GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Land Protection Branch
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Suite 1054, East Tower
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404-657-8600

June 19, 2016

Mr. Joe Renzetti
Roper Pump Company
3475 Old Maysville Road
Commerce, GA 30529

Re: Semi-Annual VRP Progress Reports
April 2016 – April 2017, HSI # 10901
Roper Pump Company
Commerce, Jackson County

Dear Mr. Renzetti:

The Environmental Protection Division (EPD) has received the following reports and correspondence (hereinafter referred to as reports) that have been submitted pursuant to the Georgia Voluntary Remediation Program (VRP) Act, O.C.G.A. 12-8-100, on behalf of Roper Pump Company (Roper), in Commerce, Jackson County:

1) by Environmental Planning Specialists, Inc. (EPS):
   a) April 2016 Semi-Annual Progress Report No. 2,
   b) October 2016 Semi-Annual Progress Report No. 3,
2) by Wenck Associates, Inc. (Wenck):
   a) April 2016 Semi-Annual Progress Report No. 4.

After completing a review of these reports, EPD has prepared the following comments:

1) The Conceptual Site Model (CSM) is incomplete. EPD requests Roper to address the following issues:
   a) In the most recent Progress Report (by Wenck), it was noted, "[a]ccording to the December 2014 VRP Application, investigations to produce data to characterize the bedrock at the Site have not been conducted." Additionally, EPD is aware that in conducting the Groundwater Pilot Test discussed in Section 5.0 of that report, Wenck found that the saprolite may be more stratified than previously thought. Adding in the fact that there may be a variance in the contamination found in wells utilized in the CSM based upon the direction and distance from the center line represented in the Cross Section Locations (Figure No. C-1, April 2016 Progress Report), EPD concurs with Roper's and Wenck's proposal to update the CSM.
   b) Additional groundwater plume characterization is required at the following locations in order to complete both the CSM and the vertical groundwater delineation requirements in accordance with Section 12-8-108 of the VRP Act:

i) Due to the groundwater impacts at varying depths and the potential for DNAPL to exist at the site, vertical characterization proximal to and downgradient of the area classified as containing potential source material, specifically around MW-7 and boring B-10.

ii) Explain the fluctuation in tetrachloroethene (PCE) and trichloroethene (TCE) values recently found along the line of wells consisting of MW-13D, MW-15D, MW-8, and MW-17. In particular, EPD observes high PCE and TCE concentrations in MW-17, a well screened in the shallow aquifer, with the immediately upgradient, shallow well MW-8 having concentrations of less than an order of magnitude in comparison. MW-13D and MW-15D, both upgradient of MW-17 and MW-8, are deep wells, are closer to the suspected source of TCE and PCE, and have the highest and third highest PCE and TCE concentrations at the site (See Table 2, April 2016 Progress Report).

c) EPD reminds Roper to update the two cross sections to include actual rather than projected data. In addition, the cross sections should, at a minimum, contain the following:

i) Soil classifications and descriptions within the "residuum soil,";

ii) Lateral and vertical extent of previous excavations;

iii) Soil vapor extraction (SVE) system components;

iv) Drainage/utility conduits and/or preferential pathways; and

v) Soil borings/sample locations where applicable.

Particular care should be taken in identifying any preferential migration pathways that may exist within the overlying soil formations and associated bedrock material(s).

If additional information is gathered, capable of explaining the variance in the contamination found in CSM wells based upon the direction and distance from the center line represented in the Cross Section Locations (Figure No. C-1, April 2016 Progress Report), consider splitting the A-A' and/or B-B' lines.

2) Progress has been made in completing the site's Risk Assessment; however, additional clarification is needed:

a) In Progress Report No. 2, prepared by EPS, Roper's response regarding the partitioning coefficient value for total chromium and EPD's Comment No. 8, in its January 5, 2016 comment letter, has been adequately addressed;

b) Only total chromium was addressed in Roper's response to Comment No. 7, contained in the same January 2016 letter from EPD. Therefore, it is unclear whether all other substances had leachability values that were based upon a DAF of 1 or 20[1]. Please update future reports to indicate the applicable RRS showing the applicable DAF utilized.

3) EPD's review indicates issues with the past groundwater data, and concerns about whether it is representative of groundwater quality at the site:

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[1] In its January 2016 comment, EPD concured with the use of a DAF of 1 in SSL calculations for the following constituents: 1,1,1,2-tetrachloroethane, 1,1,2-trichloroethane, benzene, cis-1,2-DCE, PCE, TCE, and hexavalent chromium. The use of a DAF of 20 for the remaining COCs was acceptable to EPD; however, EPD requested updated future reports to provide one table indicating the applicable RRS (and the DAF used to calculate the RRS) rather than providing multiple tables based on both a DAF of 1 and a DAF of 20.

