

Final Meeting Minutes
Restoration Advisory Board (RAB) Meeting
Former Galena Forward Operating Location (FOL), Alaska
Galena, Alaska
25 October 2017

Time/Place: 7:00 pm, 25 October 2017 – Larson Charlie Hall, Galena, Alaska

Attendees:

Approximately eighteen (18) people attended the meeting including representatives from the Air Force Civil Engineer Center (AFCEC), the Alaska Department of Environmental Conservation (ADEC), and the Galena Restoration Advisory Board (RAB). The following is a list of people attending the meeting.

Greg Gangnuss, AFCEC
Donna Kozak, Booz Allen Hamilton (BAH)
Bruce Henry, Parsons
Ed Heyse, Parsons
Dennis Shepard, ADEC
Jamie McKellar, ADEC
Sam Myers, Alaska Department of Transportation (ADOT)
Tim Bodony, Community RAB Member (Chairman)
Shanda Huntington, Galena City Manager
Lee DeWilde, City of Galena
Cherrie Sullivan, Gana-A'Yoo
Kenton Moos, US Fish & Wildlife Service
Phil Koontz, Louden Tribal Council
Robert Thompson, CH2M
Russell Cavanah, Khotol Services
Dick Evans, Community Member
Ron Burgett, Community Member
Ranch Burgett, Community Member

Agenda: See Attachment 1

Introduction:

Greg Gangnuss opened the RAB meeting by introducing himself as representing AFCEC on behalf of Christiana Hewitt (who could not attend), and introducing the presentation on Performance-Based Remediation (PBR) Cleanup efforts.

Presentations

Performance-Based Remediation

Bruce Henry (Parsons) gave a presentation (Attachment 2) with an update of the PBR contract. The PBR contract is for the cleanup of 32 sites at the Former Galena Forward Operating Location (FOL). To date five sites have been closed. Installation of remedial systems started in 2015 and will continue until 2018. Operation of the remedial systems under the PBR will continue through the summer of 2020.

Bruce went through a list of the remedies installed in 2017, and showed the locations of the remedial systems on a map of the Former Galena FOL. He then provided the following overview of the activities that were completed during the 2017 field season.

Horizontal Well Air Sparging

- Million Gallon Hill/Missile Storage Area (Sites CG001/CG002)
- POL Tank Farm Area/GAVTC (Sites ST005/CB001)

Bruce showed pictures, plan views, and cross sections of the two horizontal well air sparge systems installed by CH2M in 2017. Each system consists of four wells approximately 1,000 feet in length and about 40 to 45 feet in depth. Bruce explained that the systems will run over the winter when the water table is low, and will be shut down during the summer months when the water table is high. This is because the air sparge systems can only overcome a certain height of water.

Lee DeWilde asked whether the horizontal wells would plug up when not being operated in the summer. Robert Thompson (CH2M) explained that the wells have very thin screen slots and were developed to remove fine sediments from the well bore; therefore, there is a low probability the wells will plug. Robert also mentioned they have a way to re-develop and clean out the wells through a knock out in the well vault, if necessary.

Soil Vapor Extraction

- South Apron Maintenance Area (Site SS015)

Bruce proceeded to describe the installation of a soil vapor extraction (SVE) system at Site SS015. SVE pulls air out of the subsurface, and removes volatile organic compounds like trichloroethene (TCE) by stripping them from the subsurface soil. The SVE system was designed to remove TCE from shallow unsaturated soil.

Phil Koontz asked how bioremediation worked at the bioreactor that was installed at Site SS015. Bruce replied that there were some issues with the water table dropping below the bioreactor where TCE in groundwater was not in contact with the bioreactor media, but that biodegradation of TCE occurred in groundwater. Bruce also mentioned that a bioaugmentation culture was injected in 2013, and sampling the following year confirmed that the culture survived the winter and was active.

Phil said his understanding was that TCE degraded either aerobically or anaerobically, but it was not good to go between the two conditions. Bruce replied that TCE is recalcitrant (slow to degrade) under aerobic conditions, unless a substrate like methane was added to induce co-metabolic degradation. Anaerobic degradation is a more robust process and the most common method to degrade TCE in groundwater.

