



SUSANA MARTINEZ  
Governor  
JOHN A. SANCHEZ  
Lieutenant Governor

NEW MEXICO  
ENVIRONMENT DEPARTMENT

2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303  
Phone (505) 476-6000 Fax (505) 476-6030  
[www.env.nm.gov](http://www.env.nm.gov)



RYAN FLYNN  
Cabinet Secretary  
BUTCH TONGATE  
Deputy Secretary

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

October 16, 2015

Colonel Douglas W. Gilpin  
Commander, 27th Special Operations  
Mission Support Group  
110 E. Alison Avenue, Suite 1098  
Cannon Air Force Base

**RE: APPROVAL WITH MODIFICATIONS  
ANNUAL GROUNDWATER MONITORING REPORT, REVISION 1  
MELROSE AIR FORCE RANGE, JULY 2015  
EPA ID# NM5572124456-1  
HWB-MELR-15-001**

Dear Col. Gilpin:

The New Mexico Environment Department (NMED) has received the *Annual Groundwater Monitoring Report, Melrose Air Force Range, Revision 1* (Report), dated July 9, 2015. NMED has reviewed the Report and hereby issues this Approval with modifications and the following comments.

The report is approved with the intent that comments provided during the current review and the changes required by the May 20, 2015 Disapproval letter have been noted and will be addressed in all relevant future reports.

**Comments:**

**1. Tables 5a and 5b, Summary of Spring and Fall 2014 Groundwater Chemical Analytical Data, Screening Level Data Comparison and Evaluation**

**NMED's Comment:** The screening levels for all contaminants in groundwater shall be the State of New Mexico Water Quality Control Commission (WQCC) groundwater quality standards, 20.6.2.3103 NMAC, the cleanup levels for toxic pollutants calculated in accordance with 20.6.2.7 .WW NMAC, and the drinking water maximum contaminant levels (MCLs) adopted by EPA under the Federal Safe Drinking Water Act (42 U.S.C. §

300f to 300j-26). If both a WQCC water quality standard and a MCL have been established for an individual substance, then the lower of the two shall be the cleanup level for that substance. The WQCC standards apply to the dissolved portion of contaminants with the exception of mercury, organic compounds, and non-aqueous phase liquids. Mercury, organic compounds, and non-aqueous phase liquids shall be evaluated based on total, unfiltered concentrations; EPA MCL standards shall apply to the total unfiltered concentrations.

NMED's Tap Water Screening Levels listed in Table A-1 of the most recent version of Risk Assessment Guidance for Site Investigations and Remediation (as updated) shall be used to establish the cleanup levels if either a WQCC standard or MCL has not been established for the specific substance. In the absence of an NMED Tap Water Screening Level, the EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites (RSLs) for tap water shall be used. If no WQCC groundwater standard, Tap Water Screening Level standard or MCL has been established for a contaminant for which toxicological information is published, the Permittee shall use a target excess cancer risk level of  $10^{-5}$  for carcinogenic substances and a hazard index (HI) of 1.0 for non-carcinogenic substances as the basis for proposing a cleanup level for the contaminant.

Use of this guidance will change the findings of this event in regards to the reported concentrations and evaluation of exceedances. It is unclear as to why only the NMED tap water screening levels were used to evaluate analytical data, as previously submitted reports screened data against EPA MCLs, WQCC standards, and where these values were not available, NMED tap water screening levels. Future reports must be screened using the above sited standards.

## **2. Table 2 Summary of Groundwater Elevation and Depth to Groundwater Data,**

**NMED's Comment:** There appears to be at least a 12 foot difference in groundwater elevations measured in MW-19 between the March 2014 monitoring event (101.69' below ground surface (bgs)) and the October 2014 monitoring event (114.04' bgs). A similar observation was noted for MWQ-24 where groundwater was measured at 48.52' bgs for the March event and 45.96' bgs for the October event; a 2.5-foot difference. No significant differences between measurements were noted for any of the other wells gauged. Future measurements at these wells must be field checked and an explanation must be provided for any anomalous data trends.

## **3. Figure 5, Annual Monitoring Well Network**

**NMED's Comment:** The intent of Figure 5-Annual Monitoring Well Network is unclear as the figure depicts Annual, Semiannual and Water Level Only network wells. A figure depicting all site wells should be presented followed by figures depicting well locations for each well network. The reviewer of the report should be able to spatially reference all wells presented in Table 2 Summary of Groundwater Elevation and Depth to Groundwater Data on one well location map.

**4. Figure 7, Groundwater Flow Direction, October 2014 Chinle Formation**

**NMED's Comment No. 4:** The groundwater elevation for MWQ-22 is reported as 4,200.58 feet above mean sea level (amsl); however, the actual groundwater elevation reported in Table 2 Summary of Groundwater Elevation and Depth to Groundwater Data for October is 4,166.34 feet amsl.

