chromium in soil and groundwater

Enclosure A includes copies of pertinent email correspondence. For a Site description and additional information, please see Ecology's further action opinion letter, dated February 28, 2017, and the references contained therein.

Please note the parcel(s) of real property associated with this Site are also located within the projected boundaries of the Tacoma Smelter Plume facility (#FSID 62855481). At this time, Ecology has no information that those parcel(s) are actually affected. This opinion does not apply to any contamination associated with the Tacoma Smelter Plume facility.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Associated Environmental Group, LLC (AEG), *Work Plan & Request for Opinion*, dated June 28, 2017.
2. Email correspondence, from Mr. Tim Mullin, Ecology, to Mr. Scott Rose, AEG, dated Thursday, May 11, 2017.
3. Email correspondence, from Mr. Tim Mullin, Ecology, to Mr. Scott Rose, AEG, dated April 6, 2017.
4. Ecology, *RE: Further Action at the following Site*, dated February 28, 2017.
5. Associated Environmental Group, LLC (AEG), *Remedial Action Report*, dated April 26, 2016.

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is not sufficient to establish cleanup standards and select a cleanup action. AEG proposes a work plan to address the comments provided by Ecology's Further Action opinion dated February 28, 2017 and to complete the remedial investigation (RI) at the Site.

After reviewing the work plan, Ecology generally concurs with the proposed investigation. Ecology has the following comments:

1. Based on Figure 1 in AEG's *Work Plan & Request for Opinion*, it appears the Site is under re-development.
 - a. Please indicate current Site use.
 - b. Identify where surface cover at the Site has changed.
 - c. Provide anticipated changes to future Site use (if any).
 - d. Please provide documentation if any soils were disposed of off-Property related to the Site re-development, including any sampling results.
2. In the February 28, 2017 further action opinion letter, Ecology requested locating the outfalls for the stormwater system as well construction details for the catch basins at the Site.
 - a. Ecology recommends available stormwater system details be reviewed prior to implementing this work plan.
 - b. The locations of the stormwater outfalls may be of importance for the Site in terms of potential release points. If any odor, sheen, staining, seep, or other indication of contamination is present in association with any stormwater outfall, Ecology recommends sampling at the point of the outfall and downstream of the outfall for Site COCs.
 - c. During Site re-development, if any previously unknown Site features (e.g., catch basins, oil-water separators, concrete pads) were encountered, Ecology recommends evaluating soil and groundwater in these locations for Site COCs.
3. When installing borings or wells near the Property boundaries, Ecology recommends making observations in the low lying areas adjacent to the Property regarding odor, sheen, staining, seeps, or any other indication of contamination related to the areas being evaluated by this work plan.

- 6) 1,3,5-Trimethylbenzene in groundwater
- 7) Arsenic in soil and groundwater
- 8) Lead in soil and groundwater
- 9) Cadmium in groundwater
- 10) Chromium in soil and groundwater

Enclosure A includes copies of pertinent email correspondence. For a Site description and additional information, please see Ecology's further action opinion letter, dated February 13, 2017, and the references contained therein.

Please note the parcel(s) of real property associated with this Site are also located within the projected boundaries of the Tacoma Smelter Plume facility (#FSID 62855481). At this time, Ecology has no information that those parcel(s) are actually affected. This opinion does not apply to any contamination associated with the Tacoma Smelter Plume facility.

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2. Email correspondence, from Mr. Tim Mullin, Ecology, to Mr. Scott Rose, AEG, dated Thursday, May 11, 2017.
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Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

This opinion is void if any of the information contained in those documents is materially false or misleading.

