

United States Army White Sands Missile Range

Ground-Water Monitoring at the Open Burn / Open Detonation  
Unit, Hazardous Test Area, RCRA Monitoring Well Sampling

Analytical Results of  
Samples Collected December 9, 2008.

Prepared for

Commander  
U.S. Army White Sands Missile Range  
March 2009

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**December 9, 2008**

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## EXECUTIVE SUMMARY

The U.S. Geological Survey (USGS), Water Resources Division, entered into an agreement with the U.S. Army in January 1996 to perform quarterly ground-water sampling and analysis at the Open Burn/Open Detonation (OB/OD) Unit of the Hazardous Test Area (HTA) at White Sands Missile Range (WSMR), New Mexico (fig. 1). The OB/OD Unit consisted primarily of two pits, excavated in 1953, and was used by WSMR personnel for explosives detonation. The site was closed by WSMR December 31, 2000. The primary objective of this agreement is to monitor ground-water quality at the OB/OD Unit for hazardous materials as required by the Resource Conservation and Recovery Act (RCRA).

The original quarterly monitoring network included wells HTA3 (production well supplying water to HTA Headquarters), HTA10A, HTA11, and HTA12 (figs. 2 and 3). The network has subsequently expanded, and in April, 2003, included 48 wells (HTA3, 4, 10A, 11-51, 16D, EMRE1, EMRE2, and HTAWINDMILL). Forty-eight wells were sampled again in July 2003, October 2003, April 2004, and October 2004. In January 2004 and July 2004, approximately one-half of the wells (generally the newer wells HTA31-51) were sampled to confirm previous water-quality data.

The sample network was modified in 2005 to include wells near the margins of the ground water contamination plumes, and approximately one-half of the 48 wells were sampled in February 2005 and May 2005. The purpose for sampling wells near the margins of the plumes was to detect changes in the spatial distribution of contaminant concentrations near the margins. Wells within the plumes, with the largest contaminant concentrations, and wells outside the plumes and not near the margins generally were not sampled.

This report presents water-quality data for samples collected December 9, 2008. Wells HTA3, HTA10A, HTA11, HTA12, HTA13, HTA15, HTA16, HTA16D, HTA17, HTA19, HTA20, and HTA25 were sampled this round. Explosives (method SW8330); nitrate plus nitrite (method MCAWW353.2); and perchlorate (method SW6860) were analyzed in ground-water samples from all the wells sampled. TestAmerica Laboratories (TAL) in Arvada, Colorado, conducted all laboratory analyses. The hard copy of this report has been modified to exclude laboratory information, including analytical results and quality assurance / control results. This information is now included only in the CD digital report.

The potentiometric-surface altitude at HTA is shown in figure 4, and a more detailed view of the potentiometric surface in the area of the OB/OD Unit is shown in figure 5. The potentiometric surface slopes east-southeast at a gradient of approximately 6 percent, generally following the topography. However, ground-water flow may be tortuous on a local scale because the aquifer is composed of fractured Precambrian granite, and local flow paths are controlled by the geometry of interconnected, hydraulically-conductive fractures.

Figures 6 through 11 show the spatial distributions of RDX, nitrate plus nitrite, and perchlorate concentrations for the December 2008 sampling round. The initial views (figs. 6, 8, and 10) show the concentration distributions over the larger HTA area, and the secondary views (figs. 7, 9, and 11) show the concentration distributions over the smaller area of the OB/OD Unit. Figures

12 through 20 show the temporal distributions of RDX (figs. 12 and 13), nitrate plus nitrite (figs. 14 through 17), and perchlorate (figs. 18 through 20) concentrations for most wells.

Significant analytical results from the December 2008 sampling round are listed below:

Ground water from wells HTA10A, HTA11, HTA15, HTA16, HTA16D, HTA17, and HTA20 showed the largest RDX concentrations, at 120 micrograms per liter ( $\mu\text{g/L}$ ), 130  $\mu\text{g/L}$ , 21  $\mu\text{g/L}$ , 28  $\mu\text{g/L}$ , 27  $\mu\text{g/L}$ , 40  $\mu\text{g/L}$ , and 44  $\mu\text{g/L}$ , respectively (table 1). RDX concentrations in water from the remaining wells, ranged from non-detected (ND) to 4.4  $\mu\text{g/L}$ .

Ground water from wells HTA10A, HTA11, HTA15, HTA16, HTA16D, HTA17, HTA19, and HTA20 showed the largest concentrations of nitrate plus nitrite at 9.9 milligrams per liter (mg/L), 8.9 mg/L, 11 mg/L, 9.1 mg/L, 10 mg/L, 12 mg/L, 23 mg/L, and 11 mg/L, respectively (fig. 17). The remaining wells had concentrations below 6.8 mg/L (Table 1).

Ground water from wells HTA10A, HTA11, HTA15, HTA16, HTA16D, HTA17, HTA19, HTA20, and HTA25 showed the largest concentrations of perchlorate, at 8.9 mg/L, 9.7 mg/L, 24 mg/L, 36 mg/L, 19 mg/L, 10 mg/L, 8.6 mg/L, 22 mg/L, and 13 mg/L, respectively. The remaining wells had concentrations below 1.5 mg/L (Table 1).

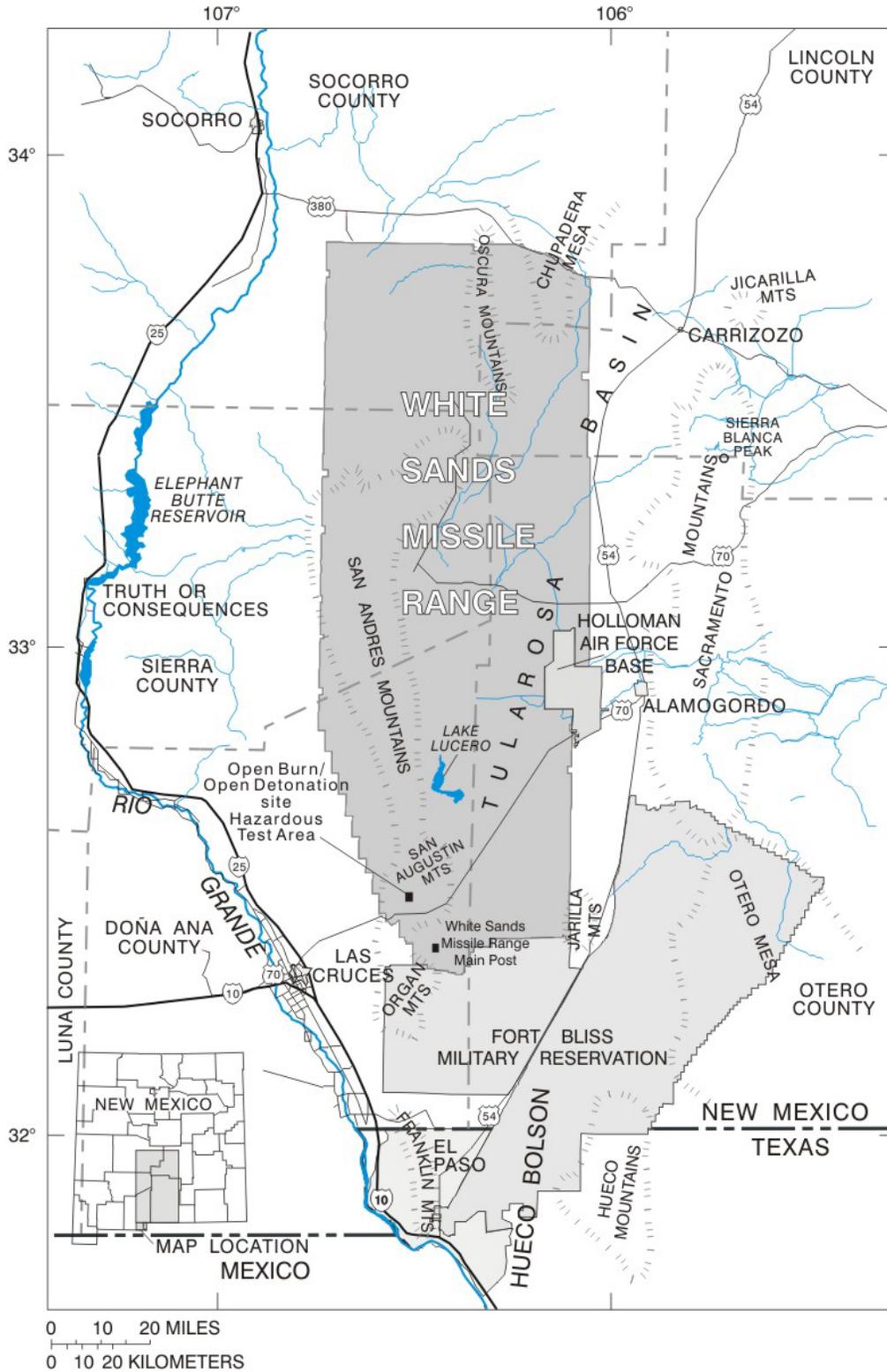
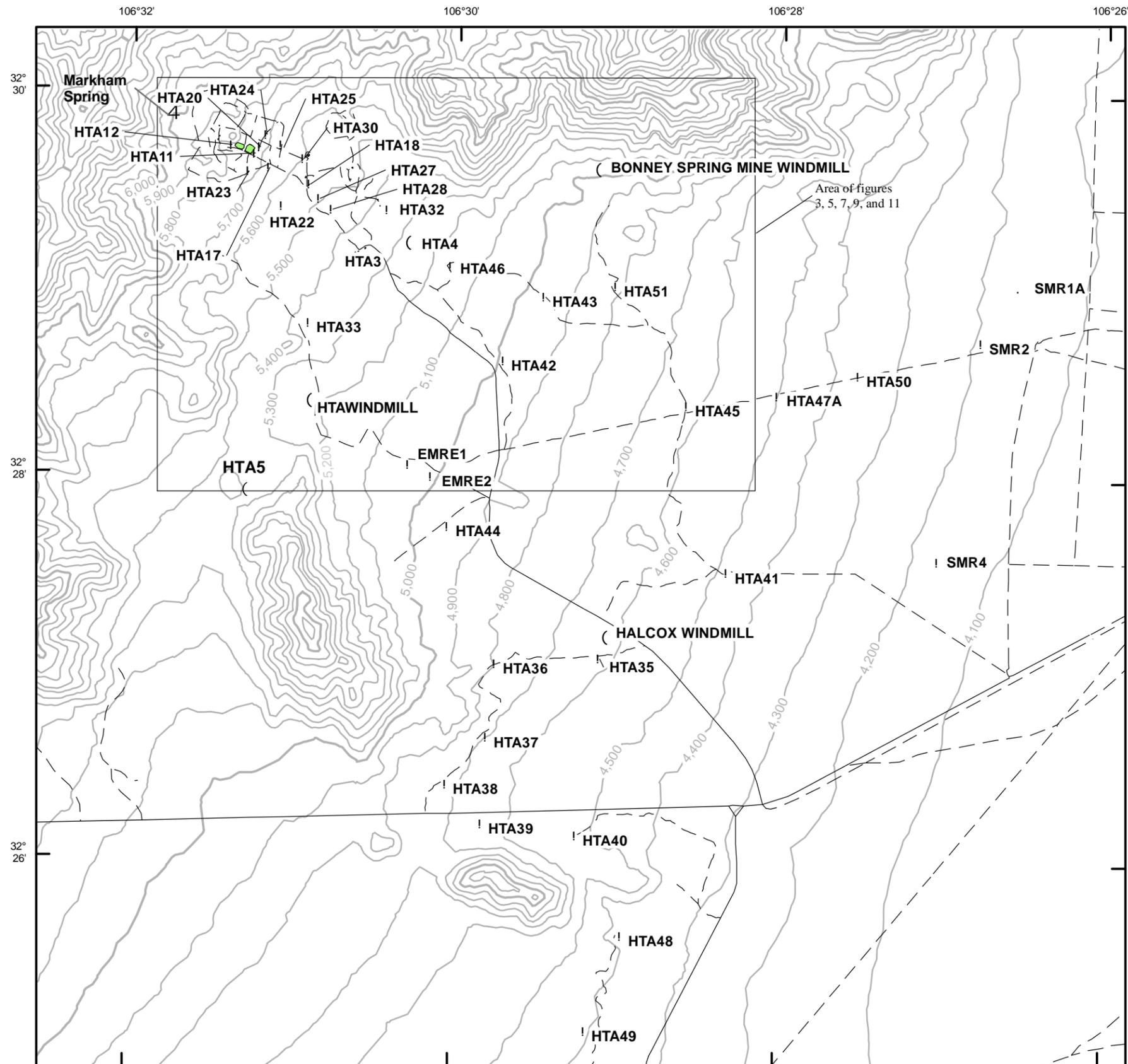


Figure 1. Location of the Open Burn/Open Detonation Unit, Hazardous Test Area and surrounding area, south-central New Mexico.



### Explanation

-  BUILDING
-  OPEN BURN/OPEN DETONATION PIT
-  PAVED ROAD
-  DIRT ROAD
-  TOPOGRAPHIC CONTOURS -- 100-foot interval. Vertical coordinate information is referenced to NAVD 1988.
- HTA11 ! MONITORING WELL
- HTA3 . PRODUCTION WELL
- HTA4 ( ABANDONED PRODUCTION WELL

Characters are well name.

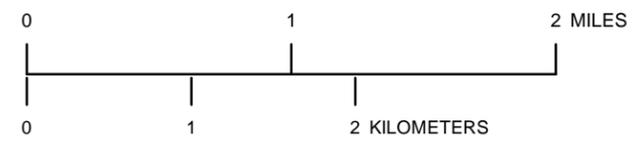
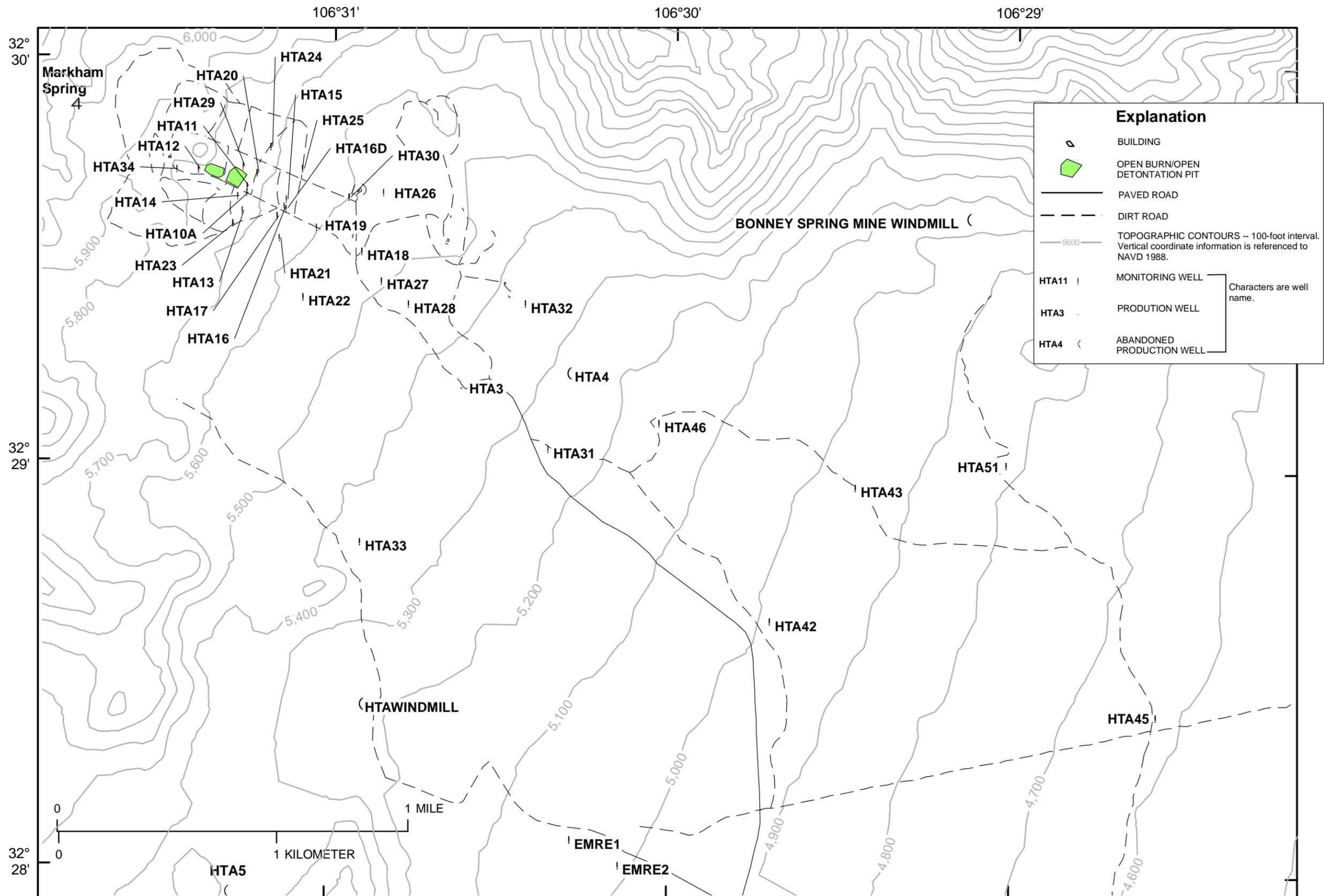


Figure 2. Location of wells at the Hazardous Test Area, U.S. Army White Sands Missile Range, New Mexico.





