UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, Colorado 80202-1129
Phone 800-227-8917
www.epa.gov/region8

July 6, 2016

Ref: 8EPR-SR

Via electronic mail

Mr. David J. Abranovic, P.E.
Project Coordinator
ERM West, Inc.
7272 East Indian School Rd, Suite 108
Scottsdale, AZ 85251

Re: Phase 2B Detailed Site-Wide Hydrologic Characterization - US Magnesium RIFS

Dear Mr. Abranovic:

Pursuant to the AOC for RIFS (August 2011) of the US Magnesium NPL Site and the Appendix A Statement-of-Work, EPA is expanding the hydrology investigations begun under the Phase 1A SAP (September 2013) and initiating a second phase of RI work. This Phase 2B Detailed Site-Wide Hydrologic Characterization is to commence in 2016 for completion during 2017-18 in support of site characterization and feasibility study. This activity will also address and support operational corrective-measures options being considered by EPA's R8 RCRA Technical Enforcement Program.

ERM began initial RIFS surface-water and groundwater investigations pursuant to the Phase 1A SAP (September, 2013). PRI-17 was designated for the preliminary investigation of site hydrology (mainly of the Inner-PRIs) and to date has consisted of:

- Assembling historical information from reports and investigation that pre-dated the CERCLA AOC,
- Installing some additional 'reconnaissance' wells and piezometers under the Phase 1A SAP (2012-13),
- Obtaining one-time groundwater and surface-water samples for analysis per the Phase 1A SAP,
- Measuring active-pond pool elevations over a one-year period (2013-14),
- A preliminary hydrologic conceptual site model (Sec. 8.4) in the Salt Cap Treatability Study (SCTS) Work Plan (April 2016),
- Pending July 2016 submittal (per the SCTS Work Plan) of an initial hydrologic report (largely addressing the areas of a proposed salt-cap, and stemming from Phase 1A surface- and groundwater findings),
- Pending July 2016 submittal (per the SCTS Work Plan) of the Fluvial Geomorphology site assessment performed in Spring 2016, and,
- Pending waste-to-brine leaching assessment of select PRI 5 and 7 wastes (per the SCTS Work Plan). *[Related to this, as part of EPA-RCRA's corrective measures deliberations*

regarding waste ditches, a RCRA contractor in 2015-16 conducted a leaching evaluation of the high concentration waste-sediments within the Main Ditch; as EPA has noted, other site-wastes may also require leaching assessment.]

As you and I have discussed, all the above is foundational for and leading to the scoping and development of the Detailed Phase 2B RI for Site-Wide Hydrologic Characterization of surface- and groundwater for the RIFS study area. The extent to which this Phase2B activity will engage additional site-investigations (stratigraphy, hydraulics, geochemistry), further waste-leaching considerations, and fate and transport modeling for detailed site characterization, risk assessment and FS evaluation will require discussion. You have previously indicated ERM's interest in having Phase 2 investigations obtain all necessary information to complete site-characterization and baseline risk assessment for preparation of a Feasibility Study. EPA supports this goal-- recognizing the scope of the Phase 2B objectives and the level-of-effort that will accordingly be required of ERM.

As part of ongoing RCRA settlement negotiations, US Magnesium (USMag) recently provided EPA with a comprehensive concept for construction of a large scale control system to isolate and sequester all historic and future wastes and process waste streams (a 'mega-cell'). This facility would encompass 700+ acres of the most highly contaminated portions of the NPL Site. US Magnesium has retained MWH consultants to develop the proposal in consultation with EPA and UDEQ. In a June 23, 2016 meeting at UDEQ in Salt Lake City, MWH briefed the agencies on the potential nature and extent of groundwater and engineering assessment and modeling that they foresee being needed to accompany full development of the USMag mega-cell proposal. At that meeting, I apprised USMag and MWH of the anticipated RIFS hydrologic investigations, and they recognized the value of, to the extent possible, merging the development of surface- and groundwater investigations to serve both RCRA and CERCLA needs. In that regard, I suggested that RCRA and MWH join the upcoming RIFS Phase 2B investigational scoping discussions regarding detailed hydrologic characterization of the Site. There are likely to be synergies between the ERM and MWH investigational efforts that could benefit US Magnesium.

