

North Pole Refinery Technical Project Team
March 30, 2011
ADEC Fairbanks Offices - First Floor Conference Room
610 University Avenue
Fairbanks, AK

Technical Project Team Members in Attendance

Bill Butler	City of North Pole, Director of City Services
Dr. Dave Barnes	UAF, Department Chair, Civil and Environmental Engineering
Cindy Christian	DEC, Drinking Water Program, Compliance Program Manager
Ann Farris	DEC, Contaminated Sites Program, Project Manager
Nim Ha	DHSS, Acting Program Manager, EPHP
Brian Jackson	DEC, Prevention and Emergency Response Program (PERP)
Lee Johnson	DEC, Drinking Water Program
Elizabeth Page	Reiss Remediation
Shannon Price	Flint Hills Resources Alaska

Support Personnel in Attendance

Rebecca Andresen	Arcadis
Brian Angerman	Barr Engineering (via telecon)
Stephanie Buss	SPB Consulting, Toxicologist
Todd Dejournett	Barr Engineering (via telecon)
Denise Elston	DEC, Contaminated Sites Program, Program Specialist
David Gibbs	FNSB, Director, Department of Emergency Operations
JoAnn Grady	Grady and Associates, Team Facilitator
Jeff Jacobson	FNSB, Office of the Mayor, Chief of Staff
Lisa Minnear	OASIS Environmental, Project Manager
Max Schwenne	OASIS Environmental, Program Manager
Meg Michell	Environmental Standards, Inc. (via telecon)
Ben Saltoun	Johnson and Wright (via telecon)
Eric Zentner	OASIS Environmental, Asst. Facilitator

INTRODUCTIONS AND DISCUSSION OF THE MEETING AGENDA

The meeting began at 9:00 AM as team members introduced themselves and approved the meeting's agenda. The team welcomed Mr. Dave Gibbs, Director of Emergency Services of the Fairbanks North Star Borough, who said he was attending the meeting at the request of Borough Mayor Hopkins. Mr. Ben Saltoun of Johnson and Wright also joined the meeting via telecon and stated he was attending for Mr. John Elliot of Johnson and Wright.

REVIEW OF ACTION ITEMS FROM THE PREVIOUS MEETING

The team reviewed the completion status of the action items from the previous TPT meeting. The team determined that most of the action items had been completed. In regard to Action Item 8, Ms. Page said that the information that was requested pertaining to the flow rates of recovery wells prior to the installation of the coalescer may not be available. She said that she would continue her review of old groundwater reports in the hopes of finding this information. In regard to Action Item 9, Dr. Barnes said that he hopes to complete a white paper by the next TPT meeting that outlines potential ways of studying the attenuation parameters of sulfolane in order to address gaps in the project's conceptual site model. He has talked to graduate students at the University of Alaska Fairbanks (UAF) who say they may be able to participate in the study. He is currently working with laboratory technicians at the university to prepare the labs for the study.

THE SUMP REPORT AND LAB DRAIN INVESTIGATION

Ms. Page and Ms. Andresen gave a brief presentation on the status of the investigation of the possible release at the laboratory of the North Pole Refinery. Ms. Andresen said that all five cores have been opened but drillers quickly encountered cobbles and were not able to advance the borings to the target depth at the groundwater interface. However, two soil samples were collected from each boring location and were submitted for laboratory analysis. While she has been discussing alternative means of investigating the subsurface with Mr. Jackson, it is possible that they may have exhausted all of their options at this point. The team discussed various recommendations on how to best proceed with the investigation. However Ms. Farris thought the investigation was acceptable as at least 2 samples were collected from each boring. Ms. Page added that the final review of the data would be submitted in the Site Characterization Report at the end of May. Mr. Jackson later indicated that he was satisfied with the efforts to collect soil borings, and approved abandonment of the boring locations.

LNAPL MEASUREMENTS

Ms. Page presented a slide summarizing the results of efforts to measure the thickness of LNAPL in various project wells in order to determine which wells should be equipped with additional pumps to further enhance their recovery rates. These measurements may contribute to the overall characterization of the LNAPL plume, but the process is still in its early phases since bail-down data are limited. The results of the measurement among the wells were not consistent, and there is, as yet, no data available on the effects of seasonal changes on the wells. Max Schwenne with OASIS stated that LNAPL metrics should not be based on volume, but on recoverability. Ms. Page agreed and stated that the boring logs for the wells and summary of these recent findings will be presented in the Site Characterization Report.