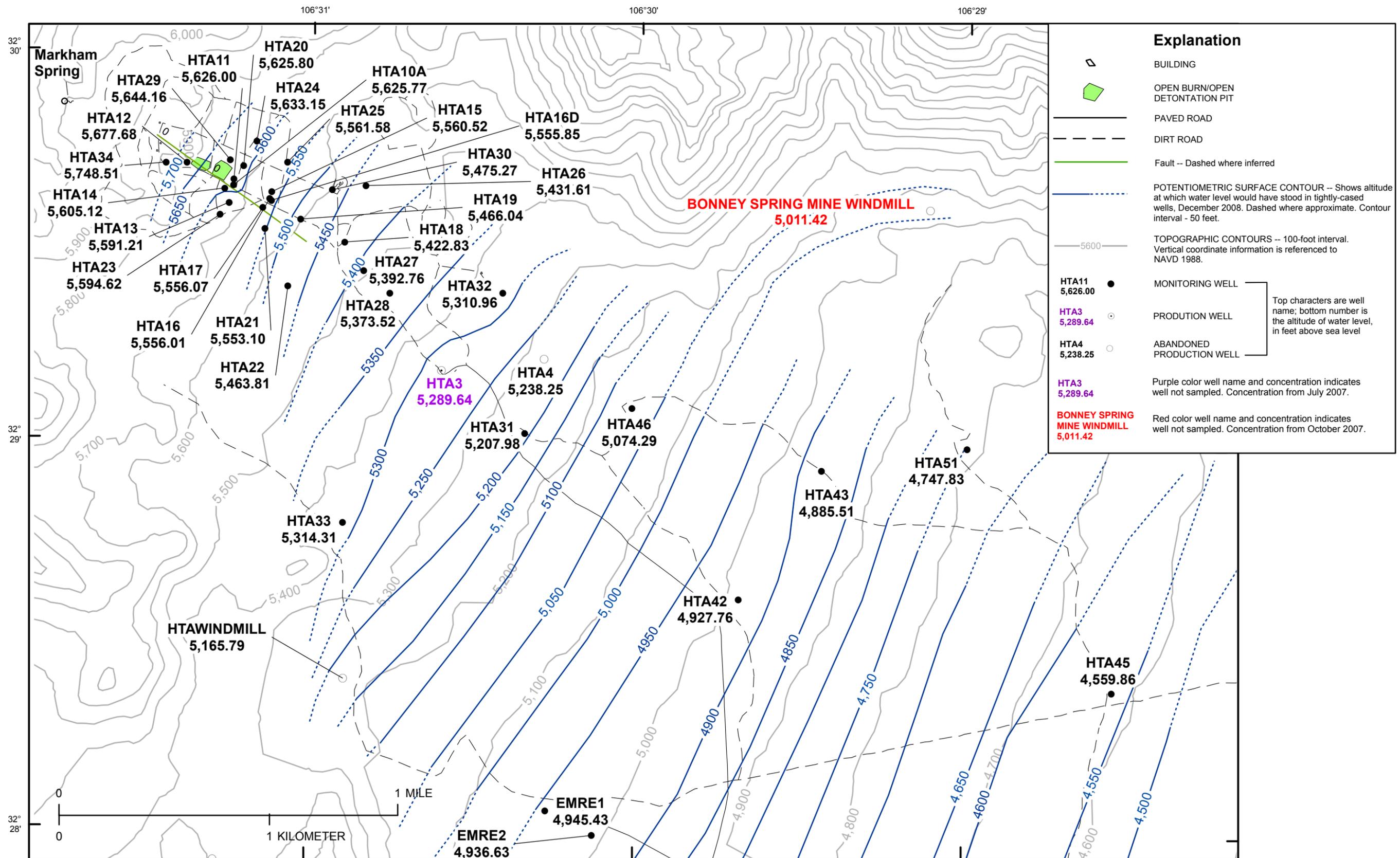


Figure 5. Approximate altitude of the potentiometric surface, December 9, 2008, in the area downgradient from the Open Burn/Open Detonation Unit, U.S. Army White Sands Missile Range, New Mexico.

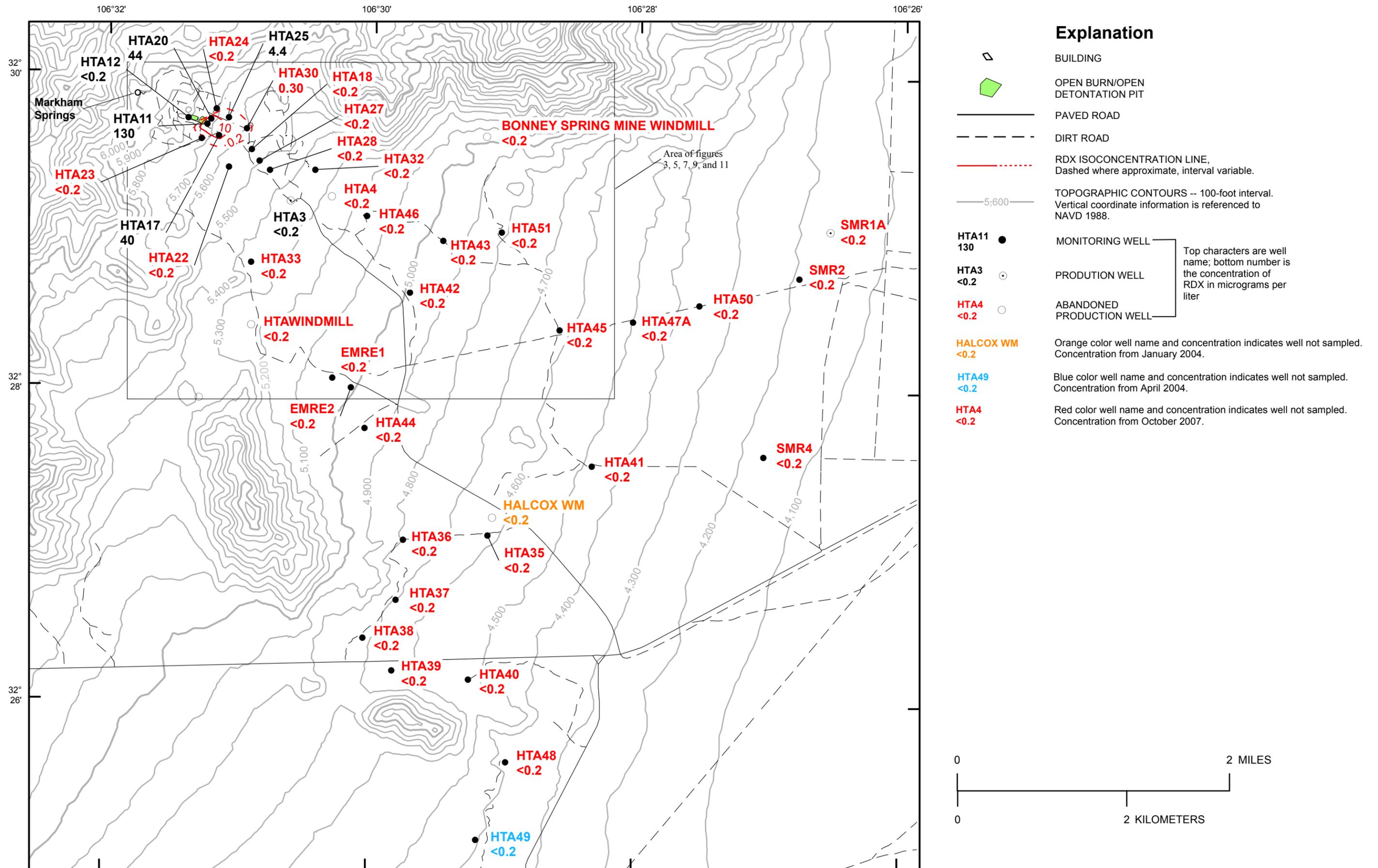


Figure 6. Selected concentrations of RDX in ground water in the Hazardous Test Area, December 9, 2008, U.S. Army White Sands Missile Range, New Mexico.

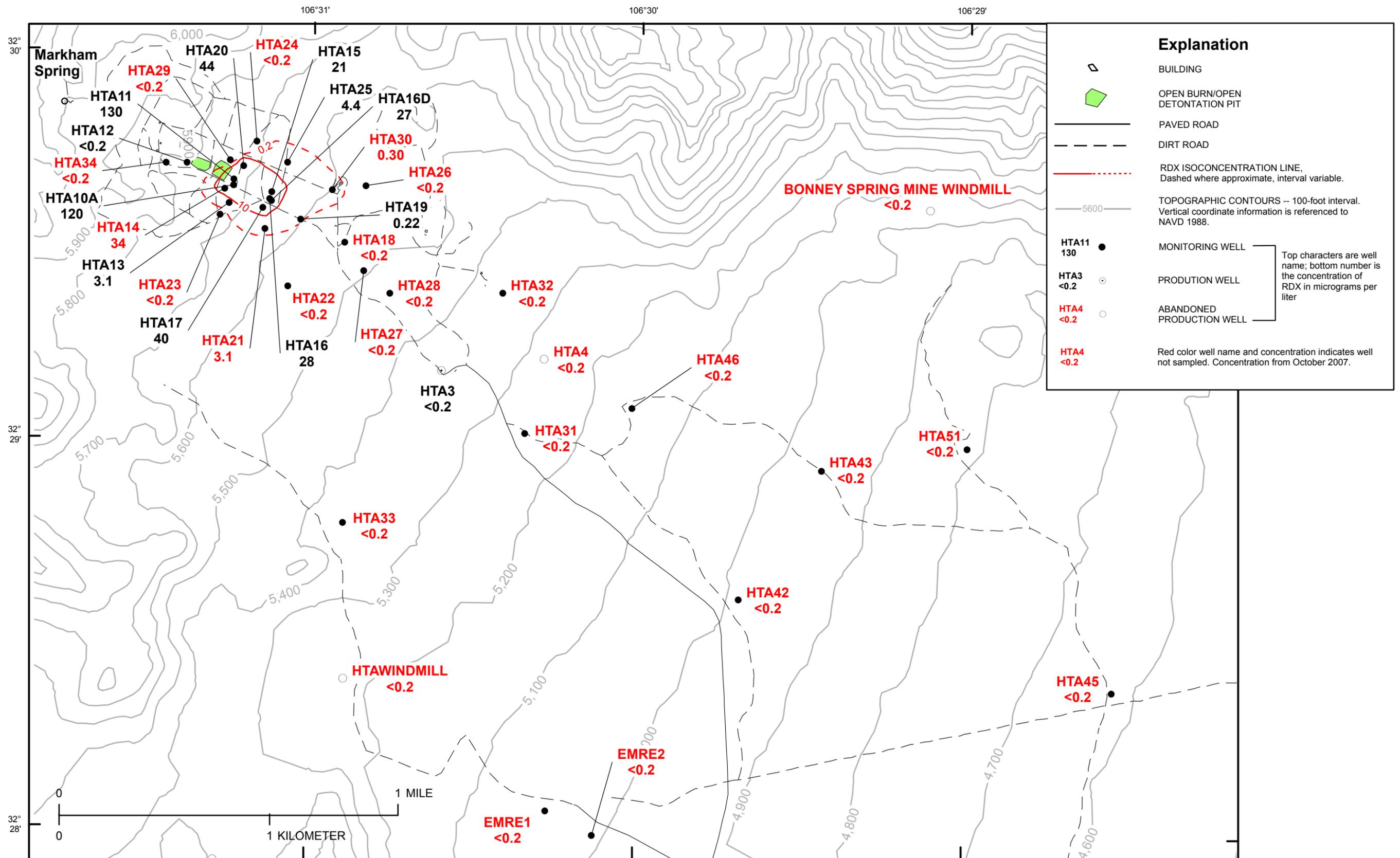


Figure 7. Concentrations RDX in ground water downgradient from the Open Burn/Open Detonation Unit, December 9, 2008, U.S. Army White Sands Missile Range, New Mexico.

