

North Pole Refinery Technical Project Team
June 26, 2012
ADEC Fairbanks Office
Fairbanks, AK

Technical Project Team Members in Attendance

Dr. Dave Barnes	UAF, Civil and Environmental Engineering, Department Chair
Cindy Christian	DEC, Drinking Water Program, Compliance Program Manager
Ann Farris	DEC, Contaminated Sites Program, Project Manager
Loren Garner	FHRA, Project Manager
Nim Ha	DHSS, Acting Program Manager, EPHP
Ali Hamade	DHSS, Toxicologist
Lee Johnson	DEC, Drinking Water Program
Phil Roberts	Williams, Inc. (via telecon)
Paul Lhotka	DEC, Prevention Emergency Response Program
Elizabeth Page	Reiss Remediation
Brandon Perkins	EPA, Region 10 (via telecon)
Jeanne Swartz	DEC, Industry Preparedness Program (IPP)

Support Personnel in Attendance

Rebecca Andresen	Arcadis
Steve Bainbridge	DEC, Program Manager, Contaminated Sites
Michelle Barnes	UAF
Stephanie Buss	SPB Consulting, Toxicologist
Todd DeJournett	Barr Engineering (via telecon)
Denise Elston	DEC, SPR-Contaminated Sites, Program Specialist (via telecon)
Jim Fish	DEC, SPR-Contaminated Sites, Program Specialist
Mark Gebbia	Williams, Inc. (via telecon)
Kathryn Glover	DEC Intern
JoAnn Grady	Grady and Associates, Team Facilitator
Brad Koons	Arcadis, Principal Engineer (via telecon)
Kimberly Lake	Johnson and Wright (via telecon)
Andrew Ohrt	Arcadis (via telecon)
Gary Remple	Barr Engineering (via telecon)
Max Schwenne	OASIS Environmental, Project Manager
Eric Zentner	Boreal Communications Strategies

INTRODUCTIONS AND ACTION ITEM REVIEW

The meeting began at 9:00 Alaska Time as team members introduced themselves and reviewed the action items from the previous meeting. The team determined that all of the action items had been completed. The team reviewed and approved the agenda for the upcoming meeting.

AIR SPARGE PILOT TESTING

Mr. Angerman updated the team on the status of recent pilot testing that has been carried out to determine the extent to which the sulfolane degrading reaction observed in the refinery's air sparge units can be incorporated into the design of the site's remediation system. Mr. Angerman presented a summary of the observations from recent air sparge tests conducted at the site. He said that, at this phase, the results of the pilot testing indicate that the test systems were able to effectively remove sulfolane within their treatment zones and that air sparging can be considered a viable technology for application in the development in the site's remediation system. Mr. Angerman said that his team will continue work to optimize the flow rates and the spacing of sparge points within the test system.

THE PRESENTATION OF REMEDIAL ALTERNATIVES WITHIN THE FEASIBILITY STUDY

The team discussed the results of the air sparge pilot testing and then engaged in a more general discussion on the appropriate presentation of the remediation options within the Feasibility Study (FS). Mr. Schwenne asked why the draft FS indicated that air sparging did not meet threshold criteria for site cleanup despite the promising results of the recent pilot studies. Mr. Koons explained that air sparging did not meet the threshold criteria because those criteria pertain to area-wide remedies. He said that air sparging, like all of the specific technologies under consideration, was not intended to be used as an area-wide remedy but, that it would be used in concert with other technologies, the combinations of which would be determined by the conditions within specific regions of the plume. Mr. Schwenne replied that an FS document, at least as it is conceptualized under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), should indicate whether such combinations of technologies, or remedies, meet the threshold criteria. He expressed his concern that the regulatory agencies would not be able to review the remedies before they are submitted in the project's cleanup plan. Ms. Page responded that FHRA cannot, at this point, present its evaluation of the remedies since they are still collecting the field data necessary to perform that evaluation.

