Contract GS-10F 0462M, Order EP-G145-00278,
Synthesis and Numeric Modeling of Contamination

1453-038-00-10 0003AP
Pristine, Inc. Superfund Site (0556)
Reading, Ohio

Technical Direction Memorandum (TDM)
June 28, 2019

Groundwater flow modeling has been performed at the site to evaluate contaminant transport and flow with the continued pumping of EW-4 at the Pristine Site. Continued review of the site conditions indicate contamination is moving from the facility property into the Lower Aquifer at the property boundary. Additional evaluation of the movement of groundwater and contamination from the Upper Aquifer into the Lower Aquifer is needed to determine if the source is contained or additional actions that may be needed to characterize and address potential contaminant migration.

Contaminant and groundwater transport modeling already performed at the site should be updated to incorporate and evaluate the flow dynamics from the Pristine property to the off-site plume. The model should also be used to determine the historical effects of pumping in the Mill River Valley on water levels and groundwater flow directions/capture zones in the vicinity of the Pristine Site which likely varied in response to the former variable pumping rates at municipal supply wells.

A report summarizing the formulation, operation, and findings of the model is needed to complete documentation of the modeling effort at the site. This report will evaluate the past, present, and potential future migration of contamination from the Pristine Property to determine if the current extraction system (EW-1, EW-4, and GW-108) is stopping contaminant migration as intended, or if additional modifications to the system are needed. The report will include a summary of the evaluation of trends of contamination in groundwater and evaluation of various hydraulic gradients at the site.

As a result of data evaluation, SSPA has compiled a list of data gaps that need to be addressed to confirm the nature and extent of the plume boundary at the site. Pristine has responded in writing to the list of data gaps. A review and response to Pristine's comments is needed. A meeting is proposed to discuss installation of additional wells and collection of additional data at the site.

Pristine has expressed a desire to review the modeling report. A need for a response to Pristine's comments is anticipated. Pristine has also requested a review and comment on their 2004 Groundwater Flow and Contaminant Transport Model for the site.

SSPA shall update the evaluation of water levels, hydraulic gradients, and water quality trends in the affected area to include historic conditions and an evaluation of the capture zones at EW-4 in the distal portion of the plume and EW-1 and GW-108 near the source area. They shall update their model to include historic influences as well as an evaluation of the relationship between the Upper and Lower Aquifers.

SSPA shall perform the following effort as part of item 7 under Phase II, General Requirements, "*use the existing groundwater flow models updated in Phase I as required to be to determine remedy performance and evaluate the RP's proposed augmentation of the Site's remedy.*" under contract **Task 2.A.2,** and **Task 2.A.3:**

With respect to contract task 2.A.2 work shall include:

1. Evaluation of the three-dimensional groundwater monitoring network in the vicinity of EW-4, GW-108, and EW-1 to enhance the accuracy of the modeling effort and to determine the best locations and screened intervals for additional monitoring wells.

With respect to contract task 2.A.3, work shall include:

1. An updated model evaluating current and historical hydraulics and groundwater contaminant transport in the area affected by EW-4, GW-108, and EW-1.
2. Review and comment on the Pristine 2004 Groundwater Flow and Contaminant Transport Model.
3. A written discussion of the set-up of the model in addition to the findings of the model pertaining to areas where remedy performance may not be effective and recommendations to address these areas.
4. Upon request, consolidate a detailed modeling report.