Phil asked about how TCE would be treated in the Triangle Area at Site SS006. Bruce replied that the bulk of TCE was hung up in fine grained sediments to a depth of about 10-12 feet below ground surface. Because those sediments are unsaturated, TCE would be removed by SVE like at Site SS015. TCE in groundwater in the permanently saturated zone would be treated by injecting amendments to stimulate anaerobic biodegradation. Bruce explained that two different technologies were being used for TCE in unsaturated versus saturated soil.

Sulfate-Enhanced Bioremediation Injections

- Former Building 1812 Hazardous Waste Satellite Accumulation (Site CSS002)
- Former Birchwood Hangar and Truck Fill Stands (Sites SS014/SS017)
- Former JP-4 Fuel Stands at ADOT Maintenance Building (Site ST009)

Bruce described how the sulfate injections treat deeper fuel contamination in saturated soil at the bottom of the smear zone, and that injection was through Geoprobe rods. Maps showing the injection point locations at Site ST009, Sites SS014/SS017, and Site CS002 were presented. Bruce explained that approximately 196,000 pounds of gypsum was injected into approximately 330 injection points.

Excavations

- Old Abandoned Pipeline (Site CPL006) Area 3
- Former Birchwood Hangar (Site SS014)
- Former Truck Fillstands (Site SS017)

Three small excavations were conducted in 2017. The excavations at Site CPL006 Area 3 and at Site SS017 were to remove shallow petroleum hydrocarbon contamination that could not be treated effectively by bioventing. This soil was taken to the landfarm for treatment. The excavation at Site SS014 was to remove contaminated soil that potentially contains polychlorinated biphenyls (PCBs), around an old floor drain at the former Birchwood Hangar. This soil was supersacked pending further characterization for proper disposal.

Dennis Shepard asked how much soil was left to be excavated and treated at the landfarm. Bruce replied that in 2018 there will be approximately 1,000 cubic yards (cy) from the DP023 excavation and 1,200 cy from the SS018 excavation that will be added to the landfarm stockpiles. There is currently about 15,000 cy in soil stockpiles and 3,000 cy in the landfarm treatment area at the landfarm, so there will be at least 20,000 cy to treat, plus soil that may come from ADOT runway improvement excavations (estimated up to 1,000 cy). Bruce thought it will take another 5 to 6 years of tilling to treat all the soil at the landfarm.

Tim Bodony asked about the area to the south of the landfarm that was previously cleared, and whether it will be used for landfarming. Bruce replied it will not be used since it is too wet and swampy, and that the land is owned by the City of Galena.

Bruce described other activities that occurred in 2017 including the following:

- Annual landfarm operation and soil treatment (transitioned to windrows using a Brown Bear tiller)
- Annual groundwater sampling of monitoring wells

A list of field activities for 2018 was presented, along with a figure showing the locations of the sites where remedial systems will be installed. Bruce then summarized the field activities planned for 2018, which include the following:

Bioventing

- Former Fire Protection Training Area (Site FT001)

Bruce explained that bioventing was chosen for Site FT001 (former fire fighting training area). Tim Bodony asked about PFCs (perfluorinated compounds) at FT001 and asked what the current science is for treating them. Bruce replied that the bioventing system at FT001 is not intended to treat PFCs, only fuel hydrocarbons, and that bioventing was selected so soil with PFCs would not be disturbed. Donna Kozak explained that the Air Force was preparing a Site Investigation (SI) report for PFCs at Galena for ADEC review. After the SI, sources of PFCs at Galena would be delineated in a process like the Site Characterization/Remedial Investigation process used for other contaminants. That delineation will take 2-3 years, and in the meantime a lot of research is being performed to find treatment alternatives. Greg Gangnuss noted that

PFCs are typically removed by granular activated carbon (GAC), at least for drinking water supplies.

Soil Vapor Extraction

- Install system at TCE Spill Site/Building 1700 (Sites SS006/SS019)
- Complete Former South Apron Maintenance Area (Site SS015)
- Expand West Perimeter Road TCE Site (Site SS025)
- Install system at Former Fuel Storage Tank Area (Site ST005 Area C)

Bruce explained that Parsons will install a SVE system at Sites SS006/SS019, complete installation of the SVE system at Site SS015 (trenching and piping), and expand the SVE system at Site SS025 (West Perimeter Road). CH2M has one more SVE system to install in the POL yard at the location of former fuel storage tanks.