UPDATE ON VERTICAL DELINEATION

Ms. Page updated the team on the ongoing efforts to delineate the vertical component of the plume. She presented a slide showing the proposed primary and alternative locations for 14 new delineation wells which may help to close current gaps in the vertical delineation of the plume. Ms. Farris remarked

that she will not be able to consider the justification for the proposed wells until she is able to review the existing data that Oasis Environmental and Ms. Elston are currently working to organize into a more manageable form. She emphasized the importance of having time to review existing data so that additional hardware can be most effectively placed. Ms. Farris and Ms. Page agreed to further discuss the issue after the meeting to determine when Ms. Page would need to give the project's drillers warning that the proposed locations may change.

Ms. Page transitioned her presentation to an update on the preliminary results of recent sulfolane isotherm testing. She said that the coefficients have been generated and Mr. DeJournett is currently evaluating them to determine their accuracy. Once these results are finalized they will be included in the Site Characterization Report.

INTERIM REMEDIAL ACTION PLAN

Ms. Page presented a summary of the completion status of various actions that were proposed under the Interim Remedial Action Plan (IRAP). She said that the piping for the existing wells was recently cleaned to increase their flow rates and she pointed out sections of the piping that have been heat traced or replaced. They intend to take additional steps to ensure that they do not exceed their discharge permit, and will adjust their existing permits to allow for increased groundwater recovery. They intend to install granular activated carbon (GAC) vessels and pneumatic recovery systems to remove product from the outlying recovery wells that are not connected to the main system. Ms. Page related efforts made to ensure that permit limits are not exceeded in the event that product enters the system. She briefly described the components of the recovered groundwater treatment system and reiterated that since the system is in its pilot testing phase, they expect to make additional decisions regarding its flow rates and other aspects of its operation.

Ms. Page continued her overview of the development of the remediation system. The concrete slabs for the carbon unit are complete, well house check valves have been installed, and all ground piping has been moved into pipe racks and equipped with cleanouts so that they may be more easily cleaned. Only one valve remains to be installed in the pre-filter piping installation and the pre-filter itself is now onsite. The project storage tanks are still on order. R-42, R-35R, and R-20R have been completed but R-35R must be redeveloped due to excess sand recovery during the initial cleanup event.

Ms. Page briefly reviewed the immediate construction objectives for the remediation system. They intend to have the GAC unit, the coalescer, and R-35R activated by the end of the quarter. She acknowledged concerns expressed by ADEC regarding the speed of the implementation of the remediation system and added that in optimizing their crew size and implementing day and night shifts, they are now working as quickly and efficiently as they can.

PERFORMANCE METRICS FOR LNAPL RECOVERY

The team discussed the establishment of performance metrics for LNAPL recovery. Ms. Farris clarified that FHR is currently using bail-down tests to estimate the amount of recoverable product and then comparing that estimate to the amount of product that is being recovered each quarter to estimate the

time required for cleanup. Ms. Page acknowledged that as the case, but they cannot make an estimate of the overall volume of the LNAPL plume or the efficiency of their system until they can address the unknowns outlined in the earlier discussion on LNAPL measurements.

The team discussed how it could evaluate the efficacy of the pump and treat system that is currently under development. The team considered the possibility of having to adopt an alternative remediation approach to the pump and treat system in the event that it is determined to be inadequate. Ms. Page urged the team to wait to review data and modeling for the site, to be presented in the Site Characterization Report, before proceeding with an evaluation of the adequacy of the pump and treat system.

DRINKING WATER

Ms. Page presented a series of slides summarizing FHRA's efforts to sample residential wells and provide affected residents with an alternative water source. She said 879 locations have been visited and 482 wells have been sampled as of March 21st 2011. Of the 482 sampled wells, 285 have shown a "non-detect" concentration of sulfolane, 65 have shown a concentration between 10 ppb and 25 ppb, and 131 have shown a concentration of sulfolane that is above 25 ppb. One sample is still being analyzed. Bottled water is currently being provided at 318 locations, access to the municipal water system has been established at 29 locations, seven residential bulk water tanks and five in-home treatment systems have been installed, and six public/commercial water tanks have been installed including one frac tank to irrigate plants.

Ms. Page said that as of the previous day, they had sampled 57 of an estimated 64 wells in the last remaining search area. Of the wells that have been sampled since the last meeting, there was only one well in which sulfolane was detected, and that well showed a concentration of less than 25 ppb. Ms. Page continued her presentation with an update on the new municipal wells. All documentation and permitting related to water, operational, and easement issues are now complete, and the wells have been operating on automated controls for the past several weeks.