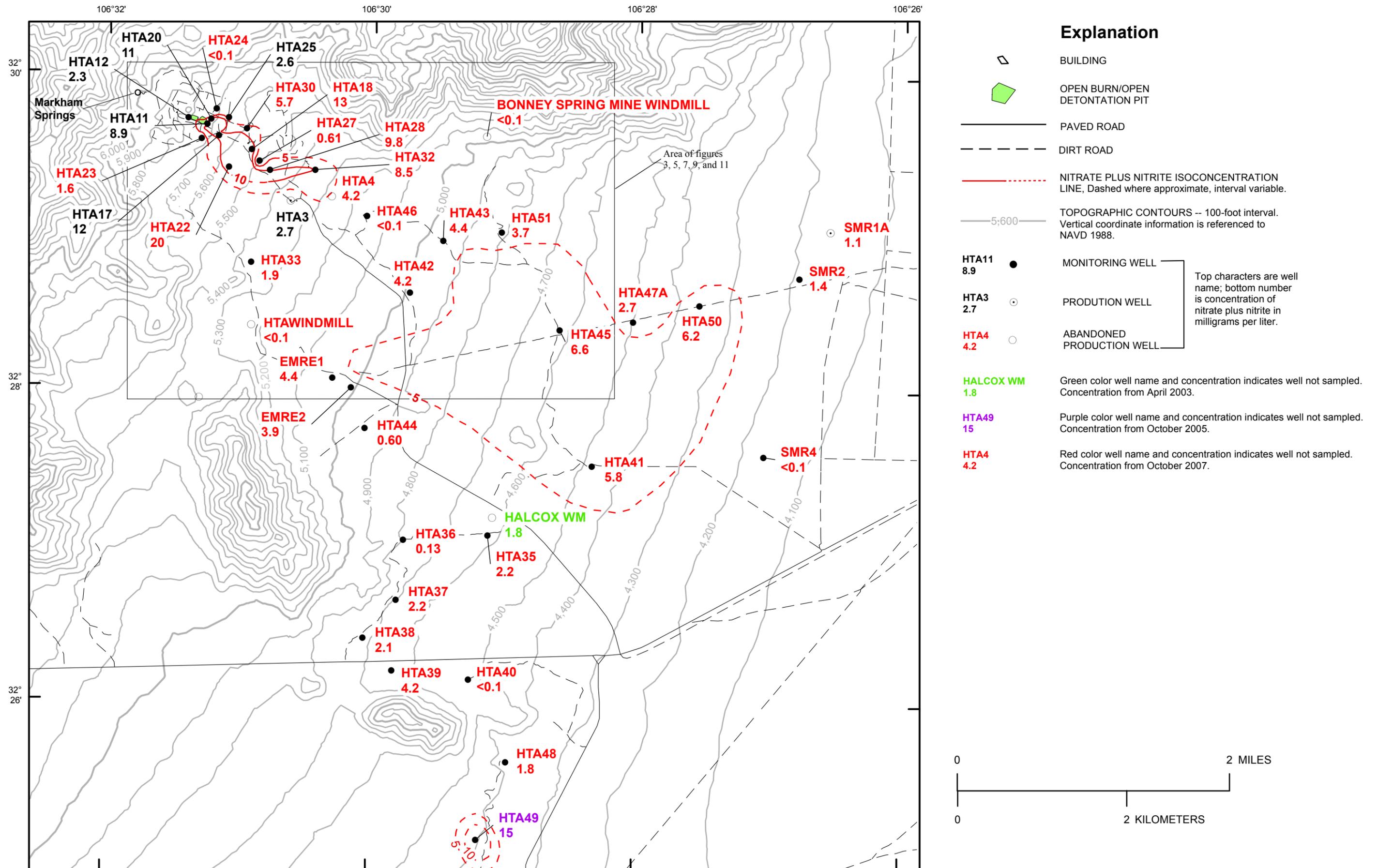


Figure 8. Selected concentrations of nitrate plus nitrite in ground water in the Hazardous Test Area, December 9, 2008, U.S. Army White Sands Missile Range.

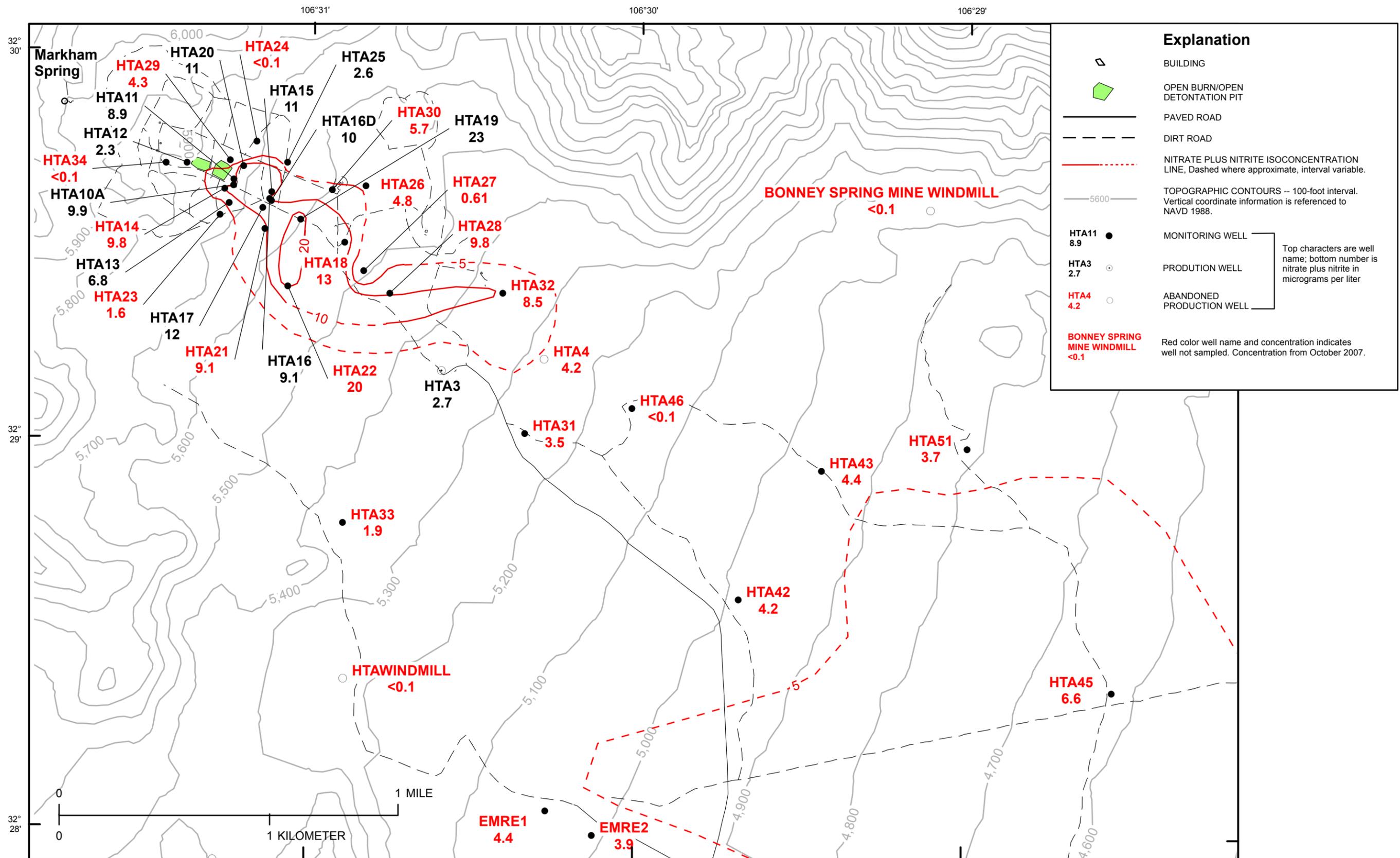


Figure 9. Concentrations of nitrate plus nitrite in ground water downgradient from the Open Burn/Open Detonation Unit, December 9, 2008, U.S. Army White Sands Missile Range, New Mexico.

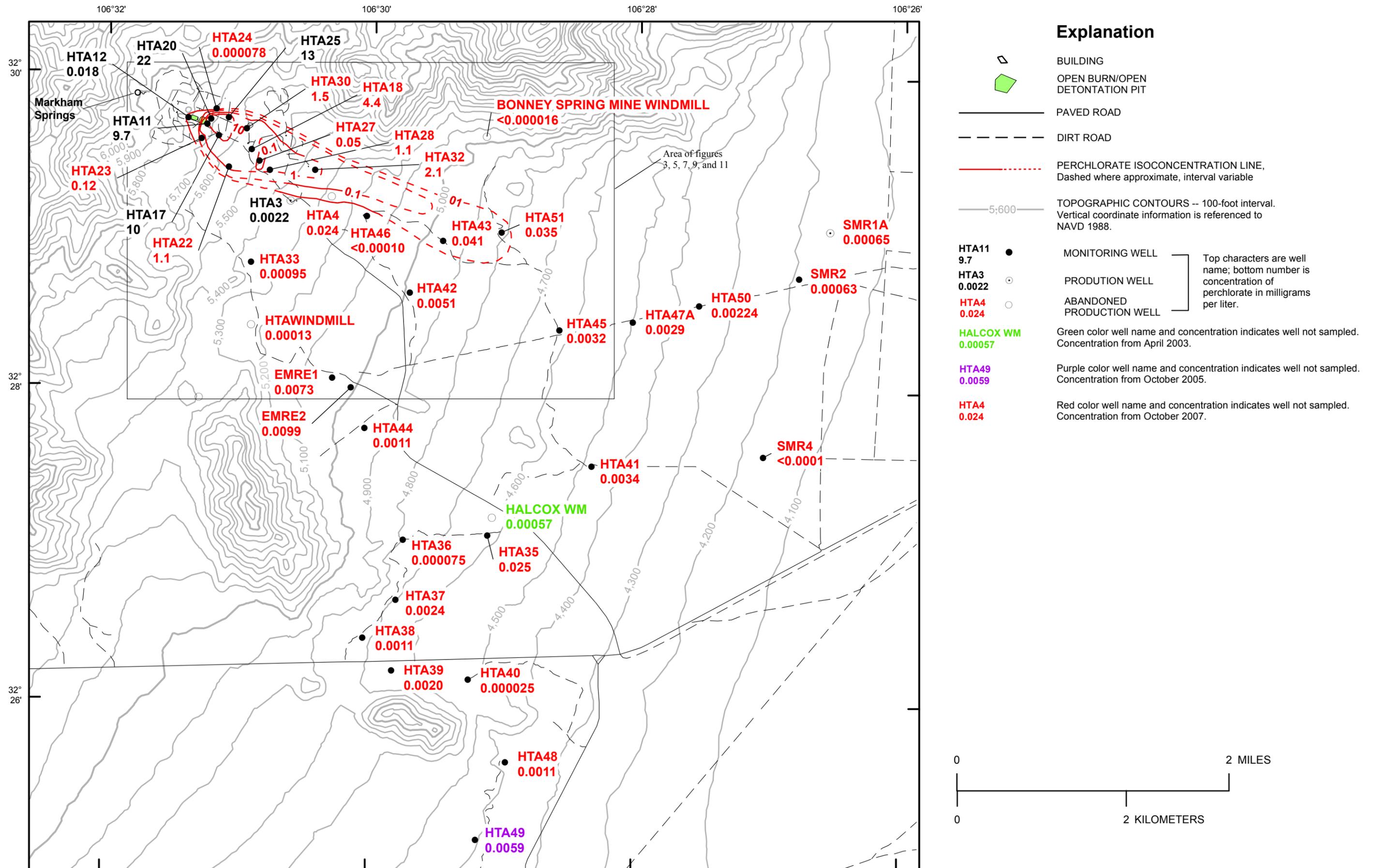
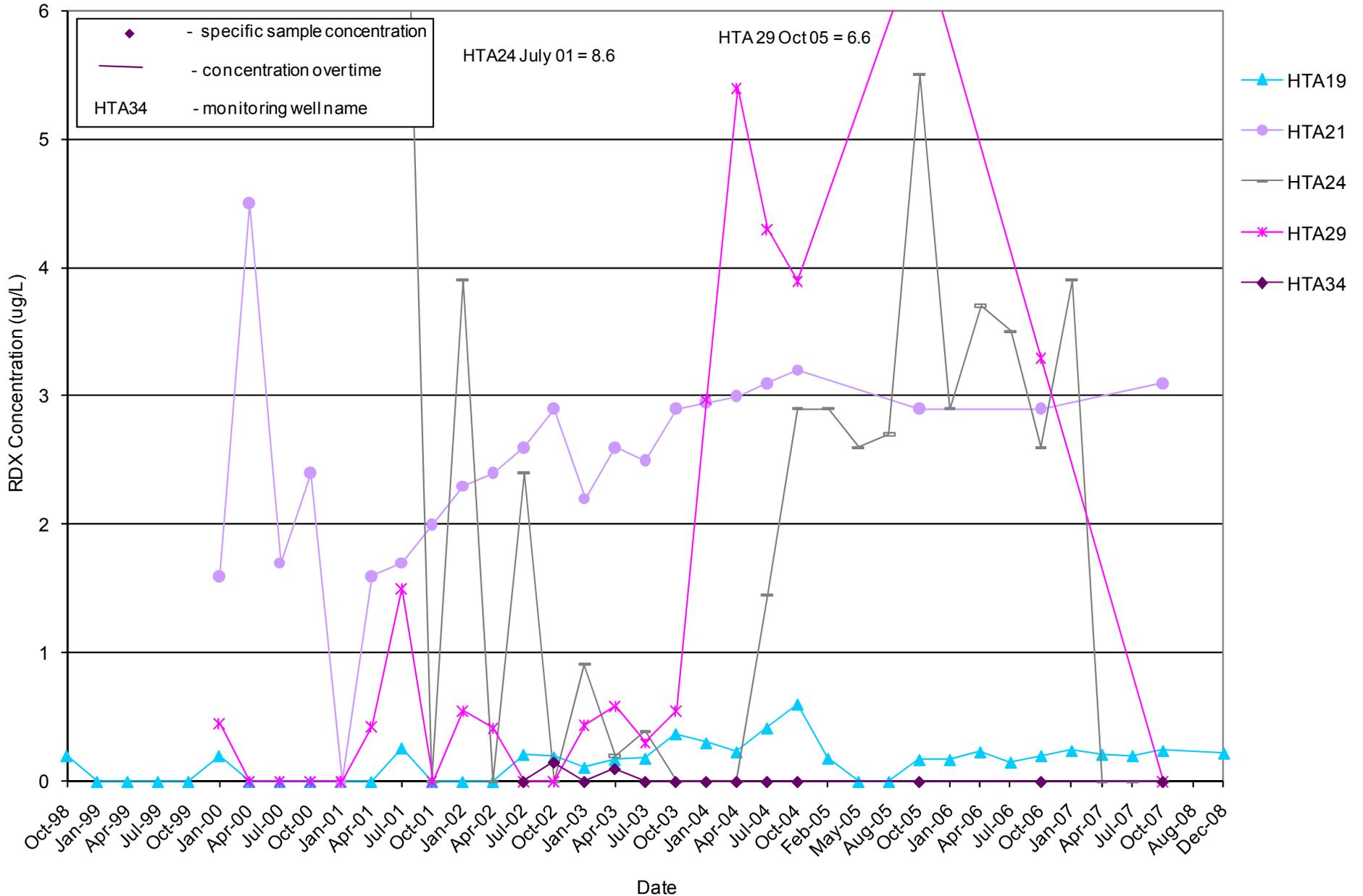
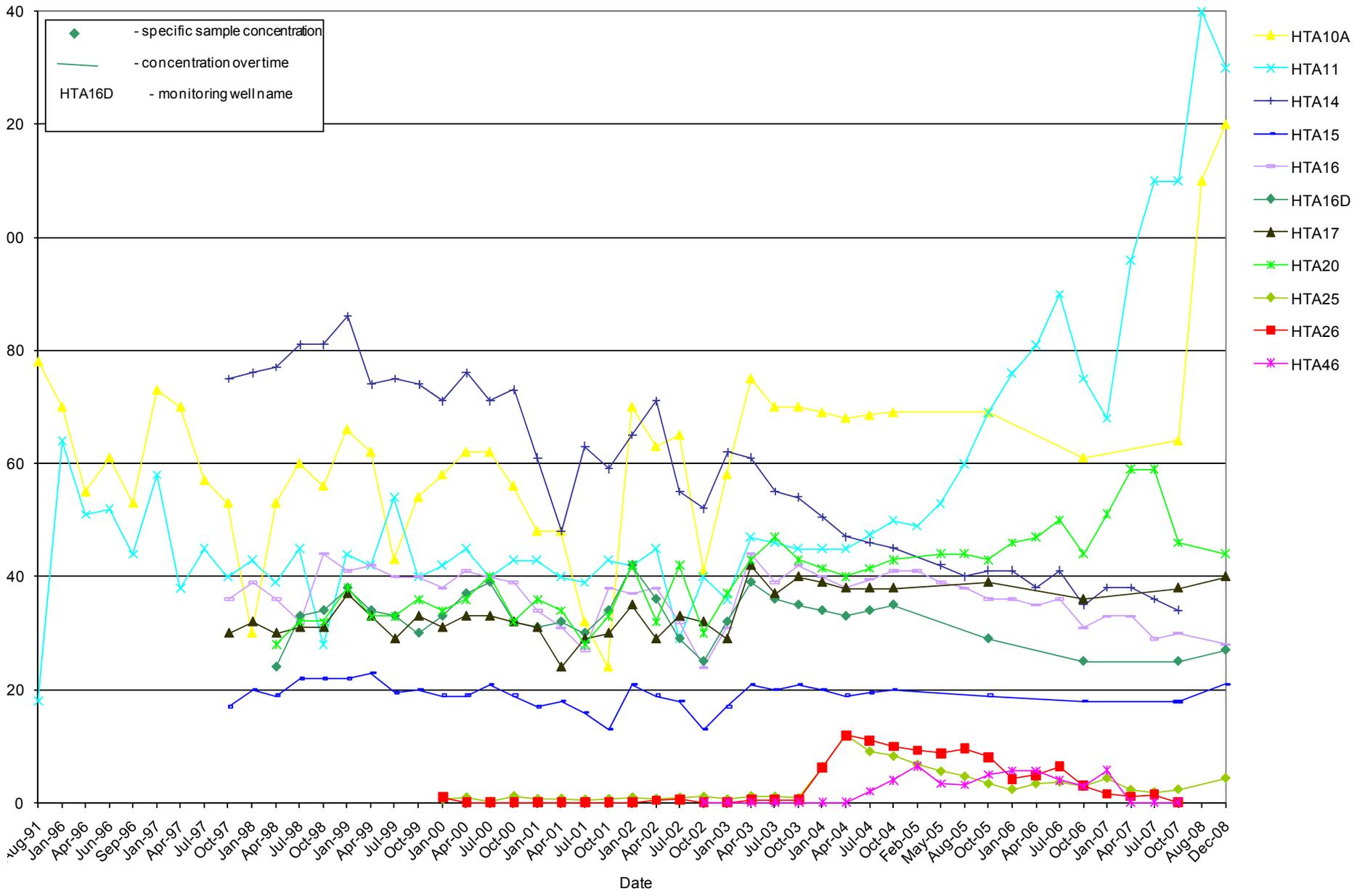