Also at the June 23rd meeting, I suggested to USMag the notion of expanding the remedial action evaluations that MWH is undertaking (#1 – New Waste-Water Pond, #2 – the 'Mega-Cell', plus ?). I noted that ERM in 2016 is slated to complete:

- post-Phase 1A/A-B screening-level risk assessments for site problem formulation,
- the Screening-FS in July-August 2016, with ARARs being identified soon thereafter,
- scoping of Phase 2B hydrology investigations for 2016-17 (which would coincide with USMag's Mega-Cell evaluation).

I suggested that with an expanded view of site remediation alternatives, this joint endeavor could achieve the basis/need for the CERCLA Feasibility Study as well as the basis for a RCRA corrective-measures decision—leading to decision documents which fulfill the requirements of both the RCRA and CERCLA-NCP. USMag's attorney Lindsay Ford indicated this was worthy of consideration.

With respect to the CERCLA RIFS and in accordance with AOC-SOW Sec. 3, EPA is outlining the following process for the Phase 2A Detailed Hydrologic Investigation:

- Receipt and technical review of the Draft Baseline Hydrologic Conceptual Site Model (Hydro-CSM) Report which ERM is slated to deliver mid-July.
- On-site field visit(s) to enable the respective hydrology team-members to become directly familiar with the site conditions and geologic setting while they are completing reviews of background information and ERM's Draft Baseline Hydro-CSM Report.

- EPA is planning a day-long site review on Aug 3rd for the EPA-subcontractor Dr. Alan Mayo (HydroGeo Group), who will be assisting Ian Bowen (EPR hydrologist who will be assuming the role previously filled by Andrew Schmidt) so that my RI-team can come up to speed as quickly as possible.

- As you and I have discussed, the Aug. 3rd field-trip could be followed (next-day) with a re-cap discussion (EPA-ERM-UDEQ); understand however, this meeting would be to share observations/thoughts, and would not constitute a scoping meeting pursuant to AOC-SOW Sec. 5.1.1. The meeting would engage discussions that could foster draft-agenda development for a technical scoping meeting.
- Follow-up field visits if/as needed for other hydrology-team participants (ERM, MWH, UDEQ, etc.).
- DQO development [August 2016]: EPA (CERCLA and RCRA, in consultation with UDEQ) will provide an initial-draft for ERM review as part of scoping meeting preparations (agenda and pre-meeting materials).
- Phase 2B Site-wide Hydro scoping meeting [September 2016].
- Hydro scoping meeting notes & preliminary draft work plan outline [ERM/MWH, October 2016]
- Phase 2B Hydro final work plan outline (ERM/MWH, EPA (CERCLA/RCRA) and UDEQ (DERR/DWQ) [Nov.-Dec. 2016].
- Phase 2B Site-wide Hydro-CSM Draft Work Plan (ERM/MWH) [Jan.-Mar. 2017].
- Phase 2B Site-wide Hydro-CSM Work Plan [April 2017 Agency approval].
- Detailed Phase 2B stratigraphy/hydrology/hydraulics/engineering investigations & modeling to support FS [May-October 2017].
- Phase 2B Hydro-CSM Findings Report & agency-consultations [Nov. 2017 – Feb. 2018].
- Site-wide Feasibility Study [2018 – 2019].

The above activity timeline generally comports with the RIFS schedule for OU1 in ERM's current AOC Monthly Report. Addressing the full scope and details of these work activities with our respective teams requires that we promptly and robustly begin the Phase 2B Detailed Site-wide Hydro-CSM aspects of the RIFS.

Please feel free to contact me to discuss this work and coordination with our RCRA counterparts.

Sincerely,

Ken Wangerud
Remedial Project Manager
Superfund Remedial Program

cc: David Gibby, USMag
Lindsay Ford, PBL for USMag
Michael DeDen, MWH
Michael Storck, UDEQ/DERR
Daniel Hall, UDEQ/WQD
Catherine LeCours, PWT for EPR-SR
Alan Mayo, PWT/HydroGeo