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MEETING MINUTES FROM SITE 11 PROJECT TEAM MEETING FROM 14-15 OCTOBER
1997 WITH TRANSMITTAL LETTER NSB KINGS BAY GA
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CERTIFIED MAIL
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Georgia Department of Natural Resources
Attn: Mr. Bruce Khaleghi, Unit Coordinator
Environmental Protection Division
205 Butler Street, SE, Suite 1252
Atlanta, GA 30334

Dear Mr. Khaleghi:

Attached are the meeting minutes from the Site 11 Project Team Meeting of October 14 and 15 at Jekyll Island, Georgia (enclosure 1). Please review and provide comments as necessary. We are currently preparing for the next Team Meeting to be held at Jekyll Island on February 18 at the Villas by the Sea (912)635-2521. The topics for discussion will be Corrective Action Plan (CAP) Alternatives, Chemical Oxidation, USGS' Direct Push Effort in the Landfill, and Natural Attenuation Update. Please feel free to make suggestions to this agenda. A final agenda will be forwarded prior to the meeting.

The SUBASE Kings Bay point of contact on this matter is Ms. Rhonda L. Bath, (912) 673-2001, extension 1217. Please address all correspondence to "Commanding Officer, 1063 USS Tennessee Avenue, Naval Submarine Base, Kings Bay, GA 31547-2606."

Sincerely,

J. W. MCGONAGILL, P.E.
Lieutenant, CEC, USN
Facilities & Environmental
By direction of the
Commanding Officer

Enclosures: 1. Site 11 Project Team Meeting Minutes
(October 14-15, 1997)

Copy to:
COMNAVBASEJAX (Dominique Broadus)

Blind copy to: (w/o encls)
ABB-ES (Laura Harris)
NAVFACENGCOM (Anthony Robinson)
USGS (Chris Leeth)

EX-111-001-012

16 Oct 97

MEMORANDUM

From: Kings Bay Team Meeting Coordinator

Subj: KINGS BAY TEAM MEETING

1. A meeting of the Kings Bay Team was held at 1300 on Tuesday, 14 October and 0900 on Wednesday, 15 October 1997 at Jekyll Island. Since new attendees were present, introductions were made.

Attendees:

Anthony Robinson, SouthDiv
Rhonda Bath, NSB Kings Bay
John Garner, NSB Kings Bay
Bill Kaschak, ABB
Laura Harris, ABB
Kurt Sichelstiel, ABB
Rick Ryan, ABB
Herman Bauer, Bechtel
Billy Hendricks, Georgia EPD
Jodi Laprade, Galileo
Madelliene Kellam, Georgia EPD
Jim Ussery, Georgia EPD
Woody Hicks, USGS
Chris Leeth, USGS
Sandy Truett, NSB Kings Bay

2. R. Ryan reviewed the meeting minutes and action items from the August Meeting. J. Laprade suggested that additional copies of the minutes be available for everyone to have a copy to facilitate the review. A. Robinson indicated that everyone does not receive the minutes at the same time. Minutes have also been late. Minutes from the Tampa meeting, which was not a team meeting per se, were used as an example as they have not been prepared yet. It was suggested that a scribe would be helpful to enable all of the participants to focus on the discussions and not be responsible for taking notes and that the minutes could be prepared by the scribe. J. Garner indicated the possibility of assistance from NSB. The possibility of rotating the scribe was also discussed.

ACTION ITEM: B. Kaschak to provide meeting minutes from Tampa by November 1.

3. J. Laprade handed out examples of agendas and an evaluation from the previous meeting and a sheet for evaluating percent complete of action items. All action items were completed from the previous meeting.

4. A. Robinson discussed the role of Bechtel on the Team as the RAC Contractor to provide technical expertise in the area of remediation, specifically in the area of constructability. H. Bauer indicated that he was not yet comfortable with the site and conditions as there were volumes of materials to review. He stated that he was interested in how the various entities on the team and EPD would work together to form a trusting relationship in that this is not a partnering relationship since EPD does not partner.

5. L. Harris provided a site overview and discussed what has been done, where we have come from, and where we are going. Specific items reviewed include the following:

- Early phases of the RFI process at Site 11 and the discovery of vinyl chloride in groundwater.
- Direct push effort in 1992 to delineate the plume and assess the nature and distribution of contaminants in the plume.
- Monitoring well installation following the 1992 direct push effort.
- March 1997 direct push program focused on the IM area.
- September 1997 direct push program focused on the IM area.
- Increased rate of RW 6 and its influence on the plume
- Analytical results for groundwater samples from locations downgradient of RW3 indicate a significant decrease in DCE and VC since the 1992 program.
- Direct push results in Cottage Court which indicate a significant decrease in DCE and lower or equivalent values of VC since the 1992 program.
- The groundwater data was not available from the laboratory from the September groundwater sampling event. It would be another 2 months before the data were received, reviewed and delivered to the Navy.