**5. Figure 7, Groundwater Flow Direction, October 2014 Chinle Formation**

**NMED's Comment:** In future reports, groundwater contour maps must be generated for each gauging event conducted during the annual monitoring period to facilitate evaluation of conditions over time and interpretation of presented data. Additionally, groundwater contour data must not be inferred across sampling events. If no data has been recorded for the well location during the gauging event the condition can only be noted and contours generated based on the available data collected during that gauging event.

**6. Figures 8 and 9, Groundwater Elevations, April and October 2014**

**NMED's Comment:** In future submittals, all well locations must be plotted on the groundwater elevation maps presented for the data collected during each event. Conditions encountered during gauging such as a dry well, inaccessibility, abandoned well, or no data collected must be noted on the figure for each site well. If no data was collected, an explanation for not collecting a depth to groundwater measurement must be included in the text or the presented figure. NMED notes that the requirement to amend the May 20, 2015 figure has been met based on the reviewed Comments/Response Matrix.

**7. Figures 10 through 15, Various Concentration Maps**

**NMED's Comment:** In future submittals, exceedances of screening levels must be clearly noted on the presented figures in order to distinguish between reported concentrations which exceed applicable screening levels and those that do not.

**8. Table 1, Summary of Well Construction Details**

**NMED's Comment:** In future reports, Table 1 Summary of Well Construction Details must be amended to indicate the use of dedicated bladder pumps for all annual groundwater quality well network wells. Section 5.1 Summary of Field activities indicates installation of dedicated bladder pumps in the annual groundwater monitoring network. Additionally, provide the applicable intake depth for each of the pumps installed. It should be noted that review of the pump intake depths for the listed wells is near the bottom of the well screen in most cases. Review of the document *Groundwater Monitoring Project Work Plan Melrose Air Force Range*, dated March 2012, indicates the pumps should have been positioned at the middle of the screened interval as stated in

Trinity Field Method Number 2, Section 1.5.2, Monitoring Wells. Review of the analytical results and water quality data collected during sampling activities do not indicate evidence of excessive turbidity during well purging and sampling, which would likely influence sample results. Please provide an explanation for installing pumps near the bottom of the wells.

**9. Data Validation Report SDG 214043009 and 214102205, Method SW-846 6860-Perchlorate**

**Permittee's Statement:** "The Perchlorate analyses were performed by DHL Analytical in Round Rock, Texas. The laboratory results and QA/QC results were reported with "N" qualifiers and noted as "not NELAC certified".

**NMED's Comment:** Sample analyses must be conducted by a NELAC and DoD ELAP certified laboratory for all analyses performed during all future sampling events. Laboratory certification ensures the analysis and reporting was conducted under a uniform level of technical competence and current industry standards. Analyses conducted by non-certified laboratories will be considered invalid in future reports.

**10. Data Validation Report SDG 214102205, Method SW-846 9012B- Total Cyanide**

**Permittee's Statement:** "Cyanide was present at estimated concentrations in the method blanks for preparation batches 543680 and 544446. Results for associated samples M114MW002, M114MW003, M114MW004, MW114MW001 and MWQ-24 were modified to non-detect (U) at the reporting limit."

**NMED's Comment:** NMED has noted that the reported concentrations presented in the analytical report prepared by Gulf Coast Analytical Laboratories were included as detected with an estimated "J" flag in the analytical tables presented in the report. However, any constituent of concern (COC) detected in the method blanks results in uncertainty in data interpretation when the COC is detected in the submitted samples. Additionally, dissolved lead was also detected in the method blank from preparation batch 543538, suggesting there is a laboratory quality control issue attributable to sample preparation activities which must be corrected by the lab. COC detections in blanks may result in rejection of data in future reports.

**11. Data Tables**

**NMED's Comment:** All data tables must be included with report deliverables as an electronic copy in Excel format for all future reports.

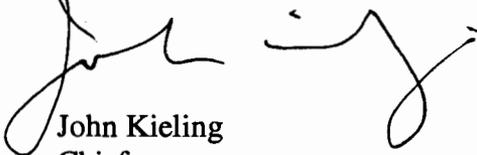
**12. Laboratory Report GCAL 214042416**

**Permittee's Statement:** "The volatile containers for sample 21404241618 (MAO2MW001D-a) contained headspace in excess of that allowed by the method. The client authorized the laboratory to proceed with the analysis."

**NMED's Comment:** The presence of excess headspace in future volatile sample containers may result in sample data rejection and resampling. Care must be taken when collecting future groundwater samples for volatiles.

If you have any questions regarding this letter, please contact Gabriel Acevedo at (505) 476-6043.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Kieling', with a large loop at the end.

John Kieling  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
G. Acevedo, NMED HWB  
B. Wear, NMED HWB  
N. Dhawan, NMED HWB  
S. Kottkamp, CAFB  
B. Chavez, CAFB  
R. Lancaster, CAFB

File: MELR 2015, Annual Groundwater Monitoring Report, Revision 1