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Air Quality
Mining Regulation and Reclamation
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Water Pollution Control

LAW DEPARTMENT

Waste Management
Corrective Actions
Federal Facilities

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION

Capitol Complex
333 W. Nye Lane
Carson City, Nevada 89710

August 15, 1994

Susan Crowley
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89009-7000

Subject: Phase II Letter of Understanding Between NDEP and Kerr-McGee Chemical Corporation (KMCC)

Dear Ms. Crowley:

It is the understanding of the Nevada Division of Environmental Protection that, based upon our meetings, discussions, and correspondence with yourself and other representatives of Kerr-McGee Chemical Corporation, Kerr-McGee agrees to perform the following environmental assessment and information gathering activities at or pertaining to the KMCC's Henderson, Nevada facilities. The numbering of the particular items to be addressed follows the system used in NDEP's recommendations (dated December 16, 1992) based upon the Phase I ECA report.

- 1) On-Site Portions of "Trade Effluent" Settling Ponds and Associated Vitrified Clay Piping, SWMU KMCC-014:

Provide the results of soil sampling performed by Datachem (KMCC Final Phase I Report Reference K353 "Analytical reports of soil samples taken in the vicinity of proposed SIs WC-1 and WC-2").

Provide a work plan for characterization of potential contamination in the western portion of the KMCC "Trade Effluent" pond area (that area which lies west of Ponds WC-1 and WC-2 and east of the earthen berm which defines the eastern margin of the On-site Hazardous Waste Landfill. Historical usage and waste disposal practices are to be used to establish the list of analytes to be evaluated.

2) Open Area Due South of "Trade Effluent Disposal Ponds:

KMCC will attempt to further delineate this poorly defined historic disposal area and to establish the nature of materials deposited therein. KMCC will incorporate characterization of this area in the work plan for #1 above ("Trade Effluent" Settling Ponds).

3) Air Pollutant Emissions Associated with Industrial Processes:

Provide specific references to those passages in KMCC's Final Phase I report (and any other sources of information) which describe the nature (vapor, particulate, etc.) of historical and current air emissions at the KMCC facility. For those emissions which are determined to have been or which are presently depositional in nature, KMCC will provide information regarding patterns of dispersion and probable deposition.

4) Hardesty Chemical Company Site:

Provide analytical data obtained from sampling of the ground water monitoring wells installed on the J.B. Kelley lease site. Although these wells were installed for the evaluation of potential hydrocarbon contamination from the underground storage tanks formerly located at the J.B. Kelley site, they are in the area where Hardesty is believed to have carried out its operations. NDEP may request additional sampling of these wells with an expanded list of analytes.

KMCC will provide NDEP with any additional information regarding the past operation of Hardesty Chemical Company at the KMCC facility which may be reasonably available, including facility locations, products, waste streams, and waste disposal. KMCC and NDEP will then determine what additional investigatory work is necessary based upon the identified information concerning the activities of Hardesty at the KMCC site.

5) On-Site Portion of Beta Ditch, Including "Small Diversion Ditch" Northwest of Pond C-1:

Identify segments or tributaries of these conveyances (if any) which received waste streams from KMCC or its predecessors/tenants exclusively. Those portions of the conveyances which historically received waste streams

from two or more of the BMI companies, will be addressed as BMI Common Areas Issues. For those segments or tributaries identified as having been utilized by KMCC or its tenants exclusively, KMCC will prepare a work plan to characterize residual contamination by contaminants of concern which may exist therein.

6) Unnamed Drainage Ditch Segment:

Based upon KMCC's assertion that this ditch is in fact the Northwest Drainage Ditch which received waste streams from more than one BMI company, this area will be addressed as a BMI Common Areas issue.

7) Old P-2 Pond and Associated Conveyance Facilities:

Provide a work plan for sampling of subsurface soils in the area of the former pond to confirm that residual material concentrations are below State and Federal action levels.

8) P-3 Pond and Associated Conveyance Facilities:

KMCC will provide a work plan for sampling of subsurface soils in the area of the former pond to confirm that residual material concentrations are below State and Federal action levels. As a necessary component of this work plan, KMCC will provide additional information on the location, regulatory/closure status, and release history of this impoundment. KMCC will also provide information on the disposition of contaminated material removed from this pond.

9) New P-2 Pond and Associated Piping:

Provide engineering specifications of the impoundment including leak detection systems (e.g. double lined with leachate collection) and the location and configuration of monitor wells intended for this purpose. Provide information regarding the operational and regulatory status of this impoundment and release history (if applicable).

Issues exclusively concerning Total Dissolved Solids impacts to ground or surface water will continue to be addressed by NDEP's Bureau of Water Pollution Control.