Shanda Huntington asked for more information about TCE, what it is, how it is removed, etc. Bruce replied that TCE is used as a solvent, often used to clean machine parts. It is a suspected carcinogen (cancer causing) and has similar cleanup levels to benzene (found in fuels). Shanda asked about soil that was excavated from the area by the Water Treatment Plant. Bruce replied that only the western edge of the excavation in 2015 at Site CS002 had low concentrations of TCE, and that this soil was staged at Million Gallon Hill pending further treatment. Bruce noted that this soil does not exceed ADEC human health criteria, and is only of concern for potential migration to groundwater. Shanda asked that further information regarding TCE contamination and how it is treated be provided. The Air Force agreed TCE contamination will be discussed further at the next RAB meeting. **Post Meeting Note:** *Shanda Huntington contacted ADEC on 03 November 2017 and requested information on TCE and health effects. ADEC provided the SS006/SS019 Risk Assessment and TCE fact sheets from the Agency for Toxic Substances & Disease Registry (ATSDR). ADEC also provided the 2007 ATSDR Galena Public Health Assessment.*

Enhanced Anaerobic Bioremediation Injections

- TCE Spill Site (Site SS006)
- Former South Apron Maintenance Area (Site SS015)

Bruce explained that amendments would be injected at two sites in 2018 to treat TCE in groundwater, and that the injections would take a couple months to complete.

Excavation

- Former Disposal Area West of Dike (Site DP023)
- Former Waste Accumulation Area South of Building 1499 (Site SS018)
- Old Abandoned Pipeline Area 2 (Site CPL006)

Bruce mentioned other activities that will occur in 2018, including operation and maintenance of remediation systems (systems are typically checked once a month), annual groundwater monitoring, and landfarm reconstruction and operation. The landfarm reconstruction is to accommodate greater volumes of soil to be treated with the Brown Bear tiller.

Galena PBR Newsletter

Donna Kozak (BAH) presented an updated Galena PBR newsletter and site status (hand outs; Attachments 3 and 4) that summarize the status of the 27 open sites at the Former Galena FOL. The newsletter shows maps of soil and groundwater contamination, summarizes the cleanup technologies being applied, and lists Air Force contact information for further information.

Hardcopies were provided and extra copies will be placed at City Hall and the High School library. [Note that copies were placed at the Post Office and not the High School library.] Donna also had hardcopies of a site table that also summarizes the status of the remaining 27 open sites at Galena.

Closing Remarks

Dennis Shepard spoke on behalf of ADEC saying he was pleased progress is being made on cleanup activities at the Former Galena FOL, and that ADEC would continue to support the cleanup efforts. Dennis also introduced Jamie McKellar, who would be supporting Dennis on environmental issues in Galena. Dennis also mentioned that ADEC would be involved until all sites are treated and cleanup is achieved.

Sam Myers of ADOT also provided closing remarks, stating that ADOT was pleased with the progress made on the PBR effort. Sam noted that a land use control (LUC) agreement had been reached in 2017 between ADOT and the Air Force, and that ADEC has been showing LUC boundaries on their website. Phil Koontz asked about the digging that was performed in the airfield and runway areas. Sam replied that it was part of the runway shortening program, and that they dug out soft spots that had settled and backfilled with compacted soil. Next year ADOT will shorten the runway from 7500 to 6000 feet. Pavement and asphalt will be milled and left in place. No further soil excavations are planned. New runway lighting will also be installed.

Phil Koontz also mentioned that it was his understanding that LUCs at Site SS006 excluded digging trenches, and that hot water piping for the biomass project had to be placed above ground in the area of SS006. Phil asked if that would ever change. Dennis indicated that as sites were cleaned up the LUC boundaries would be updated. Eventually the LUCs would go away as sites meet unrestricted criteria for cleanup complete.

Dick Evans spoke up about past road oiling practices where they mixed ethylene glycol and waste oil and sprayed it on the roads. Dennis Shepard replied that the dike road has been adequately investigated, and that road oiling has not resulted in contamination that poses a health hazard.

Next RAB Meeting

The next RAB meeting is tentatively scheduled for April 2018, and is anticipated to include a Proposed Plan meeting for public review of final remedies for Site DP023 (Disposal Site West of Dike) and Site SS006 (TCE Spill Site)/Site SS019 (Building 1700). Shanda mentioned that the third Wednesday of the month is a good date.

Meeting Adjourned at 8:30 pm

Attachments:

1. RAB Meeting Agenda
2. Presentation: Performance Based Remediation at Former Galena FOL
3. Galena Newsletter
4. Galena PBR Open Sites