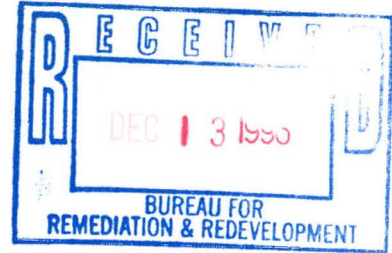




Roy F. Weston, Inc.  
Suite 400  
3 Hawthorn Parkway  
Vernon Hills, Illinois 60061-1450  
847-918-4000 • Fax 847-918-4055



*→ Tom Jarwick - WR/2*

10 December 1996

*See 11/21 Meeting notes  
on River  
banks, Larry*

Mr. Russell D. Hart  
Remedial Project Manager (HSRW-6J)  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, IL 60604

Work Order No. 02687-007-002

Re: Monthly Progress Report for November 1996  
Moss-American Site, Milwaukee, Wisconsin

Dear Mr. Hart:

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 during November 1996.

Progress During November 1996

During this period, KMCC/WESTON conducted the following activities:

- On 21 November 1996, KMCC/WESTON conducted a meeting with U.S. EPA and WDNR to continue progress toward resolution of technical issues related to selection of an amended site remedy. In preparation for this meeting, KMCC/WESTON prepared several submittals, including:
  - An NR 720 ARARs analysis dated 19 November 1996, as requested by WDNR in support of a proposed soil remedy.
  - A progress report, dated 18 November 1996, summarizing the operation of the Phase I groundwater remediation/free-product recovery system.
  - A preliminary overall target schedule and sequence for the site remedy.

Summary notes of the 21 November 1996 meeting are attached to this monthly progress report.





Mr. Russell D. Hart  
U.S. EPA

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- We temporarily discontinued the operation of the free-product recovery system for the impending winter months. The system has been purged and winterized. Approximately 3,100 gallons of recovered free product was manifested to a commercial hazardous waste thermal treatment facility on 18 November 1996.
- In a letter dated 16 October 1996, U.S. EPA transmitted comments by EPA, CH2M HILL, and WDNR on the intermediate 60% Groundwater Design documents. KMCC/WESTON discussed and clarified several major comments during our 21 November meeting with the Agencies. We will proceed in preparing technical responses to these comments for submittal to EPA/WDNR in mid- to late January 1997.
- During November, WESTON conducted an additional round of groundwater sampling and analysis for site wells located on the former wood-treating site property, west of the Little Menomonee River. Results of this analysis will be used to supplement predesign groundwater investigations and provide additional data for design of the groundwater remedy. Results of this analysis will be reported to the Agencies in January 1997, concurrent with submittal of our response to Agency design comments.

#### Activities Anticipated During December 1996

During December, KMCC/WESTON anticipate the following activities:

- We will continue progress in design of the Phase II groundwater remedy. We will begin preparing responses to U.S. EPA/WDNR 60% design comments and we will submit groundwater data collected at the site during our recent November 1996 sampling and analysis.
- As a follow-up to our 21 November 1996 meeting, we will prepare additional information to illustrate how the proposed soil and groundwater remedy will be integrated.



Mr. Russell D. Hart  
U.S. EPA

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Should further clarification of this progress report be required, please contact the undersigned at (847) 918-4000.

Very truly yours,

ROY F. WESTON, INC.

Gary J. Deigan  
Principal Project Manager

GJD/slr  
Attachment

cc: Mr. A. Keith Watson  
Kerr-McGee Chemical Corporation  
Kerr-McGee Center  
P.O. Box 25861  
Oklahoma City, OK 73125

Mr. Richard Meserve  
Covington & Burling  
1201 Pennsylvania Avenue N.W.  
P.O. Box 7566  
Washington, D.C. 20044

Regional Counsel  
Attn: Moss-American Site Coordinator (5CS)  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, IL 60604

Assistant Attorney General  
Environment and Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611  
Ben Franklin Station  
Washington, D.C. 20044  
Ref. D.J. #90-11-2-590



Mr. Russell D. Hart  
U.S. EPA

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cc: Section Chief (3 copies)  
Environmental Response and Repair Section  
Bureau of Solid and Hazardous Waste Management  
Wisconsin Department of Natural Resources  
101 S. Webster Street  
P.O. Box 7921  
Madison, WI 53707-7921

Mr. Jim Schmidt (2 copies)  
Department of Natural Resources  
Southeast District Office  
P.O. Box 12436  
Milwaukee, WI 53212

**Notes of 21 November 1996 Meeting  
Moss-American Site - Milwaukee, Wisconsin**

Attendance

R. Hart, U.S.EPA  
G. Edelstein, WDNR (via telephone)  
W. Warwzyn, WDNR (via telephone)  
C. McCurry, WDNR (via telephone)  
K. Watson, KMCC  
J. Larsen, KMCC  
G. Deigan, WESTON  
T. Graan, WESTON  
M. Kleiner, WESTON

**I. SOIL REMEDY**

- A. KMCC/WESTON presented an NR 720 ARARs analysis per our 19 November 1996 letter. This analysis continues to support KMCC/WESTON's proposed soil remedy, as stated in Item 3 of our 19 November analysis.

