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BUREAU OF
WATER RESOURCES MGMT.

10 March 1993

Ms. Bonnie L. Eleder
Remedial Project Manager (HSRW-6J)
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

Work Order No. 02687-001-0025

Re: Monthly Progress Report for February 1993
Moss-American Site, Milwaukee, Wisconsin

Dear Ms. Eleder:

Roy F. Weston, Inc. (WESTON®) has prepared this monthly progress report on behalf of the Settling Defendant for the Moss-American Superfund site, Kerr-McGee Chemical Corporation (KMCC). This monthly progress report has been prepared to document progress achieved by KMCC during February.

Progress During February 1993

The following summary of predesign task progress is presented for this reporting period:

- Predesign Task 2 - WESTON completed an internal draft Technical Memorandum (TM) to present the findings of the background CPAH study. The draft TM is currently being reviewed and finalized for transmittal to U.S. EPA on 15 March 1993.

- Predesign Task 9 - WESTON continued work on evaluation of alternative alignments for the Little Menomonee River by identifying avoidance areas based on our mapping of aquatic and terrestrial resources and existing land uses. We have also established preliminary realignment alternatives for further engineering evaluation.

- Predesign Task 10 - WESTON transmitted the draft Technical Memorandum presenting the findings of this task to U.S. EPA on 8 January 1993. We are currently awaiting U.S. EPA review comments on this transmittal.

- Predesign Task 16 - On 17 February 1993, WESTON, KMCC, U.S. EPA, and CH2M Hill, Inc. participated in a conference call to discuss progress of the Predesign Task 16 treatability studies. The written minutes of this conference

call are presented as an attachment to this progress report. These minutes summarize the progress to date under Predesign Task 16.

- Predesign Phase Quality Assurance Project Plan (QAPP) - On 9 February 1993, WESTON transmitted responses to U.S. EPA review comments and document revisions to the Draft Predesign Phase QAPP. WESTON and KMCC are currently awaiting U.S. EPA review comments on this transmittal.

Problems Encountered/Issues to be Resolved

Denial of access to County of Milwaukee properties of the Moss-American site continues to impede progress on implementing a number of the predesign tasks. Given the lead time necessary to secure laboratory, drilling, and other specialized subcontractor services -- and the continued uncertainty in resolution of this site access issue -- KMCC and WESTON now anticipate that the planned 1993 schedule of field activities will require postponement until the 1994 field season.

Activities Anticipated During March 1993

KMCC and WESTON anticipate conducting the following predesign phase activities during March 1993:

- We will continue to make progress on those predesign tasks where further field work and/or site access is not required. We anticipate work progress to continue on Predesign Tasks 2, 9, and 16, in accordance with the approved Predesign Work Plan.

- Under Predesign Task 2, WESTON will transmit the Technical Memorandum presenting the findings of our Phase I background study. This transmittal will be issued to U.S. EPA on or about 15 March 1993.

Should further clarification of this progress report be required, please contact the undersigned at (708) 918-4000.

Very truly yours,

ROY F. WESTON, INC.

Gary J. Deigan
Senior Project Manager

Kurt S. Stimpson
Project Director

GJD:KSS:amp
Attachment

cc: Mr. Mark Krippel, Project Manager
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Mr. Richard Meserve
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MOSS-AMERICAN SITE
PREDESIGN TASK 16 - CONFERENCE CALL MINUTES
17 FEBRUARY 1993

1. Refer to attached agenda.

2. Conference call participants:

Kerr-McGee Chemical Corp. G. Van De Steeg	Bergmann USA R. Traver
WESTON G. Deigan W. Lowe	U.S. EPA B. Eleder
IT Corporation K. Brown	CH2M Hill, Inc. S. Keith C. Ohland

3. WESTON summarized the scope of predesign treatability testing and the purpose of this conference call:

   a. Scope - Under Predesign Task 16 of the Statement of Work (SOW) two treatability tests are being conducted concurrently. Bioslurry treatment is being tested by IT Corporation under subcontract to WESTON. Soil washing is being tested by Bergmann USA under subcontract to WESTON. Both tests are currently underway.

   b. Purpose of this conference call:

      i. Provide an initial status report on each of the treatability tests.

      ii. Provide an opportunity for technical discussion in the form of questions and answers.

      iii. Provide information on forthcoming test activities and task schedule.

4. WESTON briefly summarized the initial treatability test soil sampling/characterization effort (the data package had been previously distributed to all participating parties).