4. Comparing the parts washing location on AEG's work plan figure 2 and on Columbia's 1996 Site plan, the former parts washing location may have been slightly west of where currently projected. Proposed soil boring B-14 likely needs to be adjusted to the west/northwest.
5. In addition to the proposed soil and groundwater sampling at B-14, Ecology recommends sampling for ethylene glycol (to assess potential antifreeze).
6. There does not appear to be a boring between former test pit TP-3 and the Property boundary to the west or southwest (inferred downgradient direction). Ecology suggests installing a third boring in this area to the south or southwest of TP-3 and sampling for arsenic in soil as in borings B-16 and B-17.
7. Ecology acknowledges that the purpose of monitoring well MW-9 is to determine if an arsenic plume in groundwater is encroaching from an off-Property source. Ecology concurs with AEG's proposed sampling of soil and groundwater for monitoring well MW-9.
 - a. Should it be demonstrated that arsenic cannot be attributed to an off-Property source, arsenic in groundwater at the Site would still require delineation as identified in Ecology's February 28, 2017 further action opinion letter.
8. Per page 10 and 11 of the February 28, 2017 further action opinion letter, Ecology requested pentachlorophenol along with phenol sampling in groundwater for existing and new Site monitoring wells. Pentachlorophenol does not appear in Table 1 of AEG's work plan.
 - a. Please call out pentachlorophenol separately, even if the intent was to include it as part of the phenols analysis.
 - b. Please sample pentachlorophenol and phenols in groundwater from AEG MW-2 as well as any other accessible Site monitoring wells not listed in the work plan table.
9. Per the February 28, 2017 further action opinion letter, dissolved lead in groundwater should be sampled until four quarters are less than MTCA Method A cleanup levels. Two additional quarterly monitoring events for dissolved lead are proposed in the work plan and though this may prove to be the case, please be aware it may take more than two additional events, depending upon groundwater analytical results.
10. For the waste oil suite, per email correspondence dated April 6, 2017, one quarter of groundwater sampling would be required if all contaminants of concern were non-detect. Additional sampling for the waste oil suite may be required, depending on the nature of any detections.
11. Ecology has agreed that only one additional groundwater sampling event for 1,3,5-trimethylbenzene is necessary provided the concentration is less than the MTCA Method B cleanup level.

12. For the vapor sampling, Ecology has the following comments:
 - a. Ecology concurs with sampling air/vapor at the Site for VOCs and APH.
 - b. Based on the location of HS-1 3' and depiction of the remaining petroleum contamination, it appears that the soil vapor probe location as proposed in the southeastern corner of the main building may be insufficient to evaluate soil gas.
 - c. Based on figures provided to Ecology, it appears that the in place gasoline in soil contamination is closer to the northeastern corner of the building, and the sub-slab soil gas sample should be collected as close to the remaining soil contamination as possible.
 - d. Consider if the concrete vault or utilities in the area of the former excavation may create preferential or unexpected pathways for vapor intrusion. Additional subsurface soil gas probe(s) may be necessary to evaluate preferential pathways.
 - e. Ensure the summa canisters arrive at the laboratory with a vacuum (or as prescribed by the laboratory).
 - f. Record the barometric pressure and weather conditions during the sampling event.
 - g. Carefully consider placement of the summa canisters for the indoor air and ambient air locations in order to collect the most representative sample possible (not beneath open windows, at open doors, close to any running trucks, etc.).
 - h. Ecology suggests sampling at a time the facility is not operating in order to avoid cross-contamination related to diesel exhaust or other emissions from operations.
 - i. Air/vapor results should be compared to MTCA Method B screening levels for initial screening purposes.
 - j. See Appendix C in Ecology Publication No. 09-09-047, *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* for additional sampling recommendations.
13. Revise figure 2 to indicate that monitoring well MW-8 is proposed and not an already installed monitoring well by ADAPT.
14. AEG indicated to Ecology via email correspondence on May 11, 2017, that monitoring well MW-1 (AEG MW-1) had been paved over.
 - a. Ecology responded that this monitoring well should be found and properly decommissioned per WAC 173-160.
 - b. Per RCW 18.104.050, well logs are due to Ecology within 30 days after a decommissioning event.
 - c. As part of the reporting for this investigation, please provide an update on which wells are present at the Site and which cannot be found or have been destroyed.