KMCC/WESTON clarified that the NR 720 ARARs analysis for determining residual contaminant level (RCL) concentrations assumed target cancer risk of  $1 \times 10^{-5}$  for total CPAHs based on benzo(a)pyrene-equivalent concentrations. U.S. EPA clarified that RCLs should only be determined for those constituents of concern that were identified within the ROD. KMCC/WESTON clarified that the NR 720 analysis was based on the same assumptions as the original EPA risk assessment. Regarding the childhood exposure scenario, U.S.EPA stated that currently the county property is not child friendly; however, biking trails may be constructed in the future. Therefore, some type of childhood exposure scenario with a low frequency of exposure may be appropriate. WDNR indicated they would review the NR 720 analysis again with the understanding that the same assumptions were utilized for both the original risk assessment and WESTON's NR 720 analysis.

KMCC/WESTON stated that land use restrictions would be placed on both the county and railroad property since long-term containment was a possible remedy. KMCC indicated that deed restrictions on the railroad property had already been implemented. KMCC/WESTON and U.S.EPA agreed that the status of the deed restrictions on the county property was unknown and that KMCC/WESTON should consider obtaining a letter from the county regarding future land use.

- B. U.S. EPA stated that to achieve the remedial goal for groundwater, the source soil would have to be treated as well as certain areas of DNAPL. KMCC/WESTON agreed with U.S. EPA. WDNR asked KMCC/WESTON whether all the soil that exceed NR 140 standards for migration to groundwater would be treated.

KMCC/WESTON indicated that source soil exceeding NR 140 standards is treated within the volume of soil currently proposed for thermal desorption.

- C. U.S. EPA indicated that the treated soil from the low-temperature thermal desorption unit should be covered with a 12-inch cover as opposed to a 6-inch cover. KMCC/WESTON indicated that the Focused Remedial Alternatives Analysis only identified a 6-inch cover. We believe a properly maintained 6-inch cover is adequate protection against direct contact and is justified given the reduction of contaminants through treatment. KMCC/WESTON will review the alternative of a 12-inch soil cover.

U.S. EPA and WDNR suggested perhaps the impacted soil on the County property be moved to the railroad property as part of the soil remedy. WDNR stated that one of the ROD objectives was to achieve clean closure at the northeast landfill. U.S. EPA indicated the current proposal to thermally treat a volume of contaminated soil within the northeast landfill is acceptable.

## **II. GROUNDWATER REMEDY**

- A. WDNR indicated that they would like to see additional information related to the groundwater remedy (i.e. how the remedy would be implemented, modeling and analysis, CERCLA waiver due to DNAPL issue). U.S. EPA would like to see a prediction of the estimated time to implement the remedy.
- B. U.S.EPA indicated that the groundwater remedy (funnel/gate) is an innovative technology and thus could the groundwater remedy be considered an evolving technology. WDNR indicated that the ROD Amendment would have to demonstrate that the final action complies with ARARs including NR 720. U.S. EPA/WDNR both indicated that a contingency groundwater remedy (extraction/treatment) should be also considered if the funnel/gate system does not achieve cleanup goals.
- C. KMCC/WESTON outlined the phased approach for the groundwater remedy which included:
- Phase I - Continued operation of the free product removal system.
  - Phase II - Design/construction/operation of the upper tier funnel and gate system, including a pilot operation and evaluation of gate media.
  - Phase III - Design/construction/operation of the entire two-tiered funnel and gate system.

In addition, KMCC/WESTON indicated that the gate design would address the control of residual DNAPL.