Figure 10. Selected concentrations of perchlorate in ground water in the Hazardous Test Area, December 9, 2008, U.S. Army White Sands Missile Range, New Mexico.

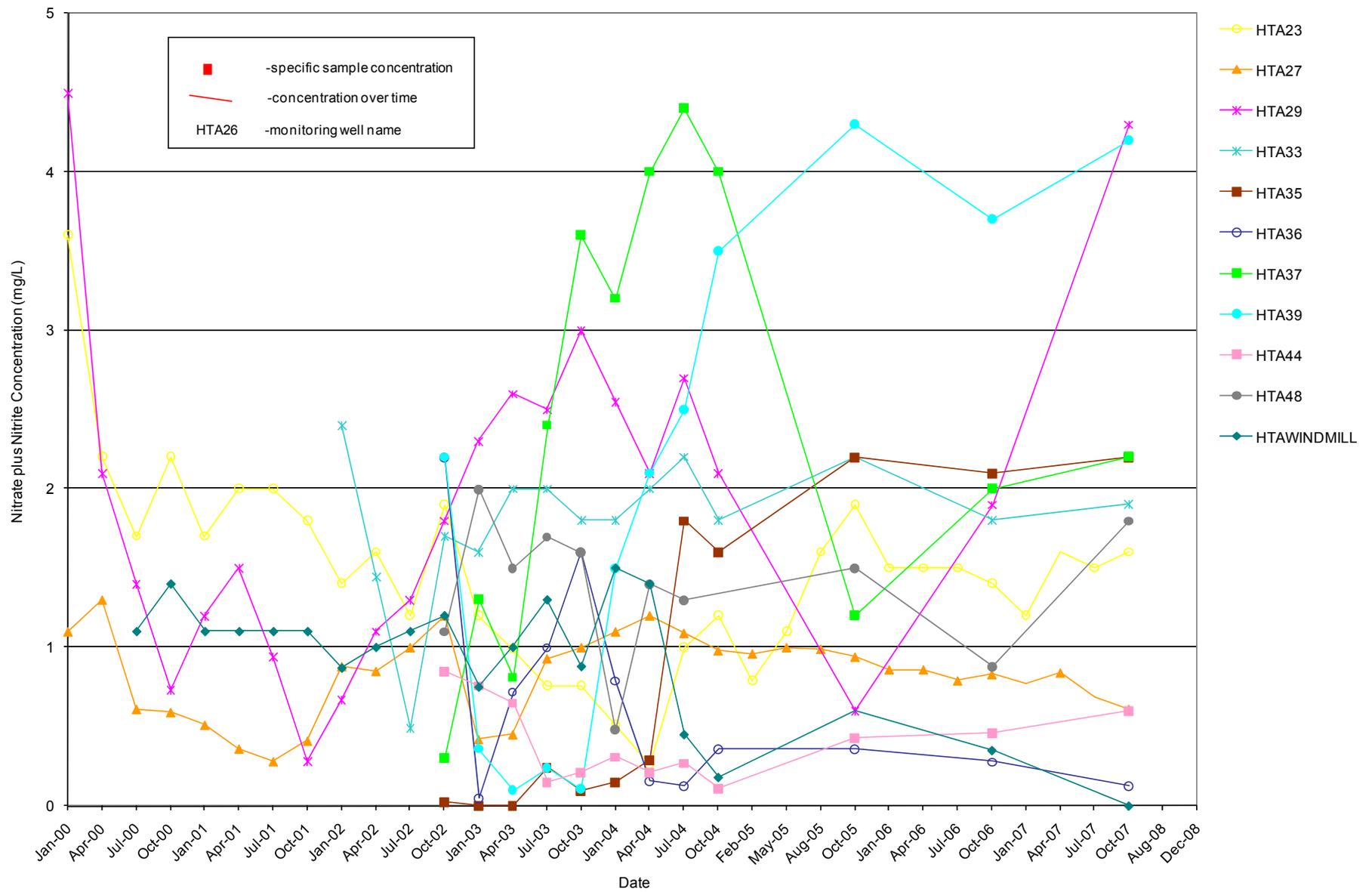




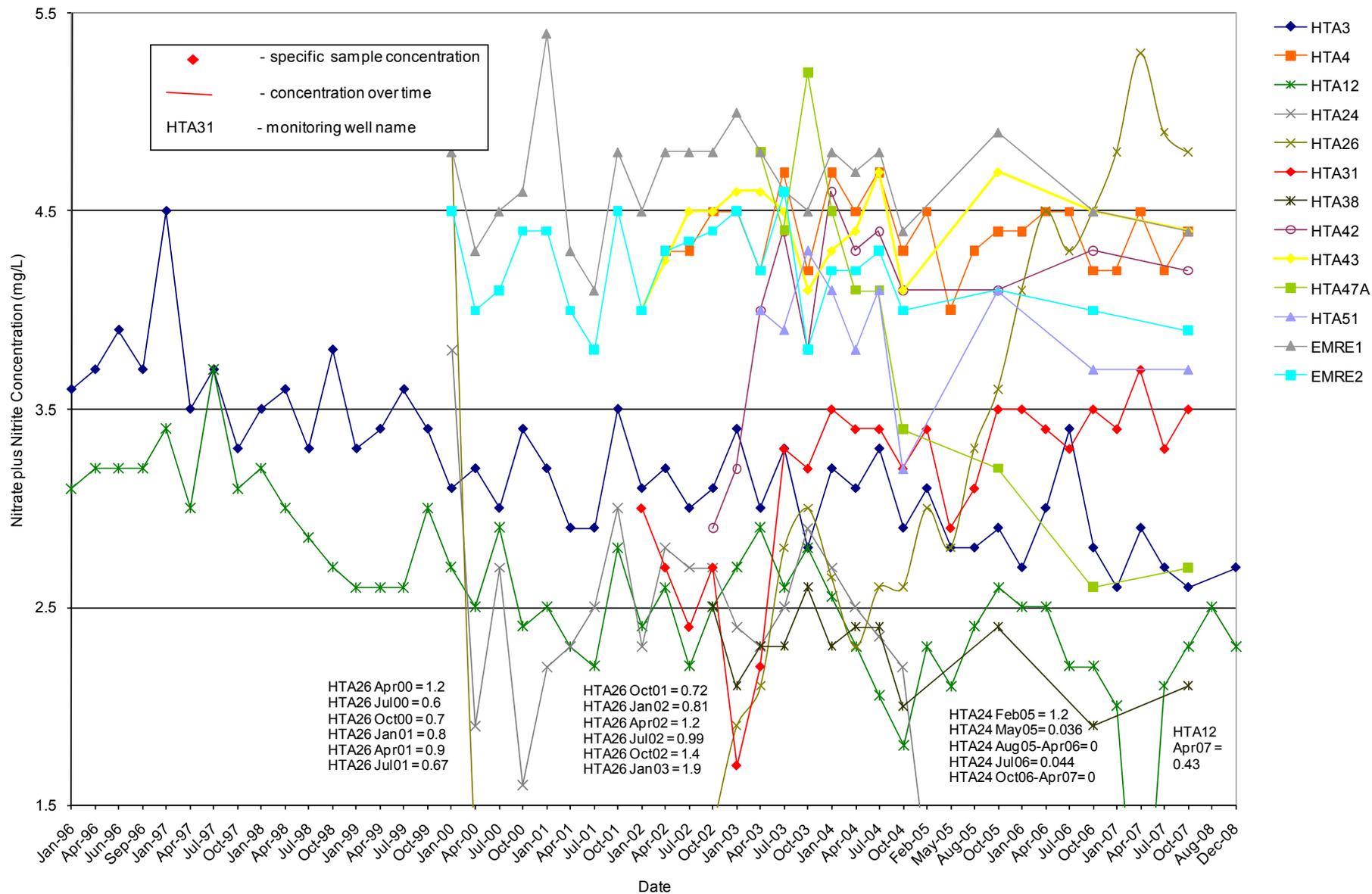
**Figure 12.** Time-series plot of RDX concentrations generally smaller than 4  $\mu\text{g/L}$ , October 1998 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit, U.S. Army White Sands Missile Range, New Mexico.



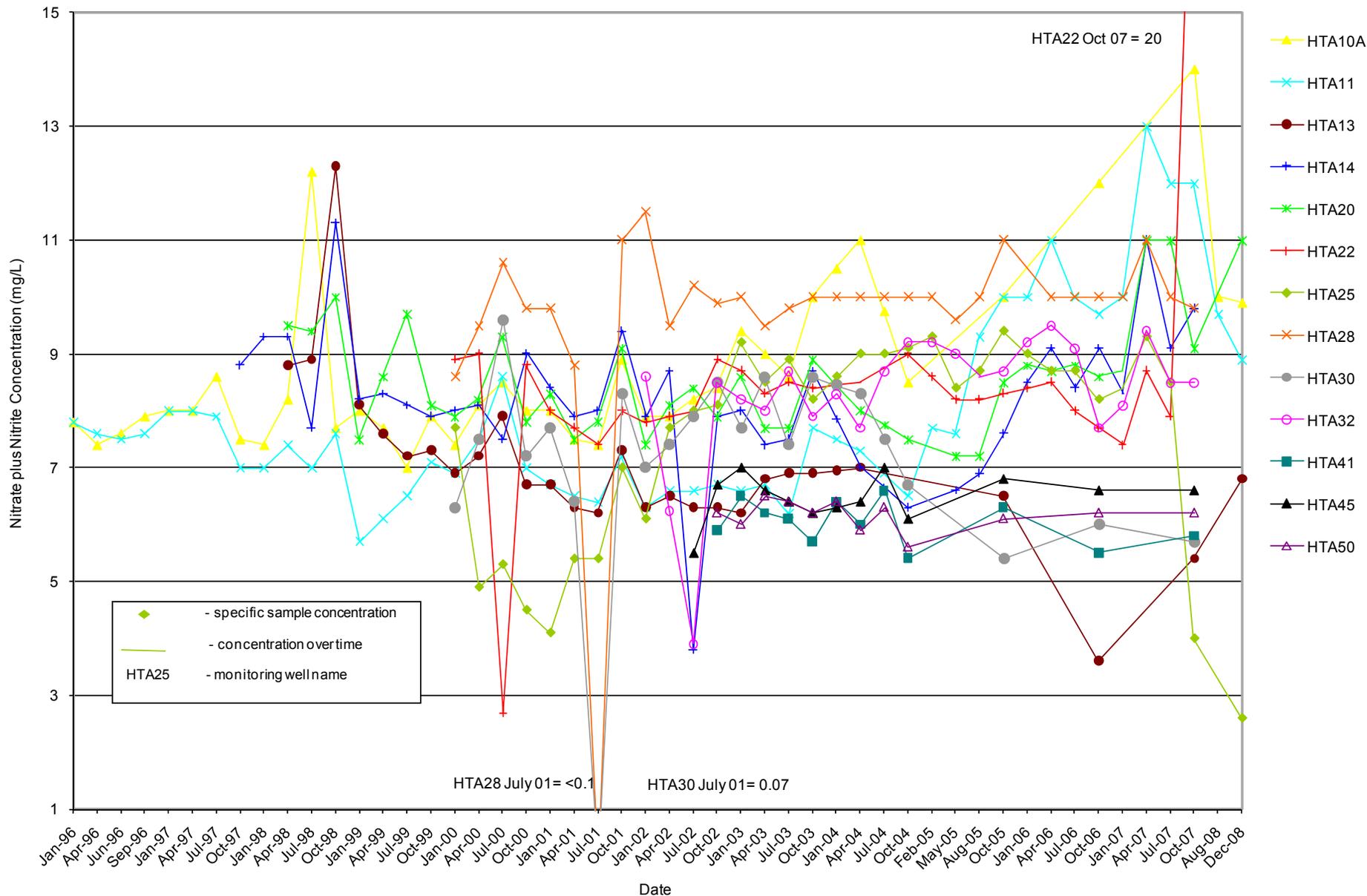
**Figure 13.** Time-Series plot of RDX concentrations generally larger than 10 µg/L, August 1991 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit, U.S. Army White Sands Missile Range, New Mexico.