- d. Ecology indicated in email correspondence that groundwater sampling at AEG MW-2 would be sufficient to determine current metals concentrations in groundwater for both AEG MW-1 and AEG MW-2. These wells are situated adjacent to sampling at former test pits TP-2 (AEG MW-1) and TP-3 (AEG MW-2), which had exceedances of the MTCA Method A cleanup levels in groundwater for metals sampled.
 - e. While MW-1 can be decommissioned per Ecology correspondence, any other monitoring well which has been destroyed by paving should be found, properly decommissioned, and reinstalled.
- 15. Ecology concurs with the use of low flow groundwater sampling methodology at the Site.
 - 16. Any contamination attributed to the Site must be delineated per WAC 173-340-350(7)(c)(iii).
 - 17. Update the Conceptual Site Model (CSM) with the results of this investigation.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

To date, analytical results have been compared to the MTCA Method A and B cleanup levels for soil and groundwater. Though MTCA Method A and B cleanup levels may be used for the site, Ecology recommends evaluating each pathway for the Site and establishing final cleanup levels for the Site as part of the RI and feasibility study (FS) process.

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site does not meet the substantive requirements of MTCA.

AEG requested “...assurance from Ecology, via a ‘Likely No Further Action’ letter, that there is a clear path forward to NFA with an Environmental Covenant and long-term monitoring (as was originally proposed) should no additional contamination be identified as part of the sampling proposed in this work plan.”

The original proposal refers to an Environmental Covenant (EC) statement presented in AEG’s *Remedial Action Report*, dated April 26, 2016.

Ecology interprets the request for “assurance” to be requesting a guarantee.

As additional data remains to be collected in order to work towards completing the remedial investigation for the Site, Ecology cannot guarantee that an EC will be sufficient as the cleanup alternative for this Site. However, this does not mean that an EC cannot be used for the Site; it means other requirements must be met prior to consideration of an EC.

If investigation results indicate additional delineation or evaluation is needed in order to complete the remedial investigation, Ecology recommends collecting these additional data to fill in data gaps prior to finalizing a RI/FS report.

If the results of the proposed investigation are sufficient to demonstrate that all Site COCs are aerally and vertically defined for all affected media, all pathways have been sufficiently evaluated, and Site characterization is complete, then provide a new RI/FS report with an updated disproportionate cost analysis (DCA). A successful FS/DCA would demonstrate that the costs of the permanent remedial action are disproportionate to the benefits where the incremental costs of the [permanent] alternative over that of a lower cost alternative (e.g., an EC) exceed the incremental degree of benefits achieved by the [permanent] alternative over that of the lower cost alternative (see WAC 173-340-360[3][e][i]). Consider those cleanup actions which follow the requirements of WAC 173-340-360. Any selected cleanup action must determine a reasonable restoration time frame for Site COCs per WAC 173-340-360(4). Selecting a non-permanent cleanup action for groundwater may have additional requirements per WAC 173-340-360(2)(c)(ii).

Where Site COCs in groundwater have been detected, it is Ecology's opinion that four consecutive groundwater monitoring events¹ (typically four consecutive quarterly groundwater monitoring events) of Site COC concentrations in groundwater at less than the established cleanup levels for the Site at standard points of compliance are necessary to meet the requirements of WAC 173-340-360. These four events would need to be completed prior to implementing any potential EC at the Site. The long term monitoring component for the EC is to ensure that risks remain reduced, ensure the remedy selected for the Site is protective, and to determine if re-contamination occurs. Based on sampling results to date, arsenic is potentially the exception to the four consecutive groundwater monitoring event requirement prior to implementation of an EC at this Site. Arsenic may still exceed MTCA cleanup levels after implementation of a potential EC, pending the results of a RI/FS/DCA.

For reference, the administrative process regarding establishing an EC is discussed in Ecology publication No. 15-09-054, *Procedure 440A: Establishing Environmental Covenants under the Model Toxics Control Act*.

- <https://fortress.wa.gov/ecy/publications/documents/1509054.pdf>

¹ Section 10.3 from Ecology publication No. 10-09-057, *Guidance for Remediation of Petroleum Contaminated Sites*.

For guidelines on information to include in an RI, FS, or CAP, please see Ecology's checklists:

- RI: <https://fortress.wa.gov/ecy/publications/SummaryPages/1609006.html>
- FS: <https://fortress.wa.gov/ecy/publications/SummaryPages/1609007.html>
- CAP: <https://fortress.wa.gov/ecy/publications/SummaryPages/1609008.html>

4. Cleanup.

Ecology has determined the cleanup you performed does not meet any cleanup standards at the Site.