- 10) On-Site Hazardous Waste Landfill, SWMU KMCC-013:
Provide the Division with copies of correspondence relating to the closure and post closure status of the landfill. This information should include the post-closure plan.
- 11) SWMU KMCC-005:
Provide specific information (i.e. volume of material, depth of excavation, criteria used to determine extent of contamination, etc.) relating to the removal of the "old drying pad" and underlying fill material and native soils. Provide an evaluation of the feasibility of collecting confirmatory samples of soil from beneath the area of the old pad.
- 12) Hazardous Waste Storage Area, SWMU KMCC-006:
No further action is required at this time.
- 13) Pond S-1:
No further action is required at this time. A review of the RCRA permit status of this SI may be required pending the outcome of Phase II investigations.
- 14) Pond P-1, and Associated Conveyance Piping:
KMCC will provide Closure documentation for this impoundment. A review of the RCRA permit status of this SI may be required pending the outcome of Phase II investigations. No further action is anticipated at this time.
- 15) Platinum Drying Unit, SWMU KMCC-007:
KMCC will provide either analytical data or a technically based argument supporting their contention that minor staining of the soil surrounding this unit is not a threat to either human health or the environment and is not a violation of State or Federal regulations. Included in this information shall be a discussion of how KMCC has revised housekeeping practices so as to eliminate or minimize further releases of material from this unit.
- 16 & 17) Ponds AP-1 and AP-2, and Associated Transfer Lines and Ponds AP-3 and Associated Transfer Lines:

Provide a technical evaluation of the appropriateness of the placement and design criteria for wells used to monitor potential contaminant migration from these impoundments. Include a list of the analytes which are currently monitored for and the latest data. Reference to the facility wide hydrologic evaluation conducted in July of 1993 may be used to provide some or all of the requested information.

Because ammonium perchlorate is highly soluble in water, and due to the fact that the ammonium ion (NH_4^+) may be rapidly transformed to nitrate by the action of indigenous microbes in the soil through the process of nitrification, the AP pond area should be evaluated for potential ground water impacts by nitrates.

Provide an evaluation of the potential reactivity of ammonium perchlorate in the ponds and in site soils.

Provide chromium concentration data for pond contents.

Provide a summary diagram/facility map which more accurately identifies the location of the AP impoundments and the other waste management units/areas of concern at the KMCC facility. Modification of Plate 3-2 of the KMCC final Phase I report would be acceptable for this purpose.

Issues exclusively concerning Total Dissolved Solids impacts to ground or surface water will continue to be addressed by NDEP's Bureau of Water Pollution Control.

18) Pond AP-4:

Reference items 16 & 17 above. The issue of potential chromium contamination is not applicable to this impoundment.

19) Pond AP-5:

Reference items 16 & 17 above. The issue of potential chromium contamination is not applicable to this impoundment.

20) Pond C-1 and Associated Piping, SWMU KMCC-011:

This impoundment has the potential to impact ground water with elevated levels of total dissolved solids. With the

exception of manganese which has a secondary MCL of 50 ug/L, no other compounds of concern appear to have been disposed here. The potential presence of manganese in site ground water should be evaluated (reference to the KMCC hydrologic evaluation of the site performed in July of 1993 is acceptable).

Issues exclusively concerning Total Dissolved Solids impacts to ground or surface water will continue to be addressed by NDEP's Bureau of Water Pollution control. The planned closure of this impoundment should be coordinated with the BWPC as well.

21) Pond Mn-1 and Associated Piping:

Reference item 20 above. It is understood that closure of this impoundment is not anticipated by KMCC at this time.

22) Pond WC-1 and Associated Piping, SWMU KMCC-015:

No further action is required at this time.

23) Pond WC-2 and Associated Piping:

Provide information regarding the clean up of apparently contaminated soil referred to in the KMCC Final Phase I Report.

24) Leach Beds, Associated Conveyance Facilities, and Mn Tailings Area, SWMU KMCC-009:

Provide a technically based argument (which may include existing TCLP and EP Toxicity data) to demonstrate that pre-1975 disposal of slurried and solid waste to these areas will not have the potential to impact ground water with manganese.

Provide a technical evaluation of the appropriateness of the placement and design criteria for wells used to monitor potential contaminant migration from these waste management units. Include a list of the analytes which are currently monitored for and the latest monitoring data. Reference to the facility wide hydrologic evaluation conducted in July of 1993 may be used to provide some or all of the requested information.

25) Process Hardware Storage Area, SWMU KMCC-001:

No further action is required at this time.

26) Trash Storage Area:

No further action is required at this time.