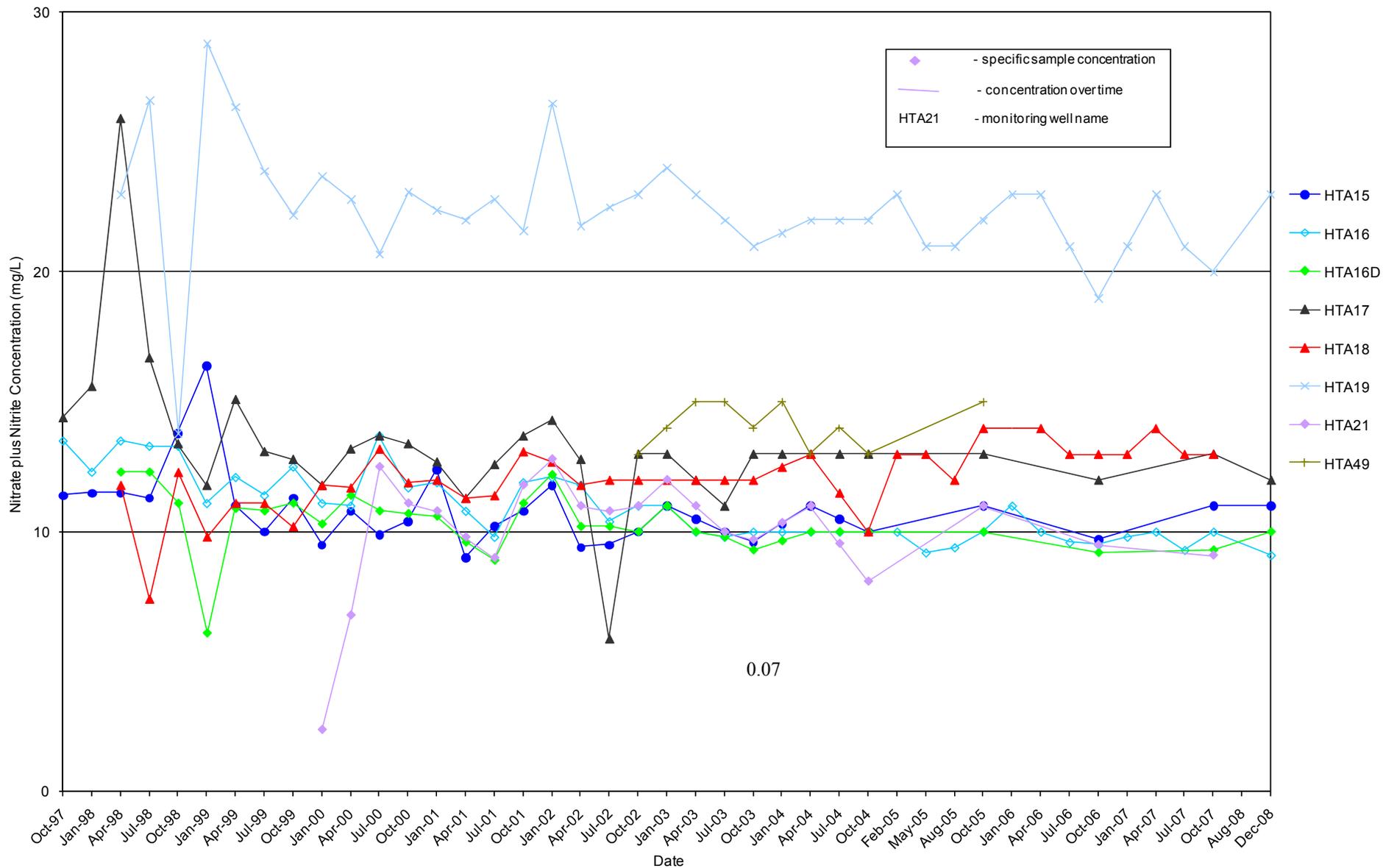
**Figure 14.** Time-series plot of nitrate plus nitrite concentrations generally smaller than 2 mg/L, January 2000 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit, U.S. Army White Sands Missile Range, New Mexico.



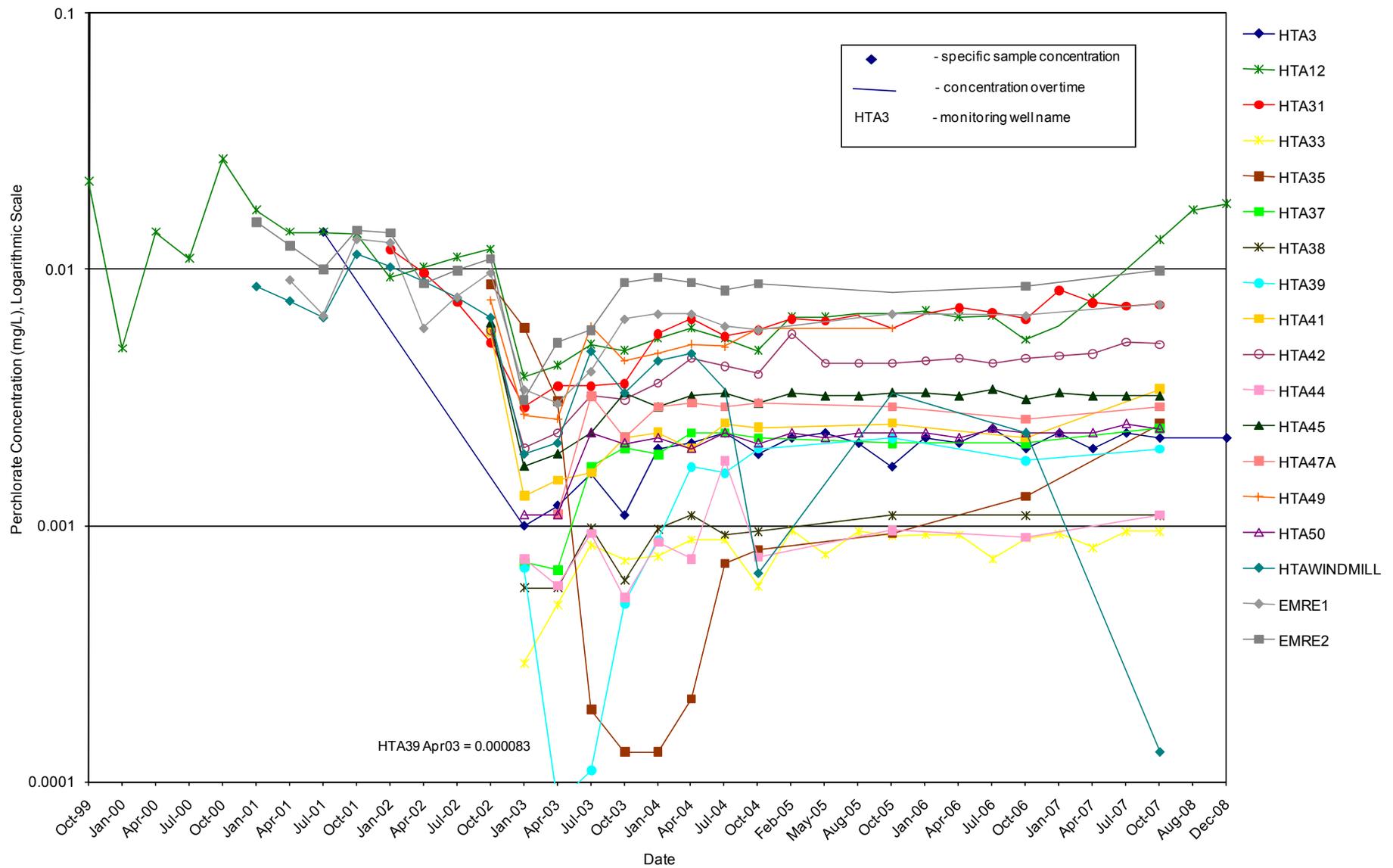
**Figure 15.** Time-series plot of nitrate plus nitrite concentrations generally ranging from 2 mg/L to 5 mg/L, January 1996 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit, U.S. Army White Sands Missile Range, New Mexico.



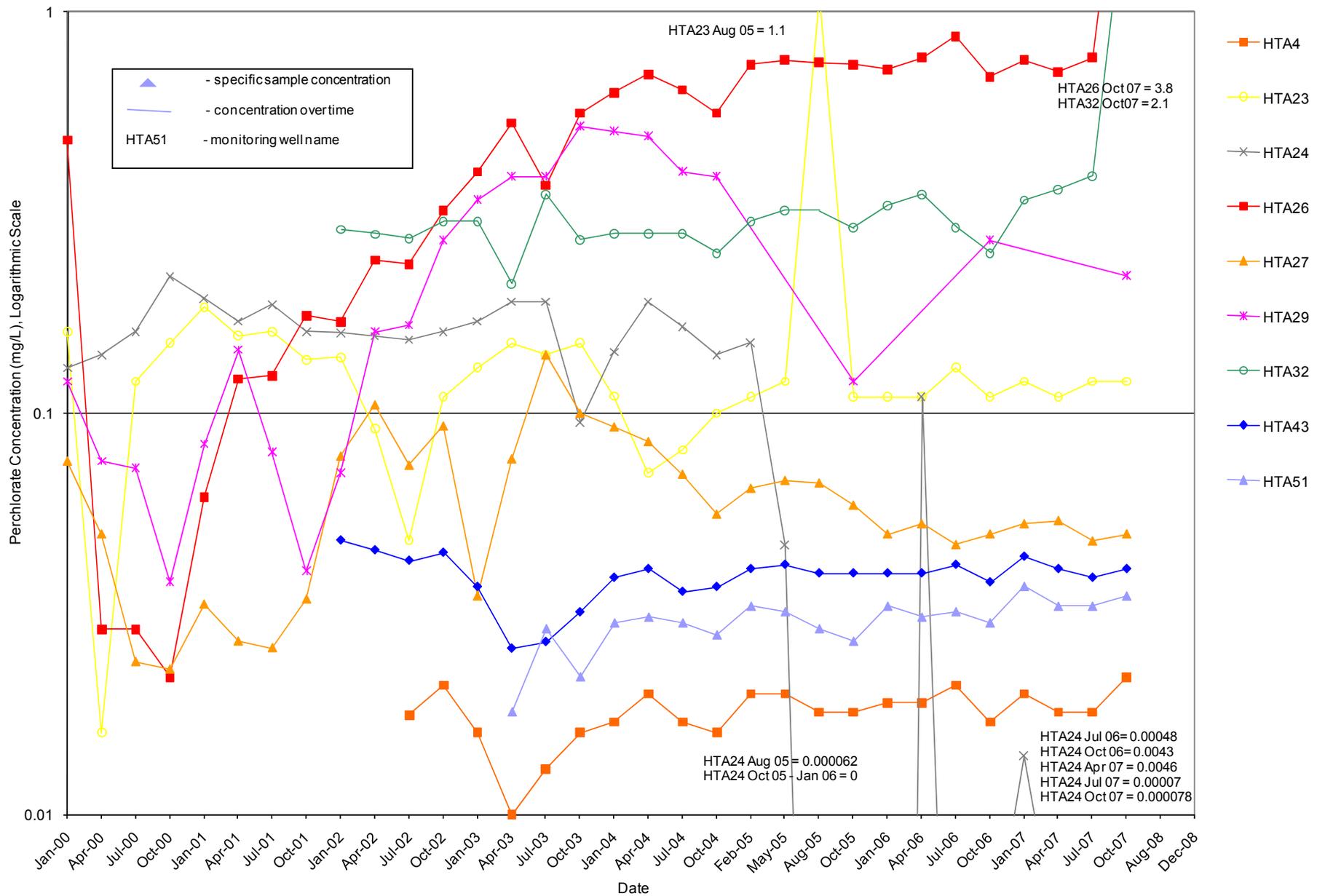
**Figure 16.** Time-series plot of nitrate plus nitrite concentrations generally ranging from 5 mg/L to 10 mg/L, January 1996 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit, U.S. Army White Sands Missile Range, New Mexico.



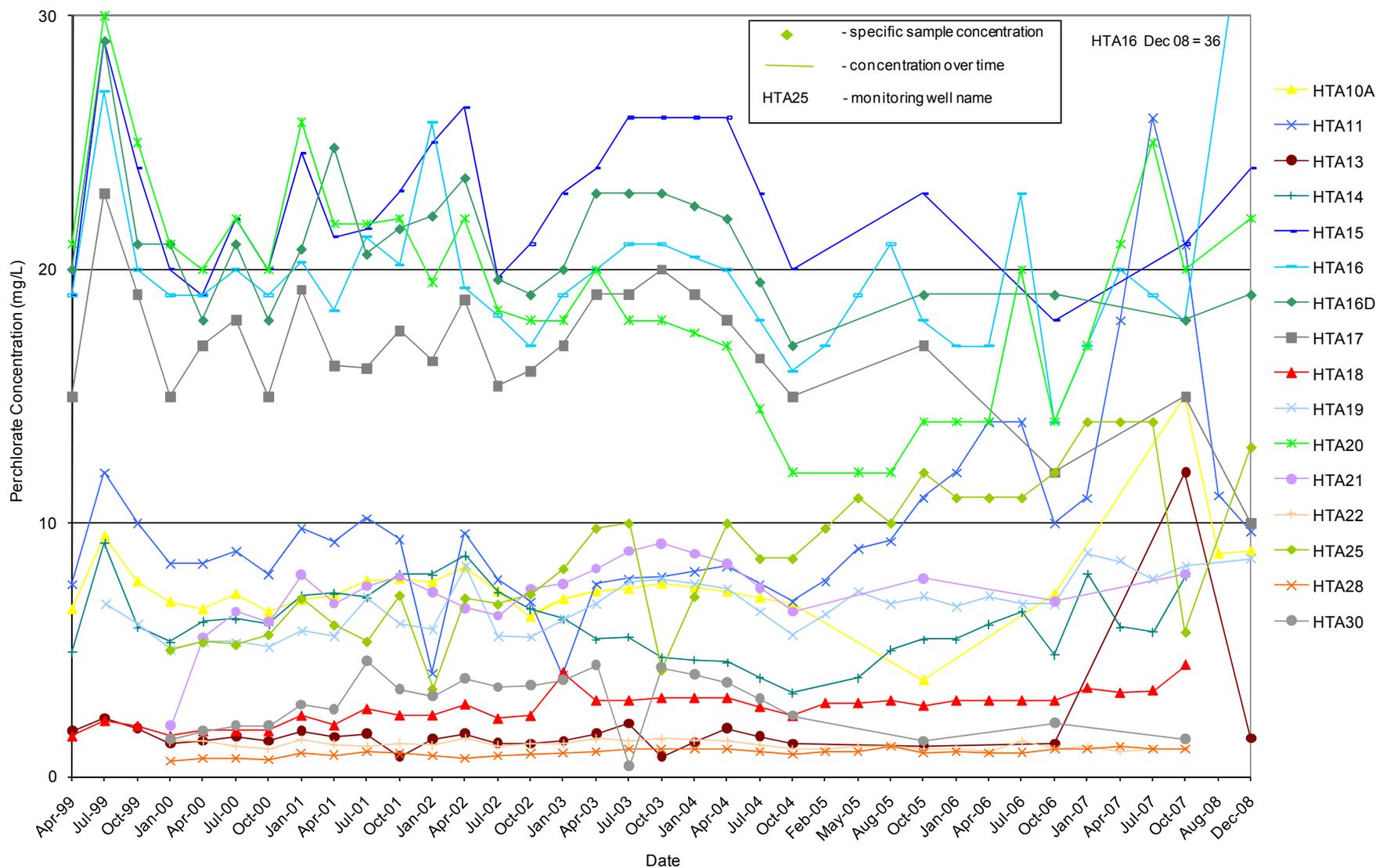
**Figure 17.** Time-series plot of nitrate plus nitrite concentrations generally larger than 10 mg/L, October 1997 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit U.S. Army White Sands Missile Range, New Mexico.



**Figure 18.** Semi-logarithmic time-series plot of perchlorate concentrations generally smaller than 0.01 mg/L, October 1999 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit U.S. Army White Sands Missile Range, New Mexico.



**Figure 19.** Semi-logarithmic time-series plot of perchlorate concentrations generally ranging from 0.01 mg/L to 1 mg/L, January 2000 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit U.S. Army White Sands Missile Range, New Mexico.