6. W. Hicks discussed his concerns with the T305, T307 and T308 regarding whether further delineation was required and did the efforts satisfy GEPD's expectations. GEPD would not express an opinion without a review of the data and expected more delineation efforts for vinyl chloride in the area of Porcupine Lake. L. Harris and J. Garner indicated the difficulties of conducting a direct push program in a residential area with obtaining utility clearances and property access on short notice. L. Harris indicated that the objective was to show where the concentrations were zero and not to delineate specific contours for individual contaminants within the plume. According to the plan developed by USGS and ABB, if the samples collected from wells KBA-11-20 and KBA-11-21 were non-detect, then no data gaps existed in this area. Since the results from these 2 wells were non-detect, no additional direct push samples were planned in this area to support delineation.

7. L. Harris continued with the site overview and discussed the following:

- Monitoring well installation
 - April - agreed to install additional wells
 - July - GEPD said no more wells for SRFI
 - August - Team meeting in Atlanta, well installation was postponed for the direct push

- program
- September- Delineation field program plan developed and implemented
- October - SRFI addendum being prepared
- Physical flow regime

8. GEPD indicated that if additional data were to be collected, then it should be done outside the framework of the SRFI. GEPD also indicated that if an additional MW is to be installed then it may go downgradient of the KBA-11-19 series well.

9. R. Ryan discussed the idea of putting ORCs into the MW in the Cottage Court area.

10. ABB indicated that we could proceed with the CAP now and were initiating its preparation. ABB held an internal CAP meeting for the personnel who are going to be involved with its preparation to review scope, schedule and assignments.

11. GEPD will be given all of the 1997 direct push data by 31 October 1997. GEPD indicated that the document needs to be stamped by a PG and certified by the Base. M. Kellam wants to use the data to make corrective action decisions. The groundwater data from the September sampling event can be submitted later. GEPD indicated that progress at Kings Bay was under the review of the Environmental Indicators Assessment Program for EPA and Congress and this would be driving a consent order .

12. A decision was made that no additional monitoring wells would be installed for now. Additional wells may be required for monitoring the effectiveness of the corrective action and should be proposed with the monitoring program with the CAP.

13. A. Robinson discussed the natural attenuation evaluation that will be performed by F. Chappelle. There will be a site visit on 29 October to review the monitoring wells and review the data. C. Casey has prepared a SOW and A. Robinson will provide a copy to the GEPD by October 24. F. Chappelle would develop a plan and execute and has agreed to a quick turnaround. A. Robinson assured the GEPD that this effort would not hold up the submission of the CAP. If additional wells were needed for this effort, they would be installed by USGS.

ACTION ITEM: A. Robinson to provide a copy of the SOW for natural attenuation to the GEPD by October 24.

14. Semi-annual sampling was discussed. The results from September will not be available for another 2 months. GEPD indicated that the sampling can be reviewed and revised as it is not under a regulatory monitoring program. USGS will review existing data and prepare a trends analysis including concentration over time evaluation, prepare a scatter diagram and tabulate the data. The results are an agenda item for the next meeting.

15. B. Kaschak led a discussion to amend the 12 Month Goals Schedule. The current and a revised schedule were provided to add and delete items.

ACTION ITEM: W. Kaschak to amend 12 Month Goals Schedule to be distributed with the meeting minutes.

16. Day two began with a review of the agenda items by Mr. Rick Ryan of ABB-ES: 1) Review of CAP meeting in Tampa; 2) Remediation Decision Model for alternatives; 3) Recovery Well installation specifics. Mr. Ryan did a review of the Tampa summary. The focus is remediation and strategy consists of containment, source reduction control, remediation, exit plan and the CAP. The presentation objectives are to present information and costs gathered for a recirculation well pilot study (source reduction) and present three long-term remedial alternatives with relative costs (remediation). The team decision will be based on pounds removed per day basis. GEPD policies, preferences, and constraints that affect the selection of contaminants of concern are that cleanup goals are MCLs or background when no MCLs exist, not to support risk assessment until after remediation and to focus on chlorinated solvents. Other contaminants may or may not be addressed later. Constraints included: 1) no media transfer, zero air emissions policy, natural attenuation was not an option by GEPD (can be part of the solution, not part of the remedy, and preference of proven technologies versus innovative technologies (Mr. Hendricks stated that he would however take an active role in innovative technologies. Install what the contractor has with no pilot time. If it has worked in the past, they will consider). The preference by GEPD is not to do pilot studies. GEPD seems to prefer pump and treat approach, with UV Oxidation or bioreactor followed by reinjection. The GEPD says they are looking for zero air emissions, containment and verifiable data. The question was asked "Why zero emissions policy" and about the GEPD air rules? GEPD says the remedial alternatives are looked at on a case by case basis. Use the **best available technology**. Every alternative submitted will be considered. Decision of remedial process is site specific. A major factor for Kings Bay is the residential area nearby. There are two areas of remedial concern which were based on groundwater monitoring locations and direct push points. The source areas include one on the north side of landfill site which is 190' x 350' and the other on the south side which is 120' x 120' and was shown to the team on a site map. A table was shown with a groundwater hits summary for chlorinated solvents based on the most recent data.