27) PCB Storage Area, SWMU KMCC-003:

No further action is required at this time.

28) Hazardous Waste Storage Area, SWMU KMCC-004

Provide documentation of the remediation of hydrocarbon contaminated soil observed during Kleinfelder's site reconnaissance. This documentation should include confirmatory sampling and analysis using EPA Method 8015 modified for petroleum hydrocarbons.

29) Solid Waste Dumpsters, SWMU KMCC-008

No further action is required at this time.

30) Ammonium Perchlorate Area - Pad 35, SWMU KMCC-0017:

No further action is required at this time.

31) Drum Crushing and Recycling Area, SWMU KMCC-018:

Provide documentation of the remediation of minor soil staining in this area.

Provide information regarding improvements in area operating procedures for the removal of residual materials from drums prior to storage and crushing so as to minimize or eliminate spillage of waste materials to the ground.

32) Ground Water Remediation Unit, SWMU KMCC-019:

Provide information regarding improvements in area operating procedures for the purpose of minimizing or eliminating spillage of waste materials to the ground. Document any modifications made to the remediation unit for this purpose.

33) Sodium Perchlorate Platinum By-Product filter, SWMU KMCC-021

KMCC will provide a written statement describing the repair of floor cracks in this unit. *Beyond this*, no further action is required at this time.

- 34) Former Manganese Tailings Area, SWMU KMCC-022:

Reference item 24 above.

- 35) Truck Emptying/Dump Site, SWMU KMCC-025:

Provide a sampling plan for assessment/characterization of "unknown" waste materials disposed in this area.

- 36-38) Former Satellite Accumulation Points:

No further action is required at this time.

- 39) Satellite Accumulation Point - AP Maintenance Shop, SWMU KMCC-29:

Provide documentation of remediation of minor spill noted in the Phase I Report. This should include information regarding the association between the spill and the 1,1,1-trichloroethane stored in this area.

Provide information regarding improvements in area operating procedures for the purpose of minimizing or eliminating spillage of waste materials.

- 40) PCB Transformer Spill:

No further action is required at this time.

- 41) Unit 1 Tenant Stains:

Provide documentation of remediation of hydrocarbon impacted soil in this area.

- 42) Unit 2 Salt Redler:

No further action is required at this time

- 43) Unit 4 and 5 Basements:

Provide a discussion concerning the feasibility of characterization and removal and/or stabilization of residual chromium contamination in the unsaturated zone beneath these units.

Provide, as a stand alone document, a full re-evaluation of the effectiveness of the chromium recovery system. Included should be such items as aquifer properties and characteristics, ground water flow patterns, capture and

reinjection zones, influent concentration trends, etc. A discussion of the transport and fate of chromium within the shallow aquifer and within the vadose zone beneath units 4 & 5 should also be included in this document.

44) Unit 6 Basement:

Provide a technically based discussion of the potential impacts to ground water from manganese bearing solutions and from residual high/low pH contamination in the vadose zone which may have resulted from leakage of the basement of this unit. A discussion is required of the engineering features, leak detection system(s), and periodic maintenance of the basement liner and any other appropriate method of addressing the issue of potential on-going releases. Ground water monitoring data should be used to document impacts (or lack thereof) from residual contamination beneath the unit.

45) Diesel Storage Tank:

Within 180 days of receipt of this letter of understanding, KMCC will provide the Division with a work plan designed to address visible and potential hydrocarbon contamination of soil and/or ground water in this area. If KMCC decides to renovate the tank, integrity testing (including some form of non-destructive testing of the tank bottom) will be performed. If KMCC decides to discontinue tank use, the tank will be removed and the area assessed for contamination.

46) Former Old Main Cooling Tower and Recirculation Lines:

No further action is required at this time.

47) Leach Plant Area Manganese Ore Piles:

Provide data/documentation from industrial hygiene studies to on-site workers and off-site residents from exposure to manganese ore and or manganese compounds.

48) Leach Plant Anolyte Tanks:

Provide a technical evaluation of the appropriateness of the placement and design criteria for wells used to monitor potential manganese and pH contaminant migration from this area. Include a list of the analytes which are currently monitored for and the latest data. Reference to the facility wide hydrologic evaluation conducted in July of 1993 may be used to provide some or all of the requested information.

- 49) Leach Plant Area Sulfuric Acid Storage Tank:
Reference item 48 above.
- 50) Leach Plant Area Leach Tanks:
Reference item 48 above.
- 51) Leach Plant Area Transfer Lines:
Reference item 48 above.
- 52) AP plant Area Screening Building, Dryer Building and Associated Sump:

Provide documentation of remediation of "minor white staining" from ammonium perchlorate wash downs and modifications to area procedures to mitigate or eliminate further releases of waste materials.
- 53) AP Plant Area Tank Farm:

Provide documentation of remediation of small visible staining and repair or replacement of the concrete pad.