**Figure 20.** Time-series plot of perchlorate concentrations generally larger than 1 mg/L, April 1999 to December 2008 in ground water downgradient from the Open Burn/Open Detonation Unit U.S. Army White Sands Missile Range, New Mexico.

Table 1. Concentrations of analytes detected in ground water from monitoring wells for samples collected December 9, 2008, at the Open Burn/Open Detonation Unit, Hazardous Test Area, White Sands Missile Range, New Mexico.

[RL, reporting limit; µg/L, micrograms per liter; ND, not detected; J, estimated concentration, analyte detected at concentration less than the reporting limit; mg/L, milligrams per liter; Q, reporting limit elevated because of large analyte concentration]

Sample ID: Sample date & time: Analytes and Method	HTA3 12/9/2008 1615		HTA10A 12/9/2008 1235		HTA11 12/9/2008 1145		Field Duplicate HTA11 12/9/2008 1150		HTA12 12/9/2008 1050	
	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Explosives by HPLC, SW8330 (µg/L)										
RDX	ND	0.20	120	2.0	130	2.0	130	2.0	ND	0.20
HMX	ND	0.40	1.4 J	4.0	2.2 J	4.0	2.2 J	4.0	ND	0.40
Nitrate & Nitrite, MCAWW353.2 (mg/L)	2.7	0.10	9.9 Q	0.10	8.9 Q	0.50	9.4 Q	0.50	2.3	0.10
Perchlorate, SW6860 (mg/L)	0.0022	0.00050	8.9	5.0	9.7	5.0	9.1	5.0	0.018	0.0050

Sample ID: Sample date & time: Analytes and Method	HTA13 12/9/2008 1320		HTA15 12/9/2008 1510		HTA16 12/9/2008 1500		HTA16D 12/9/2008 1545		HTA17 12/9/2008 1335	
	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Explosives by HPLC, SW8330 (µg/L)										
RDX	3.1	0.20	21	0.20	28	0.40	27	0.40	40	0.40
HMX	ND	0.40	ND	0.40	0.49 J	0.80	ND	0.80	ND	0.80
Nitrate & Nitrite, MCAWW353.2 (mg/L)	6.8	0.10	11 Q	0.50	9.1 Q	0.50	10 Q	0.50	12 Q	0.50
Perchlorate, SW6860 (mg/L)	1.5	0.5	24	5.0	36	5.0	19	5.0	10	5.0

Sample ID: Sample date & time: Analytes and Method	HTA19 12/9/2008 1115		HTA20 12/9/2008 1410		HTA25 12/9/2008 1215	
	Result	RL	Result	RL	Result	RL
Explosives by HPLC, SW8330 (µg/L)						
RDX	0.22	0.20	44	1.0	4.4	0.20
HMX	ND	0.40	ND	2.0	ND	0.40
Nitrate & Nitrite, MCAWW353.2 (mg/L)	23 Q	0.50	11 Q	0.50	2.6	0.10
Perchlorate, SW6860 (mg/L)	8.6	5.0	22	5.0	13	5.0







## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-11</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 13"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 40"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>3 / 10 / 91</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>9.87" (0-20 ft); 6.75" (20-119 ft); 6" (119-205.5 ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40)</u>
METHOD OF DEVELOPMENT	<u>Blown or surged with compressed air</u>
ELEV BOTTOM OF BOREHOLE	<u>5,485.74 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,606.24 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,611.24 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,631.24 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,692.17 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-12</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 22"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 43"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>3 / 13 / 91</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>9.87" (0-20 ft); 7.87" (20-100 ft); 6.75" (100-165ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40)</u>
METHOD OF DEVELOPMENT	<u>Blown or surged with compressed air</u>
ELEV BOTTOM OF BOREHOLE	<u>5,589.78 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,599.78 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,604.78 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,624.78 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,756.71 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-13</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 16"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 38"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>3 / 10 / 98</u>
DRILLING METHOD	<u>Air rotary and air hammer</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>11.00" (0-3 ft); 9.8 " (3-60 ft); 6.12" (60-125 ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40)</u>
METHOD OF DEVELOPMENT	<u>Blown or pumped with compressed air</u>
ELEV BOTTOM OF BOREHOLE	<u>5,564.92 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,570.12 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,575.47 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,595.53 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,692.23 feet above MSL</u>



## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-15</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 06"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 38"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>7 / 26 / 96</u>
DRILLING METHOD	<u>Unknown</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>8 inches (0 -106 ft); 6 inches (106 -120 ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40)</u>
METHOD OF DEVELOPMENT	<u>Unknown</u>
ELEV BOTTOM OF BOREHOLE	<u>5,522.92 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,540.92 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,545.92 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,565.92 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,645.09 feet above MSL</u>



## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-16D</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 09"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 37"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>3 / 04 / 98</u>
DRILLING METHOD	<u>Air rotary and air hammer</u>
INNER CASING DIAMETER	<u>2.5 inches</u>
BOREHOLE DIAMETER	<u>9.87 " (0-40 ft); 6.12 " (40-305 ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40)</u>
METHOD OF DEVELOPMENT	<u>Blown or pumped with compressed air</u>
ELEV BOTTOM OF BOREHOLE	<u>5,332.96 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,478.74 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,484.01 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,503.90 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,640.13 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME Open Burn / Open Detonation Unit, Hazardous Test Area

EPA I.D. NUMBER NM2750211235

COUNTY Dona Ana

WELL NUMBER HTA-17

WELL LOCATION (LONGITUDE) 106° 31' 22"

WELL LOCATION (LATITUDE) 32° 29' 43"

AQUIFER NAME Precambrian Granite (400PCMB)

AQUIFER CONFINED \_\_\_\_\_ UNCONFINED \_\_\_\_\_ X

WELL INSTALLATION DATE 3 / 13 / 91

DRILLING METHOD Air rotary

INNER CASING DIAMETER 4 inches

BOREHOLE DIAMETER 9.87" (0-20ft); 7.87" (20-100 ft); 6.75" (100-165 ft)

CASING MATERIAL PVC (Schedule 40)

METHOD OF DEVELOPMENT Blown or surged with compressed air

ELEV BOTTOM OF BOREHOLE 5,521.49 feet above MSL

ELEV BOTTOM OF WELL CASING 5,531.49 feet above MSL

ELEV BOTTOM OF SCREENED INT 5,536.49 feet above MSL

ELEV OF TOP OF SCREENED INT 5,556.49 feet above MSL

SURVEYED ELEV OF CASING TOP 5,643.64 feet above MSL

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-18</u>
WELL LOCATION (LONGITUDE)	<u>106° 30' 56"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 32"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>2 / 28 / 98</u>
DRILLING METHOD	<u>Air rotary and air hammer</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>9.87 " (0-40 ft); 6.12 " (40-305 ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40)</u>
METHOD OF DEVELOPMENT	<u>Pumped with compressed air</u>
ELEV BOTTOM OF BOREHOLE	<u>5,231.59 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,406.93 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,412.28 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,432.34 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,538.95 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-19</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 03"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 35"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>3 / 6 / 98</u>
DRILLING METHOD	<u>Air rotary and air hammer</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>11.00" (0-3ft); 9.87" (3-40ft); 6.12" (40-305 ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40)</u>
METHOD OF DEVELOPMENT	<u>Pumped with compressed air</u>
ELEV BOTTOM OF BOREHOLE	<u>5,289.83 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,448.22 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,453.57 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,473.63 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,597.22 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-20</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 14"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 43"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>3 / 11 / 98</u>
DRILLING METHOD	<u>Air rotary and air hammer</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>11.00" (0-3ft); 9.87" (3-40ft); 6.12" (40-115ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40)</u>
METHOD OF DEVELOPMENT	<u>Pumped with compressed air</u>
ELEV BOTTOM OF BOREHOLE	<u>5,584.34 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,599.58 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,604.93 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,624.99 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,701.56 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-21</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 09"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 33"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>11 / 30 / 99</u>
DRILLING METHOD	<u>Air rotary (0-41 ft) and air hammer (41-115 ft)</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>11 in (0-41 ft); 6 in (41-115 ft)</u>
CASING MATERIAL	<u>PVC (Schedule 40), 0.01 inch slotted PVC screen</u>
METHOD OF DEVELOPMENT	<u>Borehole developed with compressed air prior to installing well casing</u>
ELEV BOTTOM OF BOREHOLE	<u>5,504 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,509.67 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,514.52 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,534.22 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,621.79 feet above MSL</u>







## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-25</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 06"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 43"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>12/02/99</u>
DRILLING METHOD	<u>Air rotary (0-40 ft) and air hammer (40-123 ft)</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>11 in (0-40 ft); 6 in (40-123 ft)</u>
CASING MATERIAL	<u>PVC (schedule 40), 0.01 inch slotted screen</u>
METHOD OF DEVELOPMENT	<u>Borehole developed with compressed air prior to installing well casing</u>
ELEV BOTTOM OF BOREHOLE	<u>5,521 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,524.02 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,528.87 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,548.57 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,646.03 feet above MSL</u>





## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>	
EPA I.D. NUMBER	<u>NM2750211235</u>	
COUNTY	<u>Dona Ana</u>	
WELL NUMBER	<u>HTA-28</u>	
WELL LOCATION (LONGITUDE)	<u>106° 30' 46"</u>	
WELL LOCATION (LATITUDE)	<u>32° 29' 23"</u>	
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>	
AQUIFER CONFINED	<u>UNCONFINED</u>	<u>X</u>
WELL INSTALLATION DATE	<u>12/04/99</u>	
DRILLING METHOD	<u>Air rotary (0-19.5 ft), air hammer (19.5-300 ft)</u>	
INNER CASING DIAMETER	<u>3 inches</u>	
BOREHOLE DIAMETER	<u>11 in (0-19.5 ft); 6 in (19.5-300 ft)</u>	
CASING MATERIAL	<u>PVC (schedule 40), 0.01 inch slotted screen</u>	
METHOD OF DEVELOPMENT	<u>Pumped</u>	
ELEV BOTTOM OF BOREHOLE	<u>5,151 feet above MSL, Borehole backfilled with bentonite chip up to 5,302 feet MSL</u>	
ELEV BOTTOM OF WELL CASING	<u>5,306.26 feet above MSL</u>	
ELEV BOTTOM OF SCREENED INT	<u>5,311.11 feet above MSL</u>	
ELEV OF TOP OF SCREENED INT	<u>5,330.81 feet above MSL</u>	
SURVEYED ELEV OF CASING TOP	<u>5,453.96 feet above MSL</u>	

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME Open Burn / Open Detonation Unit, Hazardous Test Area

EPA I.D. NUMBER NM2750211235

COUNTY Dona Ana

WELL NUMBER HTA-29

WELL LOCATION (LONGITUDE) 106° 31' 16"

WELL LOCATION (LATITUDE) 32° 29' 44"

AQUIFER NAME Precambrian Granite (400PCMB)

AQUIFER CONFINED \_\_\_\_\_ UNCONFINED \_\_\_\_\_ X

WELL INSTALLATION DATE 12/05/99

DRILLING METHOD Air rotary (0-25 ft) and air hammer (25-405 ft)

INNER CASING DIAMETER 3 inches

BOREHOLE DIAMETER 11 in (0-25 ft); 6 in (25-405 ft)

CASING MATERIAL PVC (schedule 40), 0.01 inch slotted screen

METHOD OF DEVELOPMENT Pumped

ELEV BOTTOM OF BOREHOLE 5,318 feet above MSL, Borehole backfilled with bentonite chip up to 5,561 feet MSL

ELEV BOTTOM OF WELL CASING 5,564.95 feet above MSL

ELEV BOTTOM OF SCREENED INT 5,569.80 feet above MSL

ELEV OF TOP OF SCREENED INT 5,589.50 feet above MSL

SURVEYED ELEV OF CASING TOP 5,725.83 feet above MSL

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NM2750211235</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-30</u>
WELL LOCATION (LONGITUDE)	<u>106° 30' 57"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 39"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>12/02/99</u>
DRILLING METHOD	<u>Air rotary (0-38 ft) and air hammer (38-200 ft)</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>9.88 in (0-25 ft); 5.75 in (25-182 ft)</u>
CASING MATERIAL	<u>PVC (schedule 40), 0.01 inch slotted screen</u>
METHOD OF DEVELOPMENT	<u>Borehole developed with compressed air prior to installing well casing</u>
ELEV BOTTOM OF BOREHOLE	<u>5,368 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,368 feet above MSL, Casing set on base of borehole</u>
ELEV BOTTOM OF SCREENED INT	<u>5,372.46 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,392.46 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,570.22 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-31</u>
WELL LOCATION (LONGITUDE)	<u>106° 30' 21.96"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 2.16"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>01/14/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>5,161.66 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,5166.66 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,166.66 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,186.66 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,254.75 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-32</u>
WELL LOCATION (LONGITUDE)	<u>106° 30' 26.29"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 23.73"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>01/14/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>5,259.77 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,268.77 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,268.77 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,288.77 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,346.31 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-33</u>
WELL LOCATION (LONGITUDE)	<u>106° 30' 54.85"</u>
WELL LOCATION (LATITUDE)	<u>32° 28' 48.1"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/14/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>5,256.81 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,261.81 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,261.81 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,281.81 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,371.55 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-34</u>
WELL LOCATION (LONGITUDE)	<u>106° 31' 27.89"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 43.16"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/14/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>5,690.94 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,691.94 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,691.94 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,711.94 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,797.72 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-35</u>
WELL LOCATION (LONGITUDE)	<u>106° 29' 6.03"</u>
WELL LOCATION (LATITUDE)	<u>32° 27' 4.28"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/16/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,454.42 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,459.42 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,459.42 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,479.42 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,621.18 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-36</u>
WELL LOCATION (LONGITUDE)	<u>106° 29' 44.25"</u>
WELL LOCATION (LATITUDE)	<u>32° 27' 2.38"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/16/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,696.49 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,701.49 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,701.49 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,721.49 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,798.02 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-37</u>
WELL LOCATION (LONGITUDE)	<u>106° 29' 47.22"</u>
WELL LOCATION (LATITUDE)	<u>32° 26' 39.19"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/16/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,551.93 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,557.93 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,557.93 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,577.93 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,697.84 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-38</u>
WELL LOCATION (LONGITUDE)	<u>106° 30' 2.03"</u>
WELL LOCATION (LATITUDE)	<u>32° 26' 24.49"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/17/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,599.95 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,604.95 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,604.95 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,624.95 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,726.93 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-39</u>
WELL LOCATION (LONGITUDE)	<u>106° 29' 48.75"</u>
WELL LOCATION (LATITUDE)	<u>32° 26' 12.15"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/17/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,495.42 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,500.42 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,500.42 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,520.42 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,652.14 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-40</u>
WELL LOCATION (LONGITUDE)	<u>106° 29' 13.95"</u>
WELL LOCATION (LATITUDE)	<u>32° 26' 8.93"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/17/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,309.63 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,314.63 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,314.63 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,334.63 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,516.5 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-41</u>
WELL LOCATION (LONGITUDE)	<u>106° 28' 19.14"</u>
WELL LOCATION (LATITUDE)	<u>32° 27' 31.39"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/16/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,377.11 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,377.11 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,377.11 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,397.11 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,504.63 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-42</u>
WELL LOCATION (LONGITUDE)	<u>106° 29' 42.66"</u>
WELL LOCATION (LATITUDE)	<u>32° 28' 37.01"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/15/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,854.49 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,856.69 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,856.69 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,876.69 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,996.95 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>	
EPA I.D. NUMBER	<u>NONE</u>	
COUNTY	<u>Dona Ana</u>	
WELL NUMBER	<u>HTA-43</u>	
WELL LOCATION (LONGITUDE)	<u>106° 29' 27.85"</u>	
WELL LOCATION (LATITUDE)	<u>32° 28' 57"</u>	
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>	
AQUIFER CONFINED	<u>UNCONFINED</u>	<u>X</u>
WELL INSTALLATION DATE	<u>1/15/2002</u>	
DRILLING METHOD	<u>Air rotary</u>	
INNER CASING DIAMETER	<u>3 inches</u>	
BOREHOLE DIAMETER	<u>6 inches</u>	
CASING MATERIAL	<u>PVC</u>	
METHOD OF DEVELOPMENT	<u>Unknown</u>	
ELEV BOTTOM OF BOREHOLE	<u>4,851.87 feet above MSL</u>	
ELEV BOTTOM OF WELL CASING	<u>4,857.87 feet above MSL</u>	
ELEV BOTTOM OF SCREENED INT	<u>4,857.87 feet above MSL</u>	
ELEV OF TOP OF SCREENED INT	<u>4,877.87 feet above MSL</u>	
SURVEYED ELEV OF CASING TOP	<u>4,959.71 feet above MSL</u>	

