



## NEW MEXICO ENVIRONMENT DEPARTMENT



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### **Groundwater Monitoring at Sandia National Laboratories/New Mexico Burn Site Conducted by NMED DOE OB for FFY 2010 Q-2**

The New Mexico Environment Department (NMED) DOE Oversight Bureau (Bureau) has compiled and assessed groundwater data from samples collected in March 2010. The Bureau obtained groundwater samples from Burn Site groundwater monitoring wells CYN-MW3 and CYN-MW6. Split samples were collected using standard Sandia National Laboratories/New Mexico (SNL/NM or Sandia) sampling procedures and equipment. The Bureau split samples were submitted to an independent analytical laboratory for analysis of nitrate plus nitrite (NPN). Concentrations of NPN were detected above the EPA MCL at both CYN-MW3 and CYN-MW6.

#### Data Assessment

Data results are compared to applicable Maximum Contaminant Levels (MCLs) from the EPA National Primary Drinking Water Regulations (40 CFR 141).

#### Results

Analytical results for NPN are listed in Table-1. Concentrations were detected above the EPA MCL of 10 mg/L at monitoring wells CYN-MW3 (11 mg/L) and CYN-MW6 (45 mg/L).

#### Conclusions

Data results from SNL for this sampling event have not been received at this time, so the results have no direct comparison.

Nitrate concentrations exceeded the EPA MCL at monitoring wells CYN-MW3 and CYNMW6 during this sampling event. Concentrations at CYN-MW3 compare well with historical Sandia data. Based on this historical trend, NPN concentrations at CYN-MW3 have been steady to slightly decreasing over time (Figure 1). Nitrate concentrations from CYN-MW6 have consistently exceeded the MCL. Nitrate data collected by the Bureau from CYN-MW6 show a strong increase over the past three years and concentrations have been slightly higher than those indicated from the Sandia data. Historical data from Sandia (2006-2008) indicate NPN concentrations have been steady to slightly increasing over time.

## Response

Questions or comments should be addressed to Chris Armijo by phone at (505) 383-2070, by e-mail at [chris.armijo1@state.nm.us](mailto:chris.armijo1@state.nm.us), or to the address in the letterhead.

Enclosure: (1) Table 1 Nitrate plus Nitrite Results  
(2) Figure 1 Nitrate plus Nitrite Concentrations, CYN-MW3  
(3) Figure 2 Nitrate plus Nitrite Concentrations, CYN-MW6  
(4) Map-SNL/NM Burn Site Monitoring Wells

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File: SGE42. Groundwater Monitoring. BSG. FFY 2010 Q-2

Acknowledgment:

This material is based upon work supported by the Department of Energy Office of Environmental Management under Award Number *DE-EM0002420*.

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**Table 1- NMED DOE Oversight Bureau FFY 2010 Q-2 Burn Site Groundwater Quality Results: Nitrate plus Nitrite**

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	PQL (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW3 1-Mar-10	Nitrate-Nitrite as N	<b>11</b>	10	0.1	0.036		EPA:353.2
CYN-MW6 3-Mar-10	Nitrate-Nitrite as N	<b>45</b>	10	0.5	0.18		EPA:353.2

**Result**

Values in bold exceed the established MCL

mg/L = milligrams per liter

**EPA MCL**

Maximum contaminant level. Established by the U.S. Environmental Protection Agency, National Primary Drinking Water Regulations (40 CFR 141)

