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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 12, 2012

Colonel David C. Piech
27th Special Operations Mission Support Group
110 E. Sextant Avenue, Building 600, Suite 1098
Cannon Air Force Base, New Mexico 88103

RE: APPROVAL WITH MODIFICATIONS
GROUND WATER MONITORING PROJECT WORK PLAN
MAY 2011 [2012 Sampling Event]
MELROSE AIR FORCE RANGE
EPA ID # NM7572124454
HWB-MELR-11-002

Dear Col. Piech:

The New Mexico Environment Department (NMED) has received the revised *May 2011 Annual Ground Water Monitoring Project Work Plan, Melrose Air Force Range, Roosevelt and Curry Counties, New Mexico* (Work Plan) dated March 21, 2012. NMED has reviewed the Work Plan and hereby issues this Approval with the following modifications.

GENERAL COMMENTS

Comment 1

According to the *2011 Annual Groundwater Monitoring Report, Melrose Air Force Range, Roosevelt and Curry Counties, New Mexico* dated December 2011 the "[s]everal wells are currently being utilized for the collection of water levels that have not been surveyed; these wells include MWL-11, MWQ-11, MWL-12, MWQ-12, and MWQ-13." NMED agrees that these wells must be surveyed. The Permittee must submit a work plan to NMED to survey the

locations, top of the well casings, ground elevations and, if possible, determine the well screen or open hole intervals in the wells. The well survey must include several already surveyed reference wells to check that the old survey is valid. This new survey data must be presented in the 2012 Annual Ground Water Monitoring Report. Ground water sampling activities may occur before the survey is completed; however, location/elevation data collected in field must be tied to the new survey data for presentation in the 2012 report.

Comment 2

NMED issued Notice of Disapproval (NOD) letters dated March 11, 2011, August 19, 2011, September 26, 2012, and October 10, 2012 for the 2010 and 2011 annual ground water monitoring reports for Melrose Air Force Range (MELR). These letters outlined required changes to the presentation of data, historical data tables, well construction details documentation in the ground water monitoring reports, the sampling analytical suite for metals, and the required sampling schedule for metals sampling and analyses. The Permittee must incorporate relevant comments from the previous NMED correspondences in the 2012 annual ground water monitoring report (GWMR) and all future ground water monitoring reports and work plans. The Permittee is directed to use the NMED Position Paper *General Reporting Requirements for Routine Groundwater Monitoring Activities at RCRA Sites*, February 14, 2003 as a guideline for all future ground water monitoring reports. A copy of this guidance can be found on NMED's website at this link:
http://www.nmenv.state.nm.us/HWB/data/General_Reporting_Requirements_for%20Routine_GW_Monitoring.pdf

Comment 3

Laboratory reports included in previous ground water monitoring reports have totaled up to approximately 3,000 pages which made finding specific information difficult. Many of these laboratory reports were Level 4 data packages. NMED does not require Level 4 data packages, Level 2 data packages from laboratory are preferred by NMED for inclusion in the reports. The Level 4 package can be kept on file at the facility or contract laboratory for future reference.

Comment 4

Tables included in the report are difficult to read due to small font size. Tables must be legible in the report (e.g., by reducing margins, increasing font size, adjusting column widths, and adding additional pages per table) and include a complete key and foot notes in accordance with the comment 14 of the NOD letter for the *May 2011 Annual Ground Water Monitoring Project Work Plan* dated October 12, 2011 (WP NOD).

Comment 5

Include a historic data table that summarizes analytical results in the report. The table analytical must include a minimum of eight ground water sampling events (four years). It is understood that at Melrose Air force Range, the 2009 baseline ground water monitoring event may be the earliest reliable data for the starting point for the historical tables, this is acceptable.

Comment 6
All graphs depicting trend analyses of measured parameters (i.e., ground water levels, analyte concentrations, etc.) must to be presented in a useful way. The graphs presented in the 2010 and 2011 annual ground water monitoring reports contain only one well and one parameter on each 1.5 inch by 3 inch graph. This makes comparison of changes in parameters versus time between wells difficult. In the report include one additional graph per parameter, which shows all monitoring wells on the same graph for comparison purposes. This graph must be of a large enough size to be readable (e.g., 11 x 17" paper).

Comment 7
To avoid confusion, tables included in the report must be labeled as either the annual or semi-annual event.

Comment 8
The Permittee is reminded that the laboratory analytical methods must utilize method detection limits lower than the associated screening levels for all analytes.

Comment 9
Include Solid Waste Management Unit (SWMU) locations on all topographic maps, potentiometric surface maps, and well location maps in all future work plans and reports.

Comment 10
The Permittee's current site conceptual model (CSM) consists of two co-mingled aquifers, the Chinle aquifer and the Ogallala aquifer. The appearance of co-mingled aquifer waters may be from mixing of waters within wells screened across both aquifers, rather than hydrologic mixing between the aquifers. Currently, the well screen intervals and their stratigraphic relations are unknown. In WP NOD comment #4 NMED requested "...a complete and accurate table with the well construction details..." The table of well construction details, submitted as an addendum after the Work Plan was submitted, has not been updated since its submittal with the *Annual Ground Water Monitoring Report, December 2010*. The Permittee's response to comment #4 states "[t]o the best of our knowledge the information provided...is accurate." Requested information critical to determining a valid site conceptual model is still absent from this table (e.g., well screen intervals, total well depth measurements, and a column for the most current depth to water measurement for reference are not included).