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-44</u>
WELL LOCATION (LONGITUDE)	<u>106° 30' 2.42"</u>
WELL LOCATION (LATITUDE)	<u>32° 27' 44.93"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/15/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,794.28 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,799.28 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,799.28 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,819.28 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,940.26 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-45</u>
WELL LOCATION (LONGITUDE)	<u>106° 28' 34.57"</u>
WELL LOCATION (LATITUDE)	<u>32° 28' 23.34"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/16/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,493.73 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>4,498.73 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>4,498.73 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,518.73 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,640.84 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-46</u>
WELL LOCATION (LONGITUDE)	<u>106° 30' 2.51"</u>
WELL LOCATION (LATITUDE)	<u>32° 29' 6.27"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/15/2002</u>
DRILLING METHOD	<u>Air rotary</u>
INNER CASING DIAMETER	<u>3 inches</u>
BOREHOLE DIAMETER	<u>6 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>4,834.15 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>5,014.15 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>5,014.15 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>5,034.15 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>5,161.62 feet above</u>





## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-49</u>
WELL LOCATION (LONGITUDE)	<u>106° 29' 9.64"</u>
WELL LOCATION (LATITUDE)	<u>32° 25' 7.67"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>12/12/2001</u>
DRILLING METHOD	<u>Mud rotary</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>7.875 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Air lifted and pumped</u>
ELEV BOTTOM OF BOREHOLE	<u>3,991.85 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>3,992.85 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>3,992.85 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>4,022.85 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,414.13 feet above MSL</u>

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>
EPA I.D. NUMBER	<u>NONE</u>
COUNTY	<u>Dona Ana</u>
WELL NUMBER	<u>HTA-50</u>
WELL LOCATION (LONGITUDE)	<u>106° 27' 31.4"</u>
WELL LOCATION (LATITUDE)	<u>32° 28' 33.32"</u>
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>
AQUIFER CONFINED	<u>UNCONFINED</u> <u>X</u>
WELL INSTALLATION DATE	<u>1/13/2002</u>
DRILLING METHOD	<u>Mud rotary</u>
INNER CASING DIAMETER	<u>4 inches</u>
BOREHOLE DIAMETER	<u>7.875 inches</u>
CASING MATERIAL	<u>PVC</u>
METHOD OF DEVELOPMENT	<u>Bailed</u>
ELEV BOTTOM OF BOREHOLE	<u>3,846.45 feet above MSL</u>
ELEV BOTTOM OF WELL CASING	<u>3,850.05 feet above MSL</u>
ELEV BOTTOM OF SCREENED INT	<u>3,850.05 feet above MSL</u>
ELEV OF TOP OF SCREENED INT	<u>3,880.05 feet above MSL</u>
SURVEYED ELEV OF CASING TOP	<u>4,368.24 feet above MSL</u>



## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>		
EPA I.D. NUMBER	<u>NONE</u>		
COUNTY	<u>Dona Ana</u>		
WELL NUMBER	<u>EMRE 1</u>		
WELL LOCATION (LONGITUDE)	<u>106° 30' 17"</u>		
WELL LOCATION (LATITUDE)	<u>32° 28' 4"</u>		
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>		
AQUIFER CONFINED	<u>Unknown</u>	UNCONFINED	<u>Unknown</u>
WELL INSTALLATION DATE	<u>12/3/99</u>		
DRILLING METHOD	<u>Air rotary</u>		
INNER CASING DIAMETER	<u>3 inches</u>		
BOREHOLE DIAMETER	<u>Unknown</u>		
CASING MATERIAL	<u>PVC</u>		
METHOD OF DEVELOPMENT	<u>Unknown</u>		
ELEV BOTTOM OF BOREHOLE	<u>4,859.16 feet above MSL</u>		
ELEV BOTTOM OF WELL CASING	<u>4,863.16 feet above MSL</u>		
ELEV BOTTOM OF SCREENED INT	<u>4,868.16 feet above MSL</u>		
ELEV OF TOP OF SCREENED INT	<u>4,888.16 feet above MSL</u>		
SURVEYED ELEV OF CASING TOP	<u>5,045.43 feet above MSL</u>		

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>		
EPA I.D. NUMBER	<u>NONE</u>		
COUNTY	<u>Dona Ana</u>		
WELL NUMBER	<u>EMRE 2</u>		
WELL LOCATION (LONGITUDE)	<u>106° 30' 9"</u>		
WELL LOCATION (LATITUDE)	<u>32° 28' 0"</u>		
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>		
AQUIFER CONFINED	<u>Unknown</u>	UNCONFINED	<u>Unknown</u>
WELL INSTALLATION DATE	<u>12/03/99</u>		
DRILLING METHOD	<u>Air rotary</u>		
INNER CASING DIAMETER	<u>3 inches</u>		
BOREHOLE DIAMETER	<u>Unknown</u>		
CASING MATERIAL	<u>PVC</u>		
METHOD OF DEVELOPMENT	<u>Unknown</u>		
ELEV BOTTOM OF BOREHOLE	<u>4,890.99 feet above MSL</u>		
ELEV BOTTOM OF WELL CASING	<u>4,893.99 feet above MSL</u>		
ELEV BOTTOM OF SCREENED INT	<u>4,898.99 feet above MSL</u>		
ELEV OF TOP OF SCREENED INT	<u>4,917.99 feet above MSL</u>		
SURVEYED ELEV OF CASING TOP	<u>4,996.37 feet above MSL</u>		

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>		
EPA I.D. NUMBER	<u>NONE</u>		
COUNTY	<u>Dona Ana</u>		
WELL NUMBER	<u>HTA-WINDMILL</u>		
WELL LOCATION (LONGITUDE)	<u>106° 50' 52"</u>		
WELL LOCATION (LATITUDE)	<u>32° 28' 24"</u>		
AQUIFER NAME	<u>Precambrian Granite (400PCMB)</u>		
AQUIFER CONFINED	<u>Unknown</u>	UNCONFINED	<u>Unknown</u>
WELL INSTALLATION DATE	<u>Unknown</u>		
DRILLING METHOD	<u>Unknown</u>		
INNER CASING DIAMETER	<u>Unknown</u>		
BOREHOLE DIAMETER	<u>Unknown</u>		
CASING MATERIAL	<u>Unknown</u>		
METHOD OF DEVELOPMENT	<u>Unknown</u>		
ELEV BOTTOM OF BOREHOLE	<u>Unknown</u>		
ELEV BOTTOM OF WELL CASING	<u>Unknown</u>		
ELEV BOTTOM OF SCREENED INT	<u>Unknown</u>		
ELEV OF TOP OF SCREENED INT	<u>Unknown</u>		
SURVEYED ELEV OF CASING TOP	<u>Unknown</u>		

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>		
EPA I.D. NUMBER	<u>NONE</u>		
COUNTY	<u>Dona Ana</u>		
WELL NUMBER	<u>BONNEY SPRING MINE WINDMILL</u>		
WELL LOCATION (LONGITUDE)	<u>106° 29' 11"</u>		
WELL LOCATION (LATITUDE)	<u>32° 29' 38"</u>		
AQUIFER NAME	<u>Unknown</u>		
AQUIFER CONFINED	<u>Unknown</u>	UNCONFINED	<u>Unknown</u>
WELL INSTALLATION DATE	<u>Unknown</u>		
DRILLING METHOD	<u>Unknown</u>		
INNER CASING DIAMETER	<u>8 inches</u>		
BOREHOLE DIAMETER	<u>Unknown</u>		
CASING MATERIAL	<u>Steel</u>		
METHOD OF DEVELOPMENT	<u>Unknown</u>		
ELEV BOTTOM OF BOREHOLE	<u>Unknown</u>		
ELEV BOTTOM OF WELL CASING	<u>4,978 feet above MSL</u>		
ELEV BOTTOM OF SCREENED INT	<u>Unknown</u>		
ELEV OF TOP OF SCREENED INT	<u>Unknown</u>		
SURVEYED ELEV OF CASING TOP	<u>5,041 feet above MSL</u>		

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>		
EPA I.D. NUMBER	<u>NONE</u>		
COUNTY	<u>Dona Ana</u>		
WELL NUMBER	<u>SMR1A</u>		
WELL LOCATION (LONGITUDE)	<u>106° 26' 32"</u>		
WELL LOCATION (LATITUDE)	<u>32° 29' 02"</u>		
AQUIFER NAME	<u>Unknown</u>		
AQUIFER CONFINED	<u>Unknown</u>	UNCONFINED	<u>Unknown</u>
WELL INSTALLATION DATE	<u></u>		
DRILLING METHOD	<u>Unknown</u>		
INNER CASING DIAMETER	<u>Unknown</u>		
BOREHOLE DIAMETER	<u>Unknown</u>		
CASING MATERIAL	<u>Unknown</u>		
METHOD OF DEVELOPMENT	<u>Unknown</u>		
ELEV BOTTOM OF BOREHOLE	<u>Unknown</u>		
ELEV BOTTOM OF WELL CASING	<u>Unknown</u>		
ELEV BOTTOM OF SCREENED INT	<u>Unknown</u>		
ELEV OF TOP OF SCREENED INT	<u>Unknown</u>		
SURVEYED ELEV OF CASING TOP	<u>Unkown</u>		

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>		
EPA I.D. NUMBER	<u>NONE</u>		
COUNTY	<u>Dona Ana</u>		
WELL NUMBER	<u>SMR2</u>		
WELL LOCATION (LONGITUDE)	<u>106° 26' 44"</u>		
WELL LOCATION (LATITUDE)	<u>32° 28' 38"</u>		
AQUIFER NAME	<u>Unknown</u>		
AQUIFER CONFINED	<u>Unknown</u>	UNCONFINED	<u>Unknown</u>
WELL INSTALLATION DATE	<u>September 1960</u>		
DRILLING METHOD	<u>Cable tool</u>		
INNER CASING DIAMETER	<u>8 inches to 608 feet, 6 inches to 747 feet</u>		
BOREHOLE DIAMETER	<u>10 inches to 612 feet, 8 inches to 747 feet</u>		
CASING MATERIAL	<u>Steel</u>		
METHOD OF DEVELOPMENT	<u>Unknown</u>		
ELEV BOTTOM OF BOREHOLE	<u>3,440.71 feet above MSL</u>		
ELEV BOTTOM OF WELL CASING	<u>3,449.71 feet above MSL</u>		
ELEV BOTTOM OF SCREENED INT	<u>Unknown</u>		
ELEV OF TOP OF SCREENED INT	<u>Unknown</u>		
SURVEYED ELEV OF CASING TOP	<u>4,196.71 feet above MSL</u>		

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>		
EPA I.D. NUMBER	<u>NONE</u>		
COUNTY	<u>Dona Ana</u>		
WELL NUMBER	<u>SMR3</u>		
WELL LOCATION (LONGITUDE)	<u>106° 25' 11"</u>		
WELL LOCATION (LATITUDE)	<u>32° 31' 04"</u>		
AQUIFER NAME	<u>Unknown</u>		
AQUIFER CONFINED	<u>Unknown</u>	UNCONFINED	<u>Unknown</u>
WELL INSTALLATION DATE	<u>January 1967</u>		
DRILLING METHOD	<u>Hydraulic rotary</u>		
INNER CASING DIAMETER	<u>8 inches to 1,000 feet</u>		
BOREHOLE DIAMETER	<u>Unknown</u>		
CASING MATERIAL	<u>Steel</u>		
METHOD OF DEVELOPMENT	<u>Unknown</u>		
ELEV BOTTOM OF BOREHOLE	<u>3,170.73 feet above MSL</u>		
ELEV BOTTOM OF WELL CASING	<u>3,180.73 feet above MSL</u>		
ELEV BOTTOM OF SCREENED INT	<u>Unknown</u>		
ELEV OF TOP OF SCREENED INT	<u>Unknown</u>		
SURVEYED ELEV OF CASING TOP	<u>4,180.73 feet above MSL</u>		

## MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
HAZARDOUS WASTE BUREAU  
2905 RODEO PARK DRIVE, EAST, BUILDING 1  
SANTA FE, NEW MEXICO 87505

FACILITY NAME	<u>Open Burn / Open Detonation Unit, Hazardous Test Area</u>		
EPA I.D. NUMBER	<u>NONE</u>		
COUNTY	<u>Dona Ana</u>		
WELL NUMBER	<u>SMR4</u>		
WELL LOCATION (LONGITUDE)	<u>106° 27' 13"</u>		
WELL LOCATION (LATITUDE)	<u>32° 27' 35"</u>		
AQUIFER NAME	<u>Unknown</u>		
AQUIFER CONFINED	<u>Unknown</u>	UNCONFINED	<u>Unknown</u>
WELL INSTALLATION DATE	<u>December 1967</u>		
DRILLING METHOD	<u>Hydraulic rotary</u>		
INNER CASING DIAMETER	<u>8 inches</u>		
BOREHOLE DIAMETER	<u>12 1/4 inches to 450 feet, 7 7/8 inches to total</u>		
CASING MATERIAL	<u>Steel</u>		
METHOD OF DEVELOPMENT	<u>Unknown</u>		
ELEV BOTTOM OF BOREHOLE	<u>3,145.83 feet above MSL</u>		
ELEV BOTTOM OF WELL CASING	<u>Unknown</u>		
ELEV BOTTOM OF SCREENED INT	<u>Unknown</u>		
ELEV OF TOP OF SCREENED INT	<u>Unknown</u>		
SURVEYED ELEV OF CASING TOP	<u>4,161.83 feet above MSL</u>		

## **APPENDIX I**

Analytical Results from Severn Trent Services Laboratory for  
Ground-Water Samples Collected December 9, 2008

**ANALYTICAL REPORT**

White Sands HTA  
SDG: HTA-29  
Lot #s: D8L110294

Gary Cottrell

U.S. Geological Survey

**TestAmerica Laboratories, Inc.**



**Lisa B. Uriell (formerly Antonczak)**  
Project Manager

January 8, 2009

## Case Narrative

### HTA-29

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted.

The test results presented in this report meet all requirements of NELAC, and any exceptions are noted. This report shall not be reproduced, except in full, without written permission from the laboratory.

#### **Sample Receiving**

Thirteen samples were received under chain of custody on December 11, 2008 and logged under lot D8L110294. This lot is reported here under SDG HTA-29.