Provide a discussion of procedural changes intended to mitigate or eliminate further releases of waste materials.
- 54) AP Plant Area Change House/Laboratory Septic Tank:

Provide a work plan for assessment/characterization of potential contamination related to waste chemical disposal via the laboratory septic system.
- 55) Area Affected by July 1990 Fire:

Provide documentation of the remediation of the impacted area including specific data (e.g. waste volume, etc.) regarding material disposal at U.S. Ecology.
- 56) AP Plant Area Old Building D-1 -- Washdown:

Provide a technically based discussion concerning the environmental fate of ammonium perchlorate in site soils (see also the requirements of item # 52 above).
- 57 & 58) AP Plant Area New Building D-1 -- Washdown and AP Plant Transfer Lines to Sodium Chlorate Process:

No further action is required at this time.

59) Storm Sewer System:

Provide documentation of system flow/integrity investigations as part of a technical evaluation concerning the potential for soil and/or ground water contamination resulting from waste disposal and storm water discharges through the storm sewer system.

Provide a technical evaluation of the appropriateness of the placement and design criteria for wells used to monitor potential contaminant migration from the storm sewer system. Include a list of the analytes which are currently monitored for and the latest data. Reference to the facility wide hydrologic evaluation conducted in July of 1993 may be used to provide some or all of the requested information.

60) Acid Drain System:

Provide a technically based evaluation of the potential for soil and/or ground water contamination resulting from historic waste disposal through the acid drain system.

Provide a technical evaluation of the appropriateness of the placement and design criteria for wells used to monitor potential contaminant migration from the acid system. Include a list of the analytes which are currently monitored for and the latest data. Reference to the facility wide hydrologic evaluation conducted in July of 1993 may be used to provide some or all of the requested information.

61) Old Sodium Chlorate Plant Decommissioning:

No further action is required at this time.

62) State Industries, Inc. Site, Including Impoundments and Catch Basin:

Provide a work plan for the complete assessment/characterization of the State Industries surface impoundments. Analytes should be selected based upon known or suspected waste streams disposed to these ponds and should include TCLP metals, volatile organic compounds (if applicable), TPH (if applicable), and pH.

63) J.B. Kelley, Inc. Trucking Site:

Provide closure and/or remediation documentation for the underground storage tanks formerly located at this site. Include data from the ground water monitor wells installed by KMCC to evaluate potential hydrocarbon contamination.

Provide an assessment plan to characterize areas potentially impacted by truck washing rinsate and liquids and sludges present in the concrete vaults at this site.

64) Koch Materials Company Site:

Provide documentation of KMCC's efforts, in conjunction with those of Koch Materials Co., to remediate hydrocarbon contamination and to develop operating procedures and/or containment structures to prevent further releases of petroleum hydrocarbons and other wastes.

65) Nevada Precast Concrete Products, Green Ventures International, Buckles Construction Company, and Ebony Construction Sites:

Determine whether soil staining identified in this area is coincident with the staining referred to in item 41 above. If the staining is not coincident with this item, provide documentation of KMCC's efforts to work with these tenants for the purpose of remediating hydrocarbon contamination and developing operating procedures and/or containment structures to prevent further releases of hydrocarbon compounds and other waste materials.

66) Above-Ground Diesel Storage Tank Leased by Flintkote Co.

No further action is required at this time.

67) Delbert Madsen and Estate of Delbert Madsen Site:

Provide documentation of KMCC's efforts to work with the tenant to further assess and characterize contamination which may be present at this location.

68) Southern Nevada Auto Parts Site:

Provide documentation of KMCC's efforts to work with the tenant to further assess and characterize contamination which may be present at this location.

Susan Crowley
Kerr-McGee Chemical Corporation
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69) Dillon Potter Site:

No further action is required at this time.

The tasks outlined above will be incorporated (as an attachment) into the forthcoming Phase II Consent Agreement to be negotiated with KMCC. That document will provide the specific framework wherein these tasks shall be accomplished.

Should you have any questions or comments regarding any of the items, please contact either Allen Biaggi or myself at (702) 687-4670, extensions 3021 and 3017, respectively.

Sincerely,



Edward L. Basham
Environmental Management Specialist
Remediation Branch
Bureau of Corrective Actions

ELB:kmf

cc: Russell Jones, Staff Environmental Engineer, Kerr-McGee Chemical Corporation, Kerr-McGee Center, P.O. Box 25861, Oklahoma City, Oklahoma 73125

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