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M E M O R A N D U M

To: John Young, NMED, HRMB
From: Michael Dale and William Stone, NMED, DOE OB
Date: 23 February 1998

Subject: TA-18 SAP

The cancellation of the meeting with ERM this morning provides us an opportunity to consolidate NMED's concerns with the proposed work plan before getting together with the contractor. As a first step, this conveys our review comments:

GENERAL

1. As there has been considerable previous work at this site and results are scattered throughout various documents, a summary table should be prepared. Ideally, such a table would include well numbers (in order by well number), well depths, screened intervals, constituents analyzed at each well, sampling dates, all results (in order by date), method used, detection limit and standard. This would not only facilitate review by NMED bureaus but the planning of future work by LANL.

2. Similarly, a single map should be prepared that shows **all** wells and springs involved in previous, current or future sampling.

3. As analytical results in the RFI report are not identified by well number, location cannot be determined from the map provided. Well number should be included in such tables in future documents and serve as the basis for communication between tables and maps.

SPECIFIC

1. **1.0** - The goals could be more simply stated as 1) characterization of contaminant concentrations in both surface-water and ground-water across the site and 2) identification of sources above and at the site.

2. Sampling should include all forms of surface water: streamflow, snowmelt runoff and storm-water discharge.

3. **2.1** - How are "hydrologic parameters, such as transmissivity" for the alluvium, to be determined? Pumping tests at paired wells in Pajarito and Threemile Canyon would be instructive.

4. **Table 2.3.1** - MW-11 is not listed, but was proposed at the January presentation and should be included. Also, Threemile Spring should be added to the list of monitoring targets. (Wells should be listed in order by number.)

5. **2.4.1** - Manufacturer recommends low-flow pumps be placed in the middle of the **screened interval** not water column. If the screen is long, the sampler should be placed in the zone yielding the highest concentration of contaminant, as determined by profiling the screened interval.

6. **2.4.2** - Transducers should be installed in selected wells to monitor water-level fluctuation, especially in response to stream flow.

7. **2.4.3** - Flow meters (such as bubbler or sonic type) are needed at weirs to quantify discharge. Also, the wetlands sediment sites should be shown on the location map. (In surface-water usage the word is spelled "gage").

8. **2.4.4.1** - Does "minimum of 5 ft between surface and bottom of bentonite" mean a minimum of 5 ft of surface bentonite seal? What if the water level is at a depth of 3 ft? How about specifying a minimum of 5 ft or, if not possible, from a buffer zone above the screen to the surface?

9. **2.4.4.2** - The USGS has a detailed protocol for representative surface-water sampling, involving depth and discharge integration guidelines, the use of a churn splitter, etc. As this would be overkill for LANL streams, why not just take a grab sample, instead of using a peristaltic pump, where ISCO samplers are not installed?

10. **2.4.4.3** - (mislabeled 2.4.4.2) Field measurements and sampling should also include purged water. The field parameter is specific conductance, not TDS.

11. **Figure 2.4.4.2** - Are screens really 30 ft? How will filter pack be "properly sized"? How about screen slot size?

12. **Table 2.4.4-3** - Standards and detection limits should be included.

13. **3.1** - Flow meters are needed.

14. **3.2** - How will ground-water storage and stream-flow loss be used to estimate transmissivity, water balance?

15. **3.4.1** - Lag time should be considered in seasonal variability.

We suggest a round table between HRMB and DOE OB before presenting any response to ERM.

cc: Steve Yanicak, NMED, DOE OB, POC/LANL