To date, interim cleanup activities at the Site have included the following:

- Multiple onsite and offsite investigations.
- Installation of groundwater monitoring wells.
- Excavation and off-Site disposal at an approved facility of 815 tons of petroleum contaminated soil.
- Placement of oxygen reduction compound in the excavation pit before backfilling.
- Installation of a permeable membrane filter to augment biologically driven degradation of petroleum hydrocarbons and prevent contamination of clean fill.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action.

This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at 360-407-6265 or e-mail at Tim.Mullin@ecy.wa.gov.

Sincerely,



Tim Mullin, LG
SWRO Toxics Cleanup Program

tcm: kb

Enclosures (1): A – Email Correspondence

By Certified Mail: [91 7199 9991 7037 7496 0425]

cc: Scott Rose, AEG
Rob Olsen, TPCHD
Nick Acklam, Ecology
Stephanie Bussell, Ecology

Enclosure A

Email Correspondence

From: Scott Rose
To: Mullin, Tim (ECY)
Subject: RE: H&H Diesel Meeting Follow Up - Thank You
Date: Thursday, May 11, 2017 3:19:46 PM

Understood.



Scott Rose, L.H.G.

Senior Hydrogeologist
Associated Environmental Group, LLC
605 11th Avenue SE, Suite 201
Olympia, WA 98501
P. 360-352-9835
C. 360-890-2205
F. 360-352-8164
srose@aegwa.com

From: Mullin, Tim (ECY) [mailto:TMUL461@ECY.WA.GOV]
Sent: Thursday, May 11, 2017 3:17 PM
To: Scott Rose <srose@aegwa.com>
Subject: RE: H&H Diesel Meeting Follow Up - Thank You

You're welcome. I should also mention that the paved over AEG MW-1 will need to be located and properly decommissioned, presuming it is unsalvageable after the paving. Not necessarily as part of the scope of work for this work plan, but a requirement for which Mr. Graham should be aware.

From: Scott Rose [mailto:srose@aegwa.com]
Sent: Thursday, May 11, 2017 3:12 PM
To: Mullin, Tim (ECY) <TMUL461@ECY.WA.GOV>
Subject: RE: H&H Diesel Meeting Follow Up - Thank You

Got it, thanks again Tim!



Scott Rose, L.H.G.

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From: Mullin, Tim (ECY) [<mailto:TMUL461@ECY.WA.GOV>]
Sent: Thursday, May 11, 2017 3:05 PM
To: Scott Rose <srose@aegwa.com>
Subject: RE: H&H Diesel Meeting Follow Up - Thank You

- 1) Based on ADAPT's 2001 test pit groundwater data the concentrations of metals in test pit TP-3 were greater than those in TP-2. So if only monitoring well AEG-MW-2 (which was approximately at the location of ADAPT's test pit TP-3) is still present at the Site, and AEG-MW-1 has been destroyed by paving, then sampling for total and dissolved arsenic, cadmium, chromium, and lead at only AEG-MW-2 is sufficient. Any report to Ecology would need to detail these circumstances.
 - a. Is the Site undergoing development? Ecology's most recent information is that the Site is covered mostly with gravel.
- 2) Ecology concurs with advancing the one boring (**not** finishing as a monitoring well) in the former parts washing area. The first sampling event may be the only sampling event, depending on if analytical results are less than CULs (e.g., closer to the laboratory PQLs). It is possible that Ecology would concur that no additional characterization would be needed in the parts washer area after advancing a single boring, but will have to see the analytical data from the soil boring to make a final determination. If necessary, can review the need for additional characterization for soil and groundwater on an analyte specific basis.
 - a. For groundwater sampling, recommend using low flow sampling methodology and purging groundwater until clear or parameters stabilize with low turbidity (if have a field meter) to ensure a representative groundwater sample.