The Permittee must perform a historical records search to determine well completion specifications and determine which stock wells are screened and which are open hole. This information may be available in the records maintained at MELR or Cannon Air Force Base (CAFB), the New Mexico Office of the State Engineer, or in USGS reports. This information must be provided in the 2012 annual ground water monitoring report along with documentation and references (e.g., field documents, historical records, reports). If this information is unobtainable the Permittee must propose methods to identify unknown well construction and stratigraphic information (e.g., video log). If a good faith attempt is not made to obtain this information the report may be rejected.

For further detailed information regarding updates, corrections, and additional information needed on the well construction details table, refer to NOD letters dated March 11, 2011, August 19, 2011, September 26, 2012, and October 10, 2012 for the 2010 and 2011 annual ground water monitoring reports at MELR.

Comment 11
According to information provided in the Work Plan and previous reports, MWQ-2 is open to the Chinle aquifer. According to Figure 1-5 (Median Ground Water Flow Direction, 2002 to 2003 (USGS)), Figure 8 (Ground Water Flow Map 5-3-2011 to 5-16-2011), & Figure 9 (Ground Water Flow Map 9-26-2011 to October 3, 2011) included in the *Annual Ground Water Monitoring Report, December 2011*, MWQ-2 is being mapped with wells screened or installed in the Ogalalla aquifer. Without knowing the depth of the MWQ-2 screened interval it is not possible to conclude that MWQ-2 is screened in the Chinle aquifer. Furthermore, to create an accurate potentiometric surface map wells from different aquifers cannot be contoured on the same map. Each aquifer must be contoured separately in the report.

Comment 12
MWQ-23 was selected to be used as an alternate background well to MWQ-8, which has been historically dry. MWQ-23 is not depicted on any figures in the work plan. MWQ-23 can only be used as a background well if the total well depth (TD) is known. Measure TD in MWQ-23 during the 2012 sampling event and add MWQ-23 to all relevant figures in report.

Comment 13
Measure TD in MWQ-4 and MWQ-6 in the 2012 sampling event. If TD for these wells cannot be ascertained (by field methods or valid documentation) these wells will no longer be considered acceptable for ground water monitoring activities.

Comment 14
The Permittee is reminded to fully describe all decontamination procedures actually used during field sampling activities in the report, in accordance with Comment 7 of the NMED's dated October 14, 2011.

Comment 15
Comment 9 of the Permittee's response to comments for the work plan NOD dated January 11, 2012 states "...NMED has previously stated that [investigation derived waste] IDW should not be staged for more than 90 days before disposal." Based on previous ground water sampling results at MELR and the definition of a hazardous waste provided in 40 CFR 261 Subpart D, water generated from ground water sampling activities at MELR is unlikely to qualify as hazardous waste and therefore may be stored for longer than 90 days prior to disposal.

Comment 16
Section 2.2.1 Water Level and Total Depth Measurements, page 2-1, bottom of page "[p]rior to ground water sampling activities..." and "[t]he total depth of the well will be measured..." In **Appendix B (Field Methods), TRINITY Field Method Number 2, 1.0 Ground Water**

Sampling, Section 1.4 Initial Activities, bottom of page 2 to top of page 3, the Permittee states "[t]he total depth of each well will NOT be measured before sampling to ensure that silt or sand is not mobilized in the well prior to sampling. The total depth recorded during previous sampling events will be utilized and verified once sampling has been completed. If the total depth is unknown then the total depth of the well should be measured prior to ground water sampling. However, the well should be allowed 24 to 48 hours prior to sampling, when practical." Due to the discrepancy in the Work Plan the Permittee is directed to follow the main text of the Work Plan (Section 2.2.1 above) and allow each well where TD is measured to stabilize for 24 to 48 hours before sampling as indicated in Appendix B. The total depth of the wells must be updated annually in future reports to determine any changes over time to the depth of the wells due to sediment accumulation.

Comment 18

Figure 1-7 (Annual Ground Water Monitoring Well Network Locations) shows MWQ-9 as being used for water levels during 2012 ground water monitoring activities. However, the *Annual Ground Water Monitoring Report, December 2011* indicated that MWQ-9 is not part of the current monitoring well network because it is dry and that CAFB is evaluating the well for "cultural asset" inclusion. Provide clarification on whether MWQ-9 was part of the monitoring well network and include the definition of "cultural asset inclusion" in the 2012 report.

No response to this letter is necessary. The Permittee must implement the Work Plan and incorporate all comments in this approval with modifications as directed. The ground water monitoring report summarizing the results of the 2012 monitoring and sampling activities must be submitted to NMED no later than April 15, 2013.

If you have any questions regarding this letter, please contact Lane Andress of my staff at (505) 476-6059.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: J. Valdez, NMED HWB
D. Cobrain, NMED HWB
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File: MELR 2012 and Reading
HWB-MELR-11-002