a) In its review of wells installed by EPS, an atypical pattern of varying well screen lengths was observed. There is no discussion of the reason why. Typically, wells are installed with the same screen length, most usually 10 feet. Variances in screen lengths such as present at Roper may result in sampling results not being representative of true groundwater quality. Please address this in the narrative, and unless a reason is approved by EPD beforehand, install 10-foot screens in any future wells;

b) In its January 5, 2016 comment letter, EPD recommended the use of nested wells when installing the proposed additional vertical groundwater delineation wells. More specifically, consideration should be given to designing a well that is screened not only at the partially weathered rock/bedrock interface, but also across the residuum/partially weathered rock interface, as there appears to be a spike in the boring log PID readings at this approximate depth interval in and around the suspected source area(s). In addition, information should be provided in future reports to demonstrate the vertical hydraulic gradient and the interconnectivity of the water bearing fractures within the bedrock. To date, no response has been made to these comments.

c) EPS's Well Sampling Logs indicate several wells with water levels from the top of casing in excess of 25 feet and MW-17, MW-18 and MW-19 in excess of 32 feet. The sampling logs, however, are not clear on whether peristaltic pumps were employed, or downhole submersible pumps[2]. These water levels are at or exceed the practical lifting capacity of peristaltic pumps and, if peristaltic pumps were used, may have adversely impacted VOC concentrations. Conversely, if a downhole pump was used with a "soda straw" method of sampling, this too may have impacted the VOC concentrations.

   Please address this in the narrative, and unless a reason is provided to EPD to justify the capacity of the specific pumps utilized, change the pumps and/or methods utilized for purging and sampling to be in accordance with the March 2013 USEPA Region 4 SESD Groundwater Sampling Procedure SESDPROC-301-R3.

d) EPS's Well Sampling Logs indicate that groundwater sampling was performed following low flow/low stress protocols. However, the use of these procedures is acceptable only when the site hydrogeology is well understood, with respect to the hydraulic conductivity of geologic materials within the well screen interval. Given the variances in screen lengths mentioned above, and never discussed in previous submissions, please discuss the appropriateness of the use of these procedures with this site's unique hydrogeology.

e) While Wenck has not submitted any sampling results for work it has performed, EPS failed to provide complete sampling information on the field sampling reports to document the sampling in accordance with the March 2013 USEPA Region 4 SESD Groundwater Sampling Procedure SESDPROC-301-R3. Please ensure all future field sampling reports include total well depth, screen lengths, depth of the pump intake, final purge volume, and the type of materials used during sampling (i.e. Teflon), as well as that the Chemical Parameter Stabilization Criteria is consistent with Section 3.2.1.1.2 of that procedure.

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[2] For instance, in Section 3.2.2 of the October 2016 Progress Report, the narrative states that a downhole pump was used in MW-18 along with direct sampling from the tube [for volatile organic compounds (VOCs)]. The narrative also states a peristaltic pump was used for all other wells sampled and with direct sampling from the tube (for hexavalent chromium only). The sampling log for MW-15D, however, indicates "direct/straw method" was used.

f) While Table 3 matches the Laboratory Analytical Results in the most recent Progress Report, the narrative of Section 4.2, Groundwater Analytical Results, confuses the results of MW-17 and MW-19.

g) Please ensure that for future groundwater monitoring events that the laboratory detection limit for arsenic is no greater than 0.010 mg/L.

4) Please revise, and, where missing, include maps, minimum scale of 1" = 200' or less, depicting the horizontal extent of contamination according to the EPD's Rules for Hazardous Site Response, paragraph 391- 3-19-.06(3)(b)(3)(viii). Concentrations should be indicated by isoconcentration lines rather than colored circles. Annotations should also be included in the figures, as necessary, to make the sampling data and results clear and understandable, and in agreement with the narrative.

5) In Comment No. 5 of the January 2016 Comment Letter, EPD noted Roper's response to earlier EPD concerns that the 92,000 µg/m3 detection of benzene at VI-4 was "minor and does not pose a significant contaminant threat to soil or groundwater"[3]. In order to confirm that there has not been a release of benzene to subslab soils, EPD requested that the VI-4 area vapor probes be incorporated into the planned vapor probe resampling. In addition, EPD recommended Roper determine if benzene or products containing benzene are being used within the building where these vapor samples are being collected. To date, no further response has been made to these comments.

6) Recognizing the change in Roper's environmental consultants, per Comment No. 4 of EPD's January 5, 2016, letter, please ensure the results from a comprehensive investigation of hexavalent chromium in soils, sediments, and groundwater both onsite and offsite that may be contributing to the impacted groundwater onsite are provided in a VRP Progress Report prior to April 2018. At the same time, EPD is amenable to Roper adding a treatment component that would favorably impact the hexavalent chromium concentrations to the In-Situ Treatment of the chlorinated VOC plume.

The above listed comments must be addressed to EPD's satisfaction in order to demonstrate compliance with the provisions, purposes, standards and policies of the Act. Please provide responses to the above listed comments as part of the next scheduled Progress Report submittal. If you should have any questions regarding this matter, please call Tom Brodell of the Response and Remediation Program at (404) 657-8600.

Sincerely,

David Brownlee
Unit Coordinator
Response and Remediation Program

c: Kristen Rivera <krivera@wenck.com>

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[3] Comment No. 9, Roper's October 23, 2015 Cover Letter accompanying VRP Progress Report No. 11