From: Scott Rose [<mailto:srose@aegwa.com>]
Sent: Thursday, May 11, 2017 2:20 PM
To: Mullin, Tim (ECY) <TMUL461@ECY.WA.GOV>
Subject: RE: H&H Diesel Meeting Follow Up - Thank You

Hi Tim,

Thank you for taking the time to provide the below information. Two follow-up questions:

- Upon receipt and review of the ADAPT report, it seems AEG-MW-1 & AEG-MW-2 correspond with ADAPT test pits TP-2 and TP-3, respectively. However, it seems AEG-MW-1 was inadvertently recently paved over, and cannot be located. Would sampling of the GW from AEG-MW-2 for those metals in question suffice to show they're not present and their detection in the ADAPT samples was likely due to suspended solids in their samples? ADAPT collected water samples from open test pits, which are not really representative GW

samples, and one would expect them to have naturally occurring metals in them. We are not seeing sources of these metals elsewhere at the site (hence Ecology's willingness to forego further sampling for them throughout the majority of the Site).

- RE: response 2.a.ii., you note the "first sampling event in the parts washer area". AEG did not intend to install a well in this area as no release has ever been documented in this area. Ecology's letter indicated the need to sample this area but did not require a well be installed. We can do both total and dissolved metals; however, if total metals are detected but are non-detect in dissolved (although not anticipated for arsenic), AEG would conclude no further sampling in this area would be warranted (presuming nothing else exceeded CULs). Do you concur?

Thanks again!



Scott Rose, L.H.G.

Senior Hydrogeologist

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srose@aegwa.com

From: Mullin, Tim (ECY) [<mailto:TMUL461@ECY.WA.GOV>]

Sent: Thursday, May 11, 2017 1:37 PM

To: Scott Rose <srose@aegwa.com>

Subject: RE: H&H Diesel Meeting Follow Up - Thank You

Ecology's response to the inquiry below regarding SW1526, the H&H Diesel Site:

AEG emailed Ecology on May 2, 2017, requesting clarification regarding the following items for a work plan proposal for VCP project SW1526, the H&H Diesel Site, located at 407 Porter Way, in Milton, Pierce County, Washington. Ecology issued a further action opinion for this Site, dated February 13, 2017. AEG's inquiries are indicated in *italics*.

Determinations made by Ecology in this correspondence are Site-specific for SW1526, and may be modified if new Site information is presented which indicates the presence of hereto unidentified contamination at the Site.

Based on an email from AEG to Ecology on May 9, 2017, it is not anticipated that a work plan will be

provided to Ecology for comment prior to field implementation. Though work plan review and concurrence is not required in the Voluntary Cleanup Program, without such a review, Ecology cannot concur prior to implementation that the scope of work presented in the work plan is sufficient to address all additional Site characterization needs identified in Ecology's February 13, 2017 opinion.

Can we eliminate mercury, cadmium, and chromium from further sampling at the Site?

a. Ecology response: In limited circumstances.

- i. Per Ecology's further action opinion letter dated February 13, 2017, cadmium and mercury do not need to be sampled any more in soil (page 8).
- ii. Mercury can be eliminated from additional groundwater sampling at the Site.
- iii. Per Ecology's further action opinion letter dated February 13, 2017, cadmium is requested for groundwater confirmatory sampling at the former ADAPT test pits TP-2 and TP-3 (page 12).
- iv. Chromium (along with arsenic and lead) should be sampled for in soil at the former parts washing location. No additional chromium in soil sampling is required outside of the former parts washing area.
- v. Chromium should be sampled in groundwater at the former parts washing location, as well as for the purposes of confirmatory sampling at the former ADAPT test pits TP-2 and TP-3.
- vi. However, mercury, cadmium, and chromium can't be completely eliminated from consideration the Site. Though unlikely, mercury, cadmium, and chromium may still be necessary sampling in surface water and/or sediment if contamination related to the Site is identified in the wetland northeast of the Site, in Hylebos Creek, somewhere else off-Site. Sampling for these three metals may also be necessary if the revised terrestrial ecological evaluation (TEE) indicates mercury, cadmium, and/or chromium are ecological indicators of concern.

For GW, can we just do dissolved metals (i.e., lead & arsenic), and eliminate total metals?

a. Ecology response:

- i. Only dissolved arsenic and lead in groundwater is sufficient in the vicinity of the main Site building. Sampling for total metals in groundwater may be eliminated in this area. Monitoring wells in this area are ADAPT MW-2, MW-4, MW-5, and MW-6.
- ii. Total and dissolved metals (arsenic, chromium, and lead) are requested at least for the first sampling event in the former parts washing area. It is important to establish a baseline set of results in the former parts washing area. After the first sampling event, review and evaluate the metals data in groundwater, as total metals in groundwater may not be necessary after the first event. Justification for dropping sampling for total metals in groundwater should follow WAC 173-340-

720(9)(b).