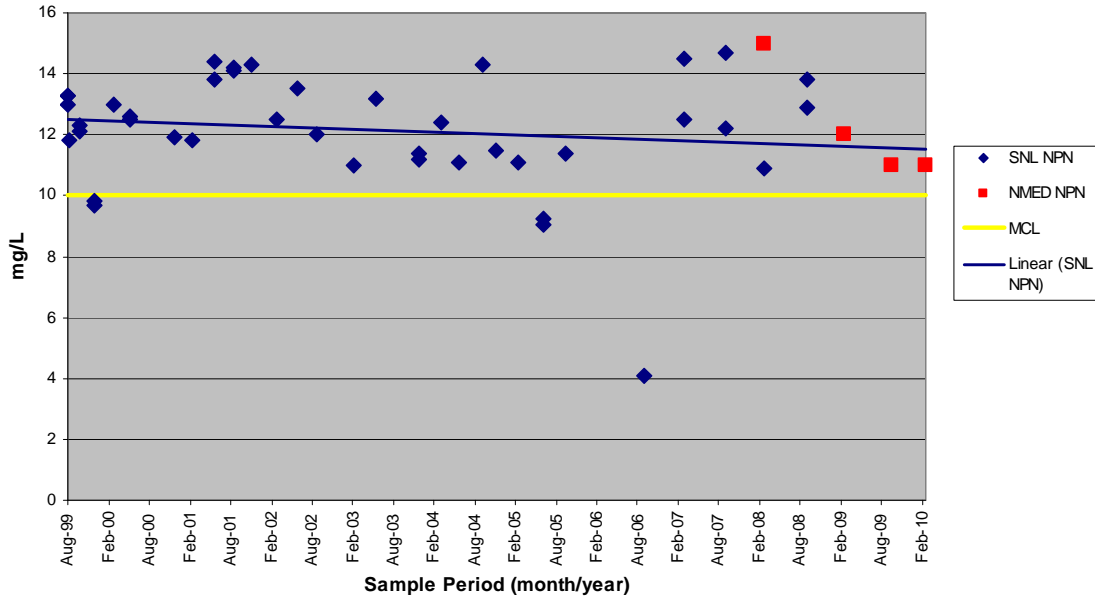
**PQL**

Practical Quantitation Limit. The lowest concentration that can be reliably measured by a laboratory with defined limits of precision and accuracy.

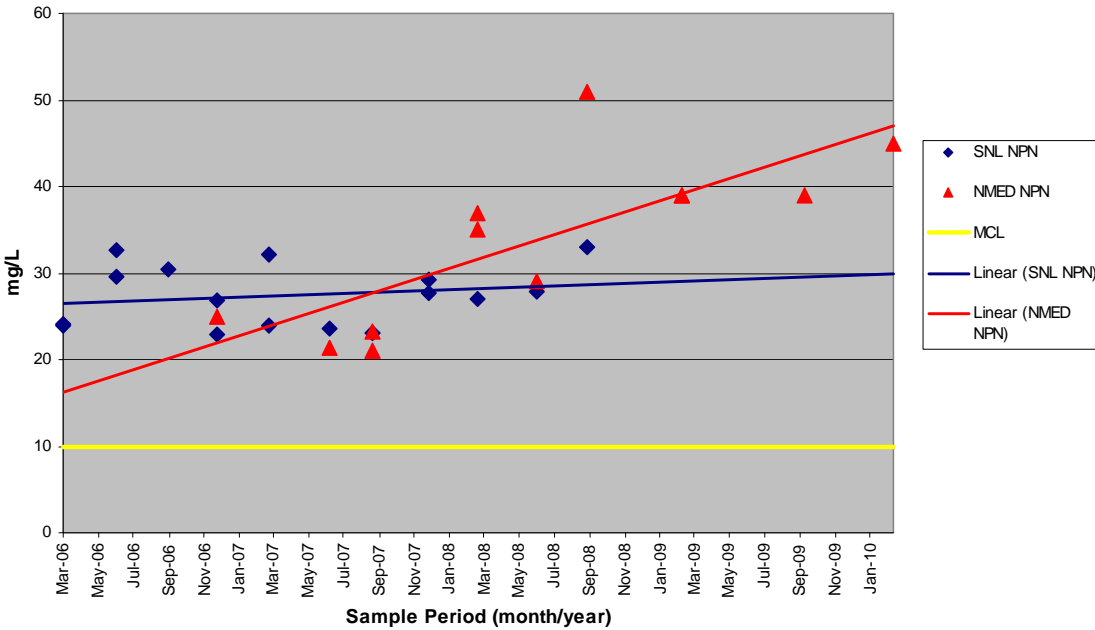
**MDL**

Method detection limit. The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.