5. IT Corporation/WESTON provided progress report on bioslurry treatability test. Based upon preliminary data and observations, the following key points were noted:

   a. Batch Study - Initial test setup went well. T=0 data indicate that intended starting conditions were achieved. Operating characteristics (dissolved oxygen

[D.O.], temperature, pH) are within acceptable ranges. T=0 and T=3 weeks data are being finalized; will need both T=6 weeks and reactor (bottle) extraction data to complete mass balance and assess PAH removal. Microbial characterization shows high overall level of microbial activity (total heterotrophs). Some problems were encountered with spreading growth for PAH degraders. To address this, alternative tests for microbial activity are being considered.

b. Reactor Study - Operation of the bioslurry reactor began on 25 January 1993, with continuous flow operation beginning on 27 January 1993. At the time of this conference call, the system is considered to be in a startup mode, proceeding toward a presumed steady operation at 30-day hydraulic retention time (HRT). As noted in the final Test Plan, the startup slurry concentration was set at 30% soil based upon data from EIMCO's slurry density testing. Operating conditions (temperature, pH, D.O.) have been within expected normal ranges. Microbial enumeration shows high levels of total heterotrophs at startup, and spreading growth for PAH degraders as in the batch study. The major issue in early operation has been the slow settling rate of the slurry. This may be a "normal" manifestation for startup conditions and may improve. In fact, some minor improvement has been observed. If a slow settling rate is a function of the specific waste characteristics, this issue will require attention and additional engineering evaluation in all future activity, since any mode of bioslurry reactor operation will require separation and dewatering of solids prior to redisposal.

CH2M Hill Questions:

- Were batch study data used to refine the Reactor Study Protocol? Response: Batch data were used relative to slurry density and test conditions. PAH removal data would not be finalized in time to assess or modify the reactor's hydraulic residence time.

- Were there differences between T=0 data and the initial sample characterization data? Response: PAHs at T=0 were similar to the initial characterization data. Total carbon levels at T=0 appear high. WESTON reiterated that performance in the treatability tests will be assessed in terms of T=0 data for each test sample, not the initial characterization data.

- What may improve settling rate? See response/discussion presented in 5b above. At this juncture of the testing, WESTON believes it may be too early to determine what measures will improve the settling rates.

6. Bergmann USA/WESTON provided a progress report on the soil washing treatability test:

> Both test samples are being processed. The "Low Concentration CPAH" soil sample has been processed through characterization (sieve analysis), coarse screening, attrition scrub, and fine screening. Analytical samples are being submitted to Lancaster Laboratories. The "High CPAH" sample has been processed through characterization and coarse screening. Anticipated completion of processing is 26 February 1993. The ENSYS PAH kit is being evaluated to track progress in the treatability testing laboratory. Five scrubbing conditions are being evaluated for each sample: aqueous washing and two surfactants at two concentrations each. A second washing step has been added to the aqueous wash sample based upon preliminary screening data from the ENSYS PAH kit. Preliminary data suggest that water washing alone may work better than the surfactants being tested. Based upon the anticipated processing schedule and laboratory turnaround time, an initial draft report from Bergmann USA to WESTON is anticipated mid-April 1993.

CH2M Hill Questions:

a. Is T=0 analysis being performed by Lancaster Laboratories? Response: Yes. All analyses of evaluation of soil washing performance will be conducted by Lancaster Labs. The ENSYS PAH test kit is used only to track progress during lab processing.

b. Are there any unexpected material qualities? Response: No, although the second sample received by Bergmann was more agglomerated.

c. Is contaminant distribution being assessed in screen splits? Response: Yes.

d. How is dewatering accomplished? Response: A Hazen Pressure Filter is being utilized in the treatability lab, and provides fine cakes with ~50% moisture.

e. In light of the preliminary surfactant results, should we consider evaluation of additional surfactants? Response: Current selection of surfactants was based upon prior experience in soil washing and the suitability in subsequent bioslurry systems (biodegradability). No additional surfactant testing is anticipated under this test plan.

7. WESTON advised U.S. EPA that site visits are planned to both testing laboratories in the near future. U.S. EPA representatives are invited. The site visit to Bergmann USA is scheduled for 24 February 1993. A site visit to IT Corporation will be conducted during the first two weeks in March.

8. WESTON indicated that the Work Plan specifies transmittal of the complete findings of these studies in July 1993 in the form of a Technical Memorandum. It should also be noted that data and findings presented in interim conference calls are preliminary and may not have been subjected to complete QA/QC protocols and reviews by WESTON and KMCC.

Notice of Conference Call
1 p.m. Central Time
17 February 1993

Re: Moss-American Site - Milwaukee, WI
Predesign Task 16 - Treatability Studies

Discussion Agenda

1. Status of bioslurry treatability evaluation

   a. Initial sample characterization
   b. Status of batch slurry study
   c. Status of bioslurry reactor study
   d. Initial/preliminary data
   e. Treatability test schedule

2. Status of soil washing treatability evaluation

   a. Initial sample characterization
   b. Final test plan approval
   c. Status of soil washing tests
      - coarse screening
      - attrition scrub
      - fine screening
   d. Initial/preliminary data
   e. Treatability test schedule

3. Question and answer/other items

Conference call participant distribution:

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G. Deigan (708) 918-4114 W. Lowe (215) 394-3762	G. Van De Steeg (405) 775-5790
IT Corp.	Bergmann USA
K. Brown (615) 690-3211	R. Traver (615) 452-5500
U.S. EPA	CH2M Hill, Inc.
B. Eleder (312) 886-4885	S. Keith (414) 272-2426