- iii. Total and dissolved metals (arsenic, cadmium, chromium, and lead) in groundwater are also requested for the confirmatory sampling event related to ADAPT's test pit TP-2 and TP-3 total metals sampling, as identified in the February 13, 2017 further action opinion letter (page 12).

Sampling for 1,3,5-trimethylbenzene, phenols (including PCP), PAHS, and PCBs are only needed in groundwater, not soil, correct?

a. Ecology response:

- i. Consistent with the February 13, 2017 opinion letter, phenols, pentachlorophenols (PCP), cPAHs, and PCBs are only requested for groundwater and not soil (pages 8 and 10).
- ii. 1,3,5-trimethylbenzene does not need to be sampled for in soil. Eliminating 1,3,5-trimethylbenzene for analysis in soil is a revision to the February 13, 2017 further action opinion letter, which requested 1,3,5-trimethylbenzene sampling in shallow soils for any wells installed west or southwest of the main Site building (page 7).
- iii. 1,3,5-trimethylbenzene would be included in any full list volatile organic compounds (VOCs) analysis for soil. As far as Ecology is aware, the inclusion of 1,3,5-trimethylbenzene in the full list VOCs analysis for soil does not impact the unit cost.

One more thing... On page 7 of your opinion, you reference an ADAPT sample location that exceeded for arsenic. I cannot seem to find a copy of this report. Do you have access to it (or at least the tables/figures) you could email me? Or ask Susie to scan and email me a copy?

- 1) Ecology response: An electronic copy of LSI-ADAPT's 2001 *Limited Phase II Environmental Site Assessment* (dated July 27, 2001) was provided to AEG by Susie Baxter of Ecology's Central Files of the Southwest Regional Office.

From: Scott Rose [mailto:srose@aegwa.com]

Sent: Tuesday, May 02, 2017 1:14 PM

To: Mullin, Tim (ECY) <TMUL461@ECY.WA.GOV>

Subject: RE: H&H Diesel Meeting Follow Up - Thank You

Hi Tim,

Thanks for the chat, and again, didn't mean to put you on the spot. As a follow-up to the below, please confirm the following:

- Can we eliminate mercury, cadmium, and chromium from further sampling at the Site?
- For GW, can we just do dissolved metals (i.e., lead & arsenic), and eliminate total metals?
- Sampling for 1,3,5-trimethylbenzene, phenols (including PCP), PAHS, and PCBs are only needed in GW, not soil, correct?

Thanks!



Scott Rose, L.H.G.

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From: Scott Rose

Sent: Wednesday, April 05, 2017 4:38 PM

To: 'Mullin, Tim (ECY)' <TMUL461@ECY.WA.GOV>; Acklam, Nicholas (ECY) <nack461@ECY.WA.GOV>

Cc: 'Rob Graham' <rob@grahamtrucking.com>; Michael Chun <mchun@aegwa.com>; Shawn Lombardini <slombardini@aegwa.com>

Subject: H&H Diesel Meeting Follow Up - Thank You

Hi Tim/Nick,

Thanks again for taking the time to meet today to discuss the site and outline a path for collecting the needed additional data to pursue closure with an environmental covenant and long-term monitoring. Some of the items we discussed included the following:

- Soil/groundwater data is needed (via soil boring) in the area of the reported parts washer on the south side of the property to confirm whether a release may have occurred in this area.
- Soil/groundwater data is needed (via soil boring) in the vicinity of AEG test pit TP-3 to confirm whether toluene is still present above MTCA cleanup levels.
- A monitoring well is needed along the upgradient property boundary to determine whether the presence of arsenic in groundwater throughout the site is from another source.
- A monitoring well is needed west of the building, near the western property boundary, to monitor for potential impacts to groundwater downgradient of contamination left in place beneath the building. A Rose Diagram should be generated to illustrate seasonal groundwater flow direction variations, and to justify whether MW-6 is sufficiently located vs. needing a second well to the southwest of the building.
- Groundwater needs to be evaluated for any Table 830-1 constituents for Waste Oil not previously analyzed for, including PAHs, PCBs, phenols, and pentachlorophenol. If non-

detect, no further sampling for these constituents would be needed.