The team continued its discussion on how it would evaluate the proposed remedies within the context of constraints of the project schedule and the state's regulatory framework. Mr. Garner commented that FHRA intends to present the evaluation of the proposed remedies in the project's cleanup plan which will be submitted in November. The team discussed the possibility of altering the project schedule in order to allow FHRA to collect the field data necessary to evaluate the potential remedies. The team also considered the possibility of presenting the documents in a different format than is specified in CERCLA to develop and evaluate the potential remedies for the site. The team agreed to take up further consideration of the issue in the upcoming meetings of the Site Characterization subgroup. Several team members suggested that issues pertaining to the project's schedule and adherence to the CERCLA process would have to be deferred to their respective managers.

ACTION ITEM: Ms. Page will send DEC an outline of how FHRA intends to develop its cleanup plan from information presented in the Feasibility Study.

THE UNIVERSITY OF ALASKA FAIRBANKS' MICROBIOLOGICAL STUDIES

Mr. Fish presented an update on the microbial studies that are currently underway at the University of Alaska at Fairbanks (UAF). He said that the overriding objective of these studies is to isolate, identify, and characterize any sulfolane degrading microbes that may be present in the ground water at the site or in various components of the refinery's waste water treatment system. He added that the studies will evaluate how the site's geochemistry affects its microbial communities and that they will attempt to determine the degradation rates and metabolic pathways associated with sulfolane degraders found in the project area. Mr. Fish said that preliminary studies conducted by Dr. Mary Beth Leigh indicate that sulfolane degrading microbes were present in water samples taken from Monitoring Well 130 and from the Granular Activated Carbon (GAC) vessels from the residential POE treatment systems. Dr. Leigh was able to grow these microbes in a lab setting at both 4 and 23 degrees Celsius. The university will conduct further testing to identify molecular markers associated with the microbes which will be then used to determine their abundance, spatial variation within the plume; and the extent to which they are contributing to the degradation of sulfolane within the plume.

THE UNIVERSITY OF ALASKA FAIRBANKS' SITE CHARACTERIZATION EFFORTS

Dr. Barnes updated the team on the status of site characterization efforts that he is conducting at UAF. He said that he and a graduate student are analyzing data from monitoring wells and pressure transducers as well as performing additional hand measurements to establishing a concentration model of the ground water flow within the affected area. Dr. Barnes briefly explained the results that he has collected to date and added that they have helped explain certain puzzling features of the plume such as its irregular bulbous section. He said he and his graduate student will continue to perform hand calculations for areas of the plume for which there is no data from pressure transducers. He said that they will compare these results with the actual concentrations being measured in order to observe seasonal variation and various other patterns in the distribution of sulfolane in those areas. Dr. Barnes remarked that the establishment of a concentration model will allow researchers to validate the project's numerical model and it will further assist the project team in the characterization of the site and the in planning of remedial activities.

ARCADIS ENVIRONMENTAL'S BIOLOGICAL STUDIES

Mr. Ohrt gave a brief presentation on the status of the biological studies that are currently being performed by Arcadis Environmental. He said that first phase of the Stable Isotope study was recently completed with promising results. The company is in the second phase of the study which involves an expansion of the monitoring well network. Mr. Ohrt said that nearly all of the samples from the second phase have been completed and sent to the University of Oklahoma which has been independently developing the analytical methods for the study. Mr. Ohrt said that Arcadis is moving into the second phase of the bio-trap study. He noted that the scope of the study had been expanded to accommodate additional analysis. Mr. Ohrt said that his group is working with UAF to ensure their respective microbial

studies are well coordinated to avoid the duplication of efforts and to provide the best data to the state and Technical Project Team (TPT).

