

**DOE Oversight Bureau, New Mexico Environment Department**

**Groundwater Monitoring at  
Sandia National Laboratories/New Mexico  
Burn Site**

**Conducted by the  
New Mexico Environment Department DOE Oversight Bureau  
for FFY 2014 Q-1**

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**Final Report**

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The purpose of this communication is to transmit groundwater data collected by New Mexico Environment Department DOE Oversight Bureau from Burn Site Groundwater monitoring wells during first quarter of FFY 2014.

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### **Introductory remarks**

The New Mexico Environment Department (NMED) DOE Oversight Bureau (DOE OB or the Bureau) has compiled and assessed groundwater data collected during December 2013. The Bureau collected groundwater samples from Burn Site Groundwater monitoring wells CYN-MW7 and CYN-MW13. Split samples were collected using standard Sandia National Laboratories/New Mexico sampling procedures and equipment. The samples were submitted to an independent analytical laboratory where they were analyzed for nitrate-nitrite and gasoline and diesel range organics. Nitrate-nitrite levels exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCL) of 10 mg/L at monitoring well CYN-MW13.

### **Data Assessment**

All groundwater samples were collected and analyzed in accordance with EPA protocols. Data results are compared to applicable MCLs established by the U.S. EPA National Primary Drinking Water Regulations (40 CFR 141), National Primary Drinking Water Standards, EPA, July 2002.

### **Results**

Analytical results for nitrate-nitrite are presented in Table-1. Monitoring well CYN-MW13 had a nitrate concentration of 32 mg/L, exceeding the EPA MCL of 10 mg/L. The nitrate concentration at CYN-MW7 was 2.1 mg/L.

Analytical results for total petroleum hydrocarbons (TPH) diesel and gasoline range organics are listed in Table-2. No diesel range organics (DRO) were detected above the method detection limit. Results for gasoline range organics (GRO), detected levels at the method detection limit (MDL) of 0.01 mg/L at CYN-MW7, but below the practical quantitation limit. The laboratory result was "J" flagged as an estimated value. No MCLs have been established for TPH-DRO or TPH-GRO.

### **Conclusion**

Two (2) samples were collected from Burn Site monitoring wells CYN-MW7 and CYN-MW13. Samples were analyzed for nitrates, TPH-DRO and TPH-GRO. Nitrate concentration at CYN-MW13 exceeded the EPA MCL at a value of 32 mg/L. During the two initial sampling events at CYN-MW13, nitrate samples collected by DOE OB have been around 30 mg/L.

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**Table-1 NMED DOE OB FFY 2014 Q-1 Burn Site Groundwater Quality Results: Nitrate -Nitrite as Nitrogen**

<b>Monitoring Well/ Sample Date</b>	<b>Analyte</b>	<b>Result (mg/L)</b>	<b>EPA MCL (mg/L)</b>	<b>Lab Detection Limit (mg/L)</b>	<b>MDL (mg/L)</b>	<b>Laboratory Qualifier</b>	<b>Analytical Method</b>
CYN-MW7 9-Dec-13	Nitrate-Nitrite as Nitrogen	2.1	10	0.02	0.006		EPA:353.2
CYN-MW13 10-Dec-13	Nitrate-Nitrite as Nitrogen	<b>32</b>	10	0.5	0.15		EPA:353.2

**Table-2 NMED DOE OB FFY 2014 Q-1 Burn Site Groundwater Quality Results: Diesel and Gasoline Range Organics**

<b>Monitoring Well/ Sample Date</b>	<b>Analyte</b>	<b>Result (mg/L)</b>	<b>Lab Detection Limit (mg/L)</b>	<b>MDL (mg/L)</b>	<b>Laboratory Qualifier</b>	<b>Analytical Method</b>
CYN-MW7 9-Dec-13	Diesel Range Organics	0.14	0.48	0.14	U	SW-846:8015M
	Total Petroleum Hydrocarbons Gasoline Range Org.	0.01	0.1	0.01	J	SW-846:8015
CYN-MW13 10-Dec-13	Diesel Range Organics	0.14	0.48	0.14	U	SW-846:8015M
	Total Petroleum Hydrocarbons Gasoline Range Org.	0.01	0.1	0.01	U	SW-846:8015

J = the result is less than the RL but greater than the MDL and the reported value is estimated.

U = the compound was analyzed for but not detected