- Due to the detection of 1,3,5-trimethylbenzene, additional monitoring events should include analysis for this constituent.
- Ecology would consider whether four quarters of monitoring was needed for all constituents before an NFA can be issued given that this site will be performing post-closure groundwater monitoring on some frequency. The results of the next round of data collected as noted above should aid in this consideration.
- AEG will provide the revised figures and tables as requested in the opinion letter, as well as address the other information requests as available.

Please let me know whether I've overlooked or misinterpreted anything. As always, we understand the devil is in the details but this gives us a starting point, and we'll see what the data shows.

Thanks!



Scott Rose, L.H.G.

Senior Hydrogeologist

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Olympia, WA 98501

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srose@aegwa.com

From: Acklam, Nicholas (ECY)
To: Mullin, Tim (ECY); Scott Rose
Cc: "Rob Graham"; Michael Chun; Shawn Lombardini
Subject: RE: H&H Diesel Meeting Follow Up - Thank You
Date: Thursday, April 06, 2017 8:02:52 AM

Thank you for the summary Scott. I don't have anything to add.

Nick

From: Mullin, Tim (ECY)
Sent: Thursday, April 06, 2017 7:15 AM
To: Scott Rose <srose@aegwa.com>; Acklam, Nicholas (ECY) <nack461@ECY.WA.GOV>
Cc: 'Rob Graham' <rob@grahamtrucking.com>; Michael Chun <mchun@aegwa.com>; Shawn Lombardini <slombardini@aegwa.com>
Subject: RE: H&H Diesel Meeting Follow Up - Thank You

Based on our meeting on 4/5/17, I concur with the points below.

Nick – do you have anything additional?

From: Scott Rose [<mailto:srose@aegwa.com>]
Sent: Wednesday, April 05, 2017 4:38 PM
To: Mullin, Tim (ECY) <TMUL461@ECY.WA.GOV>; Acklam, Nicholas (ECY) <nack461@ECY.WA.GOV>
Cc: 'Rob Graham' <rob@grahamtrucking.com>; Michael Chun <mchun@aegwa.com>; Shawn Lombardini <slombardini@aegwa.com>
Subject: H&H Diesel Meeting Follow Up - Thank You

Hi Tim/Nick,

Thanks again for taking the time to meet today to discuss the site and outline a path for collecting the needed additional data to pursue closure with an environmental covenant and long-term monitoring. Some of the items we discussed included the following:

- Soil/groundwater data is needed (via soil boring) in the area of the reported parts washer on the south side of the property to confirm whether a release may have occurred in this area.
- Soil/groundwater data is needed (via soil boring) in the vicinity of AEG test pit TP-3 to confirm whether toluene is still present above MTCA cleanup levels.
- A monitoring well is needed along the upgradient property boundary to determine whether the presence of arsenic in groundwater throughout the site is from another source.
- A monitoring well is needed west of the building, near the western property boundary, to monitor for potential impacts to groundwater downgradient of contamination left in place beneath the building. A Rose Diagram should be generated to illustrate seasonal groundwater flow direction variations, and to justify whether MW-6 is sufficiently located

vs. needing a second well to the southwest of the building.

- Groundwater needs to be evaluated for any Table 830-1 constituents for Waste Oil not previously analyzed for, including PAHs, PCBs, phenols, and pentachlorophenol. If non-detect, no further sampling for these constituents would be needed.
- Due to the detection of 1,3,5-trimethylbenzene, additional monitoring events should include analysis for this constituent.
- Ecology would consider whether four quarters of monitoring was needed for all constituents before an NFA can be issued given that this site will be performing post-closure groundwater monitoring on some frequency. The results of the next round of data collected as noted above should aid in this consideration.
- AEG will provide the revised figures and tables as requested in the opinion letter, as well as address the other information requests as available.

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Thanks!



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