- D. KMCC/WESTON indicated that the near-term schedule for the groundwater remedy would include preparing a response to comments document that would address DNAPL, a contingency groundwater remedy, and other major EPA/WDNR comments. The response to comments would consider and present the recent groundwater data collected at the site in November 1996.
- E. KMCC/WESTON required clarification on where groundwater PALs would be expected to be achieved. KMCC/WESTON indicated that PALs would not be met throughout the aquifer and that the point of compliance should be effluent side of the treatment gates along the river. WDNR indicated that PALs would have to be achieved at some point. U.S. EPA indicated that it would not be reasonable to achieve PALs throughout the aquifer.
- F. WDNR would like to see the quarterly data for the free-product removal system. KMCC/WESTON stated that these measurements do not provide useful data as to the extent of the free product since the extraction system was in operation, but we would provide such data.
- G. KMCC/WESTON indicated that volume of soil proposed for thermal treatment includes some source soils below the vadose zone and that both the treated soil would be consolidated and covered within the flow path of the funnel and gate groundwater treatment system.

### III. RIVER REMEDY

- A. KMCC/WESTON proposed remediating river sediments through predesign sample location MA1-SD04-0015-01 within Segment 4. U.S. EPA indicated that the first 2200 feet of Segment 4 coincides with sample location MA1-SD04-0015-01.

WDNR suggested that proceeding with the design of the river remedy through Segment 4 but resampling Segments 4 and 5 during the design to confirm whether remediation is necessary. WDNR also indicated that the River Management Team has agreed that the WDNR MPB levels are the cleanup objectives for the river. KMCC/WESTON will continue to object to any river remedy based on WDNR MPB values.

KMCC/WESTON inquired as to why remediation within Segments 4 and 5 is an issue with the agencies despite scientific data to the contrary. U.S. EPA indicated that RI data and the time factor (potential scouring of sediment) are some of the reasons that may warrant action within Segment 4 and 5. WDNR indicated that based on current data, Segment 5 may not require remediation; however, the downstream half of Segment 4 is questionable.

KMCC/WESTON expressed concern regarding an open-ended ROD that includes additional sampling. We believe enough data has been collected to date to determine an appropriate remedy. As a further compromise, KMCC/WESTON offered to remediate sediments up to sample location MA1-SD04-0015 and conduct

limited hot-spot removal within the remainder of Segment 4. Hot-spot removal would be limited to only elevated RI sampling locations, contingent upon no further sediment sampling. WDNR agreed to discuss this offer with the EPA/WDNR River Management Team.

- B. In determining what is a hot-spot, WDNR indicated that there is pure product within Segment 4 and that all parties should visit the site to verify. U.S. EPA agreed that this should be verified in the field by all parties. U.S. EPA suggested hot-spots should be first based on RI and Pre-Design Data and secondly, field verify potential areas of pure product. KMCC/WESTON will evaluate a reasonable definition of hot-spot removal for the river remedy as well as confirm whether the 3.8 mile river remedy offer coincides with 2200 feet downstream of the end of Segment 3. KMCC/WESTON do not believe that further field reconnaissance is warranted given the extent of river sediment sampling completed to date.
- C. KMCC/WESTON indicated that the level of river restoration proposed by WDNR exceeds the typical requirements under Superfund; the need for river restoration is not solely due to impacts by the wood-treating site, and thus we would not agree to such work. WESTON presented a cost calculation for the level of restoration proposed by WDNR, further illustrating the excessive cost of such restoration (~\$500,000 per river mile).
- D. KMCC/WESTON indicated that river remedy did not include the treatment of sediment, but placement with the treated soil beneath a 6-inch soil or asphalt cover. U.S. EPA is concerned about recontaminating the soil and would like to see some of the sediment treated. WDNR indicated that unless a waiver was granted or a CAMU was approved the treated soil and excavated sediment would require placement above a liner.

WDNR then stated that the treated soil could be placed in an unlined area that is out of the floodplain, but that the untreated sediment would have to be placed in a 3-foot lined on-site cell. The cell would have to be located such that the maximum distance between the water table and the bottom of the cell is achieved.

KMCC/WESTON believe that similar NR 720 ARAR standards for soil should also be consistently applied to sediment when removed from the river, dewatered, and placed on the former wood-treating site. The low residual CPAH levels in river sediment do not merit treatment or a lined containment cell, but do require management to preclude direct contact, as proposed by KMCC/WESTON.

#### **IV. SCHEDULE/SEQUENCE OF REMEDIES**

KMCC/WESTON presented a potential schedule for the river, soil, and groundwater remedies. U.S. EPA indicated that the river remedy schedule seemed acceptable, but that U.S. EPA would like to see the soil and groundwater schedule accelerated. U.S. EPA did indicate that their headquarters would review the ROD amendment which may delay the ROD amendment approval.



WDNR asked KMCC whether they would be willing to proceed with the remedial design prior to a revised, signed consent decree and statement of work. KMCC will review this approach with their counsel. KMCC continued to express its willingness to move forward with resolving technical remedy selection issues in the interest of schedule.