Ms. Page briefly reviewed the settlement options that FHRA is offering to affected homeowners. She said that March 30th 2011, 18 agreements have been signed. Among these, 12 homeowners have opted for the in-home treatment system, five have opted for bulk water tanks, and one has opted for bottled water. Five homeowners have opted for the garden tanks. Ms. Sharrah and Mr. Price have been meeting with affected homeowners and reported that roughly eight in ten of the homeowners that have not signed formal agreements have indicated that they will likely opt for the in-home treatment system. The team briefly discussed the settlement. Mr. Jacobson requested that Ms. Page send him a copy of the homeowner's agreement if it is possible for her to do so.

Ms. Page and Mr. Dejournett described the results of recent stress and pilot testing performed on the in-home treatment system. They are working to determine the life expectancy of the lead and polishing vessels by elucidating the relationships between the time to breakthrough, the corresponding amount of water purified by the system in that time, the sulfolane concentration of the influent, the shape of the concentration curve, and all other relevant data from the stress and pilot tests. They are continuing

to monitor concentrations of Iron, Manganese, and total organic carbon (TOC) in the feed water to determine whether they have any effect on the life expectancy of the vessels. Ms. Page said, with respect to a question asked at the previous meeting, that there was no appreciable change in the concentration of sulfolane in the feed water as it moved across the water softener.

Ms. Page said that the in-home treat system is now in the final stages of the Water Quality Association's certification process. Representatives from the association are planning on visiting the manufacturing facility on April 12th to ensure that it meets their standards. The association is reviewing the results of the bench and pilot testing and it is evaluating the performance of the system in its parallel and series configurations.

THE TOXICOLOGY AND CHEMISTRY SUBGROUP

Ms. Buss updated the team on recent developments within the Chemistry Subgroup. The Chemistry Subgroup finished the draft key elements document for soil and is reviewing the SOPs for water analysis. The subgroup completed its review of the water SOPs and submitted comments to the department. The Department will approve the water SOPs once the outstanding issues are resolved, most outstanding issues are minor. The key elements document for soil analysis is now complete and will hopefully be sent out on the following day.

The Environmental Protection Agency (EPA) and the Agency for Toxic Substances and Disease Registry (ATSDR) are each independently developing a toxicity value for sulfolane. The EPA is having a key literature reference peer reviewed; once the peer review process is complete EPA expects to be able to establish an oral PPRTV for sulfolane based on the Huntingdon Study. An inhalation PPRTV will be developed based on an additional study (Andersen 1977). The EPA expects to complete its PPRTV document within the year, but has yet to commit to a specific timeline. The ATSDR will review its action level and include it in the health consult it intends to complete within the month. A summary of the Health Consult will be presented during the upcoming community workshop scheduled to be held on May 16th between 7:00 and 9:00 PM at the Grange in North Pole.

The team discussed some of the possible implications that the final toxicity values from EPA and ATSDR reports may have for the project. Once ATSDR and EPA toxicity values are established, the DEC will determine how to use these values to establish the regulatory cleanup level.

THE ALASKA DEPARTMENT OF HEALTH AND SOCIAL SERVICES HEALTH CONSULTATION

The Department of Health and Social Services (DHSS) Health Consultation on Sulfolane, which will summarize the department's assessment of the level of risk associated with various pathways by which affected homeowners may be exposed to sulfolane, is in its draft stage. The current draft of the consult will be sent to members of the TPT for their review and comment as soon as it is complete. The Department hopes to release the consult to the public sometime this spring, and it is hoped, in time to have the conclusions and recommendations presented at the upcoming community workshop.

THE RISK COMMUNICATION SUBGROUP

Ms. Grady briefly reviewed schedule and content of the upcoming community workshop. The content of the workshop will be primarily focused on the health effects of sulfolane, but the presenters will probably touch on issues pertaining to site characterization, analytical analysis, plume delineation, and gardening with impacted water. Ms. Grady said that the subgroup has decided to set up information kiosks at the workshop to provide factsheets, handouts, and other additional information to attendees after the meeting. The team discussed the scheduling and content of the upcoming workshop. The team deliberated on how much of the presentation time at the workshop should be devoted to site characterization. The team agreed that it would be best to wait until the Site Characterization Work Plan (SCWP) is completed and then arrange to host another workshop devoted to the presentation of site characterization issues. The team agreed to tentatively plan on holding the upcoming workshop on May 16th between 7:00 PM and 9:00 PM at the Grange in North Pole.

Ms Grady updated the team on other recent developments within the Risk Communication Subgroup. She said that she hopes that the project website will be up and running sometime during the following week. Ms. Elston said that the project newsletter should be ready sometime in the following week with additional editions of the newsletter to be released twice or three times a year as needed.

Adjourn The team reviewed the actions items from the meeting and discussed the schedule and agenda for the next TPT meetings which are now scheduled for May 17th and June 23rd.

The meeting adjourned at 3:15 PM Alaska Time