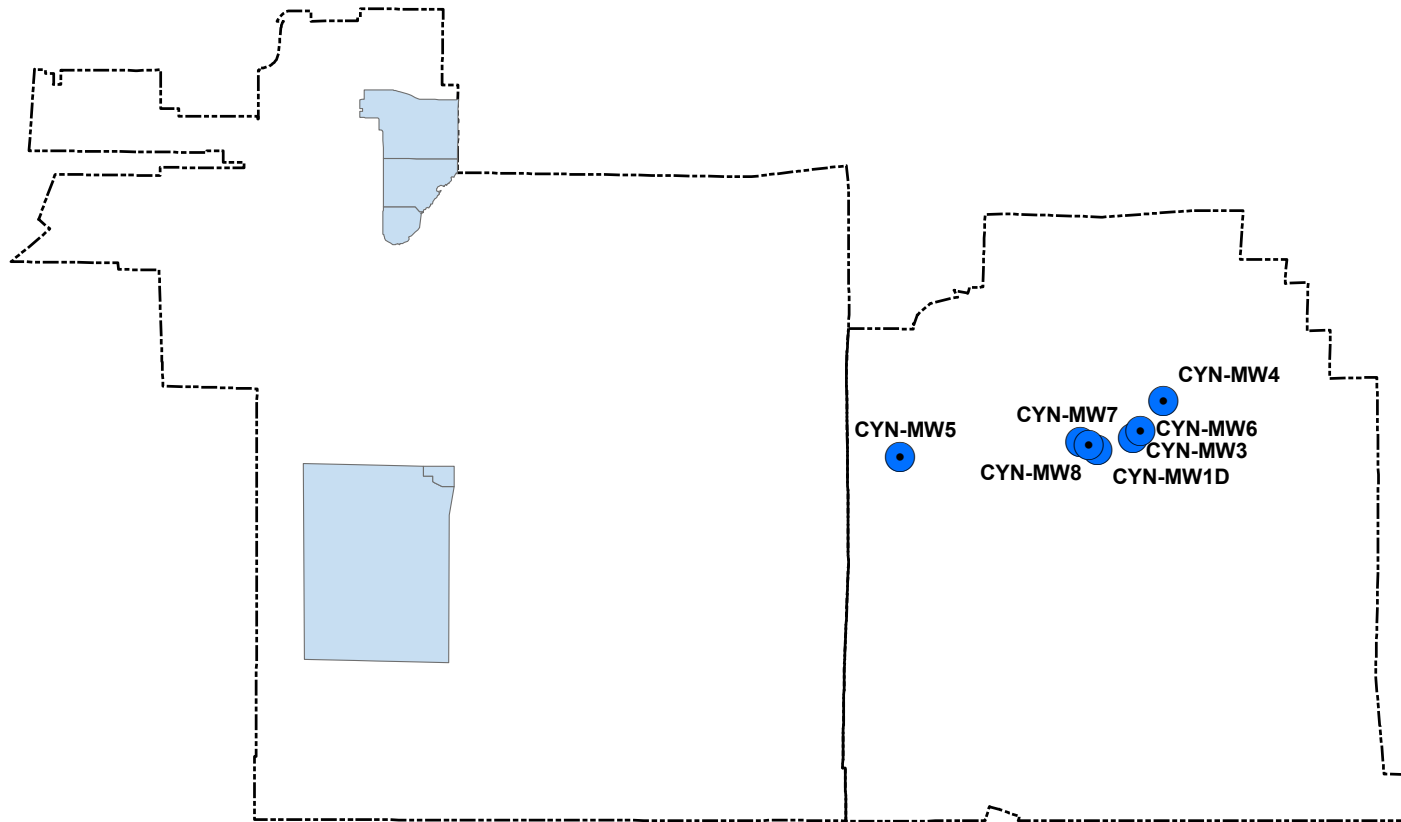
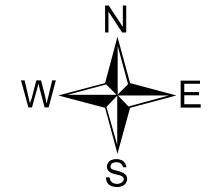
**Figure 1**  
Nitrate plus Nitrite Concentrations, CYN-MW3






**Figure 2**  
Nitrate plus Nitrite Concentrations, CYN-MW6



# Burn Site Groundwater Monitoring Wells



## Legend

-  Burn Site Monitoring Well
-  SNL Tech Area
-  KAFB Boundary