STATUS OF THE EPA'S ASSESSMENT OF THE SITE

Mr. Perkins gave a brief report on the status of the assessment that is being conducted on the site by the Environmental Protection Agency (EPA). His report was followed up with a brief report from Steve Bainbridge who said the EPA recently completed its preliminary assessment of the site and that it intends to work with the Alaska Department of Environmental Conservation (ADEC) to develop a comprehensive communication plan prior to releasing the preliminary assessment report to the public. He suggested that this would include the release of a cover letter for the report that would be co-written by the EPA and ADEC.

FIELD WORK UPDATE

Mr. Lockwood and Mr. Ohrt updated the team on the ongoing field work activities associated with the project work plan. Mr. Lockwood said that Shannon & Wilson recently completed the installation of the Phase 7 monitoring well network. He gave a brief description of the Phase 7 monitoring wells including their depths and the lithology that was associated with their respective locations. Mr. Ohrt reviewed the results of the groundwater monitoring that was conducted during the first quarter of 2012. He noted that the results indicate that the shape of the plume did not change between the fourth quarter of 2011 and the first quarter of 2012. He added, however, that there are assumptions in the boundaries of the most recent map of the plume that are due to data gaps associated with frozen or otherwise un-sampled wells.

Mr. Ohrt continued his presentation on the status of field work activities. He said that his group was able to install all but 4 of the approximately 40 soil borings specified in the work plan. The remaining borings, located in the northwestern corner of Lagoon B, will be installed as soon as certain issues associated with underground utilities are resolved. Mr. Ohrt briefly reviewed the hydro-punch investigation. He said that his group proposed an additional 20 hydro-punch borings to augment the original 11 that were specified in the work plan. These additional borings will be installed in the vicinity of the Truck Rack, the Process Area, and in the vicinity of remediation wells R-21 and R-40.

PERP UPDATE

Ms. Swartz gave an update of the recent activities conducted by ADEC's Industry Preparedness Program (IPP) at the refinery. She briefly described the objectives of the program and the basis of its authority in state regulation. Ms. Swartz described her participation in a recent inspection at the refinery that was conducted to assess the external conditions of its storage tanks and the integrity of the secondary containment systems. She said that while she did not observe anything that would constitute an urgent situation, she intended to further discuss her observations an inspector certified by the American Petroleum Institute (API).

Mr. Lhotka presented a brief overview of the ongoing investigation of a potential release from Tank 901. Mr. Lhotka said that Tank 901, a 25,000 barrel tank used to store Heavy Atmospheric Gas Oil (HAGO) was de-inventoried during the previous October when a routine inspection revealed a small amount of seepage in the region of the tank's chime. Mr. Lhotka said that while the volume of the seepage was believed to be less than the reportable limit of 55 gallons, the discovery prompted FHRA to deinventory and investigate the tank in the following spring. Once the tank was cleaned, FHRA personnel discovered a larger hole measuring roughly 2 by 11 inches along the bottom of the tank. Mr. Lhotka said that, since the tank does not have a liner beneath the tank, the investigation of the potential release will include efforts to characterize the soil beneath the tank. The team discussed the investigation. Ms. Page informed the team that FHRA is still unsure whether or not the hole in the tank occurred as a result of the de-inventory process. Mr. Garner added that HAGO is not associated with sulfolane.

THE RISK COMMUNICATION SUBGORUP

Ms. Grady updated the team on recent developments within the Risk Communication subgroup. She said that the subgroup is currently considering various topics for the upcoming project newsletter which is scheduled to be released on August 10, 2012. The team considered a variety of possible topics to be included in the newsletter. Ms. Grady reiterated that it is important that the newsletter highlight the dynamism of the state-led efforts that are currently underway, especially in light of the upcoming release of the EPA's preliminary assessment of the site. The team suggested that the subgroup consider including articles on source control, the UAF and Arcadis research projects, site investigation, product recovery, and perhaps, the status of the research program on sulfolane that is being undertaken by the National Toxicology Program (NTP).

ACTION ITEM: Stephanie will inquire into the status of the NTP research on sulfolane.

The meeting adjourned at 3:20 Alaska Time