17. Three remedial alternatives were presented by Mr. Rick Ryan. Technology from the "short list" from Tampa were used to form the three alternatives that were presented. Alternative #1 included extraction at the source (high containment levels). The plan is to put in a string of new recovery wells (not sure how many), use UV oxidation for groundwater treatment and reinjection. Mr. Hendricks mentioned that horizontal wells are also an alternative. There are already several being used in Georgia. Much discussion was held regarding area of reinjection so as not to increase gradients (i.e. inside landfill by groundwater divide). Due to public perception, it was not recommended to reinject on outside of base property. An option also is to spray back over the landfill. The alternatives presented included air stripping which Mr. Hendricks said is unacceptable because of the media transfer. The off-gas would require a catalytic oxidation or carbon drums treatment and is not recommended by the State. Vinyl chloride can get through carbon treatment and would be a media transfer. Mr. Hendricks mentioned that chemical oxidation is a valid alternative. Alternative #3 showed natural attenuation for source. Pounds per day removal rate will be examined compared to extraction wells and recirculation wells. Mr. Hendricks mentioned other technologies such as chemical oxidation, a physical removal, or reverse osmosis as options to consider.

18. The different tools for calculating removal rates for the CAP was presented (i.e. Darcy Law (Q),

Cooper Jacob (RDI) etc. Mr. Leeth of USGS recommended use of concrete data versus assumption for coming up with the baseline. Timeline also has to be looked at when considering process of compiling concrete data. A basic approach without a rigorous analysis was recommended by Mr. Leeth. Mr. Hendricks mentioned that on-site labs may be used for testing of contaminants even though they are not certified. The testing is only acceptable for data gathering purposes only. The State recommended building around performance. Make the decision of remediation process, demonstrate containment (can be tweaked later), put in the wells and start pumping. Build into the CAP means to show it is working. If it doesn't work, then change it. Look for an approvable solution that works. The State will be looking at performance and public health when reviewing the Draft final CAP. No media shifting is preferred, however, the State will entertain any proposal.

19. Mr. Kurt Sichelstiel gave a very brief presentation on recovery well installation, modification and a corrective action extraction wells/system. This presentation was brief because recovery wells have not actually been selected as the technology that will be used for the remediation process. Mr. Sichelstiel very quickly went over technique, location (source reduction area), design modifications (looking at depth and screen length) and expected results (greater well efficiency, greater specific capacity, therefore higher yield with lower head losses in wells), and higher capacity for discharge (gives greater effective radius of influence).

20. A recommendation was made for the next team meeting to coincide with the next Kings Bay RAB Meeting. December 3rd is the date of the next Kings Bay Team Meeting. Rhonda Bath will schedule the Team meeting at Jekyll Island on the 3rd of December and the RAB meeting the 4th of December 1997 at the St. Marys Library. Meeting minutes are to go out ten working days following the Team meeting. Team members have five working days to review and provide comments to Sandy Truett at e-mail fetruett@subasekb.navy.mil or fax # 912-673-2181. If you have any questions, please contact Ms. Truett at 912-673-2001, ext 8818.

Enclosures:

Team List of Action Items

ACTION ITEMS

1. Bill Kaschak will produce meeting minutes from Tampa Team Meeting with Evan Nyer.
 2. Data from direct push (western end of subdivision) to the State with summary of results from direct push (i.e. how geology works, can reference earlier submittals, list of fragments, maps, tables etc.)
Laura Harris and Rhonda Bath will provide. USGS will review. This item requires a stamp. ECD: 12/31/97.
 3. Copy of scope to the State. Anthony Robinson will provide. ECD: 10/24/97.
 4. Draft of team book to all members. Jody Laprade to provide.
 5. Look at reverse osmosis. Rick Ryan and Herman Bauer will present.
 6. Confirm Dr. Chapelle pounds per day calculation. Anthony Robinson will confirm.
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