Samples logged under lot D8L110294 were received at temperatures of 3.8°C, 4.3°C, 4.4°C, 2.3°C and 4.1°C.

The Explosives (8330) volume for sample HTA-16D was inadvertently broken while unpacking the sample coolers. Sample volume was split off from the unpreserved 1L poly bottle submitted for Bromide analysis. Sufficient volume remained to perform all requested analyses.

No other anomalies were encountered during sample receipt.

#### **LC/MS – Perchlorate, SW846 6860**

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Samples HTA-19 (D8L110294-001), HTA-25 (002), HTA-13 (003), HTA-12 (004), HTA-11 (005), HTA-99 (006), HTA-10A (007), HTA-17 (008), HTA-16 (009), HTA-20 (010), HTA-15 (011), HTA-3 (012) and HTA-16D (013) had to be analyzed at dilutions due to high constituent concentrations of Perchlorate. The reporting limits have been adjusted relative to the dilutions required.

MS/MSD associated with QC batch 8359491 were performed on sample HTA-3 (D8L110294-012). All spike parameters were within QC control limits.

No other anomalies were observed.

#### **HPLC – Explosives, SW846 8330**

The 8330 analysis of samples HTA-19 (D8L110294-001), HTA-25 (002) and HTA-13 (003) exhibited detections of RDX above the reporting limit. These samples were analyzed for RDX by method 8321A to confirm the RDX results detected by method 8330. Both results have been provided for confirmation.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to analytes present above the linear calibration curve, samples HTA-11 (D8L110294-005), HTA-99 (006), HTA-10A (007), HTA-17 (008), HTA-16 (009), HTA-20 (010) and HTA-16D (013) had to be analyzed at dilutions. The reporting limits have been adjusted relative to the dilutions required.

**HPLC – Explosives, SW846 8330 (cont.)**

Surrogate recoveries could not be calculated for samples HTA-11 (D8L110294-005), HTA-99 (006), HTA-10A (007) and HTA-20 (010), because the extracts were diluted beyond the ability to quantitate recoveries.

MS/MSD associated with QC batch 8346463 were performed on sample HTA-3 (D8L110294-012). All spike parameters were within QC control limits.

The method required MS/MSD could not be performed for QC batch 8347441, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

The method required MS/MSD could not be performed for QC batch 8351616, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

No other anomalies were observed.

**General Chemistry, Bromide, MCAWW 300.0A & Nitrate-Nitrite, MCAWW 353.2**

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. Due to high constituent concentrations, the Nitrate-Nitrite analysis of samples HTA-19 (D8L110294-001), HTA-11 (005), HTA-99 (006), HTA-10A (007), HTA-17 (008), HTA-16 (009), HTA-20 (010), HTA-15 (011) and HTA-16D (013) had to be performed at dilutions. The results in the analytical report have been flagged with a “Q”, and the reporting limits have been adjusted relative to the dilutions required.

MS/MSDs associated with QC batch 8366120 were performed on sample HTA-3 (D8L110294-012). The MS/MSD exhibited percent recoveries outside the control limits for Nitrate-Nitrite. Method precision and accuracy has been verified by the acceptable LCS/LCSD analysis data; therefore, corrective action is deemed unnecessary.

The MS/MSD analyses run on sample HTA-3 (D8L110294-012) were in control for Bromide (batch 9005229).

No other anomalies were observed.

## Quality Control Definitions of Terms

Term	Definition
Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD)	A volume of reagent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. A LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. An LCSD is a second Laboratory Control Sample.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MS/MSDs are carried throughout the entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.
Sample Duplicate	A second aliquot of an environmental sample, taken from the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative to the precision for other samples in the batch.
Method Detection Limit "MDL"	The method detection limit is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from replicate analyses of low level standards in a typical representative matrix.
Reporting Limit "RL"	The STL reporting limit is normally the lowest level at which measurements become quantitatively meaningful, i.e., the quantitation limit, which is approximately three times the MDL. Some projects require RLs that are less than the quantitation limit to achieve particular maximum contaminant levels (MCLs) or relevant and appropriate requirements (ARARs), but RLs cannot be less than the statistically determined MDL.

## Quality Control Definitions of Qualifiers

Qualifier	Definition
*	Surrogate or Relative Percent Difference (RPD) is outside control limits.
a	Spiked analyte recovery is outside control limits.
B	Organics: Method blank contamination. The associated method blank contains the target analyte at a reportable level. Inorganics: Estimated result. Result is less than the RL
COL	More than 40% difference between the primary and confirmation detector results. The lower of the two results is reported.
DIL	The concentration is estimated or not reported due to dilution.
E	Estimated result. Result concentrations exceeds the calibration range.
G	Inorganics: Elevated reporting limit. The reporting limit is elevated due to matrix interference.
J	Organics: Estimated result. Result is less than RL Inorganics: Method blank contamination. The associated method blank contains the target analyte at a reportable level.
L	Serial dilution of a digestate in the analytical batch indicates that physical and chemical interferences are present
N	Spiked analyte recovery is outside stated control limits.
NC	The recovery and/or RPD were not calculated.
ND	The analyte was not detected at the MDL concentration and with a measurable degree of confidence can be said not to be present at or above the RL concentration.
p	Relative percent difference (RPD) is outside stated control limits.
Q	Elevated reporting limit. The reporting limit is elevated due to high analyte levels.
V	General Chemistry: Elevated reporting limit due to limited sample volume.
Wa	Post digestion spike recovery fell between 40-85% due to matrix interference.
Wb	Post digestion spike recovery fell between 115-150% due to matrix interference.
I	Percent recovery is estimated since the results exceeded the calibration range.
T1	A tentatively identified compound that did not generate a spectral match of 80% or greater. Typically called "unknown"
T2	A tentatively identified compound with a spectral match of 80% or better
T3	A tentatively identified compound that was calibrated for by the lab, but not on the client target analyte list.
IC	Diluted due to high inorganic chloride.

# EXECUTIVE SUMMARY - Detection Highlights

HTA-29 : D8L110294

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>HTA-19 12/09/08 11:15 001</b>				
RDX	0.22	0.20	ug/L	SW846 8330
RDX	0.24	0.22	ug/L	SW846 8321A
Perchlorate	8600	5000	ug/L	SW846 6860
Nitrate-Nitrite	23 Q	0.50	mg/L	MCAWW 353.2
Bromide	0.31	0.20	mg/L	MCAWW 300.0A
<b>HTA-25 12/09/08 12:15 002</b>				
RDX	4.4	0.20	ug/L	SW846 8330
RDX	1.4	0.22	ug/L	SW846 8321A
Perchlorate	13000	5000	ug/L	SW846 6860
Nitrate-Nitrite	2.6	0.10	mg/L	MCAWW 353.2
Bromide	0.24	0.20	mg/L	MCAWW 300.0A
<b>HTA-13 12/09/08 13:20 003</b>				
RDX	3.1	0.20	ug/L	SW846 8330
RDX	2.5	0.22	ug/L	SW846 8321A
Perchlorate	1500	500	ug/L	SW846 6860
Nitrate-Nitrite	6.8	0.10	mg/L	MCAWW 353.2
Bromide	0.21	0.20	mg/L	MCAWW 300.0A
<b>HTA-12 12/09/08 10:50 004</b>				
Perchlorate	18	5.0	ug/L	SW846 6860
Nitrate-Nitrite	2.3	0.10	mg/L	MCAWW 353.2
Bromide	0.25	0.20	mg/L	MCAWW 300.0A
<b>HTA-11 12/09/08 11:45 005</b>				
HMX	2.2 J	4.0	ug/L	SW846 8330
RDX	130	2.0	ug/L	SW846 8330
Perchlorate	9700	5000	ug/L	SW846 6860
Nitrate-Nitrite	8.9 Q	0.50	mg/L	MCAWW 353.2
Bromide	0.97	0.20	mg/L	MCAWW 300.0A
<b>HTA-99 12/09/08 11:50 006</b>				
HMX	2.2 J	4.0	ug/L	SW846 8330
RDX	130	2.0	ug/L	SW846 8330
Perchlorate	9100	5000	ug/L	SW846 6860
Nitrate-Nitrite	9.4 Q	0.50	mg/L	MCAWW 353.2
Bromide	0.92	0.20	mg/L	MCAWW 300.0A

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

HTA-29 : D8L110294

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>HTA-10A 12/09/08 12:35 007</b>				
HMX	1.4 J	4.0	ug/L	SW846 8330
RDX	120	2.0	ug/L	SW846 8330
Perchlorate	8900	5000	ug/L	SW846 6860
Nitrate-Nitrite	9.9 Q	0.10	mg/L	MCAWW 353.2
Bromide	0.27	0.20	mg/L	MCAWW 300.0A
<b>HTA-17 12/09/08 13:35 008</b>				
RDX	40	0.40	ug/L	SW846 8330
Perchlorate	10000	5000	ug/L	SW846 6860
Nitrate-Nitrite	12 Q	0.50	mg/L	MCAWW 353.2
Bromide	0.23	0.20	mg/L	MCAWW 300.0A
<b>HTA-16 12/09/08 15:00 009</b>				
HMX	0.49 J	0.80	ug/L	SW846 8330
RDX	28	0.40	ug/L	SW846 8330
Perchlorate	36000	5000	ug/L	SW846 6860
Nitrate-Nitrite	9.1 Q	0.50	mg/L	MCAWW 353.2
Bromide	0.22	0.20	mg/L	MCAWW 300.0A
<b>HTA-20 12/09/08 14:10 010</b>				
RDX	44	1.0	ug/L	SW846 8330
Perchlorate	22000	5000	ug/L	SW846 6860
Nitrate-Nitrite	11 Q	0.50	mg/L	MCAWW 353.2
Bromide	0.24	0.20	mg/L	MCAWW 300.0A
<b>HTA-15 12/09/08 15:10 011</b>				
RDX	21	0.20	ug/L	SW846 8330
Perchlorate	24000	5000	ug/L	SW846 6860
Nitrate-Nitrite	11 Q	0.50	mg/L	MCAWW 353.2
Bromide	0.23	0.20	mg/L	MCAWW 300.0A
<b>HTA-3 12/09/08 16:15 012</b>				
Perchlorate	2.2	0.50	ug/L	SW846 6860
Nitrate-Nitrite	2.7	0.10	mg/L	MCAWW 353.2
Bromide	0.21	0.20	mg/L	MCAWW 300.0A

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

HTA-29 : D8L110294

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>HTA-16D 12/09/08 15:45 013</b>				
RDX	27	0.40	ug/L	SW846 8330
Perchlorate	19000	5000	ug/L	SW846 6860
Nitrate-Nitrite	10 Q	0.50	mg/L	MCAWW 353.2
Bromide	0.23	0.20	mg/L	MCAWW 300.0A

# METHODS SUMMARY

HTA-29

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Bromide	MCAWW 300.0A	MCAWW 300.0A
LCMS by 8321A	SW846 8321A	SW846 3535
Nitrate-Nitrite	MCAWW 353.2	MCAWW 353.2
Nitroaromatics and Nitramines by HPLC	SW846 8330	SW846 3535
SW846 6860 Perchlorate	SW846 6860	SW846 6860

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# METHOD / ANALYST SUMMARY

HTA-29

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
MCAWW 300.0A	Ewa Kudla	1167
MCAWW 353.2	Brett Wolff	009878
SW846 6860	Tim O'Donnell	000443
SW846 8321A	Andrew Meyer	003649
SW846 8330	Carrie Lahr	008835

## References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

HTA-29 : D8L110294

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
K4JAL	001	HTA-19	12/09/08	11:15
K4JA2	002	HTA-25	12/09/08	12:15
K4JA3	003	HTA-13	12/09/08	13:20
K4JA4	004	HTA-12	12/09/08	10:50
K4JA6	005	HTA-11	12/09/08	11:45
K4JA7	006	HTA-99	12/09/08	11:50
K4JA8	007	HTA-10A	12/09/08	12:35
K4JA9	008	HTA-17	12/09/08	13:35
K4JCC	009	HTA-16	12/09/08	15:00
K4JCD	010	HTA-20	12/09/08	14:10
K4JCE	011	HTA-15	12/09/08	15:10
K4JCF	012	HTA-3	12/09/08	16:15
K4JCK	013	HTA-16D	12/09/08	15:45

## NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-19

HPLC

Lot-Sample #...: D8L110294-001    Work Order #...: K4JAL1AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 11:15    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #...: 8358491    Analysis Time...: 13:57  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	8600	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-25

HPLC

Lot-Sample #....: D8L110294-002    Work Order #....: K4JA21AC    Matrix.....: WATER  
Date Sampled....: 12/09/08 12:15    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #....: 8358491    Analysis Time...: 14:28  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	13000	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-13

HPLC

Lot-Sample #...: D8L110294-003    Work Order #...: K4JA31AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 13:20    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #...: 8358491    Analysis Time...: 15:00  
Dilution Factor: 10000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	1500	500	ug/L	88

U.S. Geological Survey (USGS)

Client Sample ID: HTA-12

HPLC

Lot-Sample #...: D8L110294-004    Work Order #...: K4JA41AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 10:50    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/25/08  
Prep Batch #...: 8358491    Analysis Time...: 01:00  
Dilution Factor: 100  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	18	5.0	ug/L	0.88

U.S. Geological Survey (USGS)

Client Sample ID: HTA-11

HPLC

Lot-Sample #....: D8L110294-005    Work Order #....: K4JA61AC    Matrix.....: WATER  
Date Sampled....: 12/09/08 11:45    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #....: 8358491    Analysis Time...: 16:03  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	9700	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-99

HPLC

Lot-Sample #...: D8L110294-006    Work Order #...: K4JA71AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 11:50    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #...: 8358491    Analysis Time...: 18:12  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	9100	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-10A

HPLC

Lot-Sample #...: D8L110294-007    Work Order #...: K4JA81AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 12:35    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #...: 8358491    Analysis Time...: 18:43  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	8900	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-17

HPLC

Lot-Sample #....: D8L110294-008    Work Order #....: K4JA91AC    Matrix.....: WATER  
Date Sampled....: 12/09/08 13:35    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #....: 8358491    Analysis Time...: 19:14  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	10000	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-16

HPLC

Lot-Sample #...: D8L110294-009    Work Order #...: K4JCC1AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 15:00    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #...: 8358491    Analysis Time...: 19:46  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	36000	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-20

HPLC

Lot-Sample #...: D8L110294-010    Work Order #...: K4JCD1AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 14:10    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #...: 8358491    Analysis Time...: 20:17  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	22000	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-15

HPLC

Lot-Sample #...: D8L110294-011    Work Order #...: K4JCE1AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 15:10    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #...: 8358491    Analysis Time...: 20:49  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	24000	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-3

HPLC

Lot-Sample #....: D8L110294-012    Work Order #....: K4JCF1AC    Matrix.....: WATER  
Date Sampled....: 12/09/08 16:15    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/24/08  
Prep Batch #....: 8358491    Analysis Time...: 22:54  
Dilution Factor: 10  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	2.2	0.50	ug/L	0.088

U.S. Geological Survey (USGS)

Client Sample ID: HTA-16D

HPLC

Lot-Sample #...: D8L110294-013    Work Order #...: K4JCK1AC    Matrix.....: WATER  
Date Sampled...: 12/09/08 15:45    Date Received...: 12/11/08  
Prep Date.....: 12/23/08    Analysis Date...: 12/25/08  
Prep Batch #...: 8358491    Analysis Time...: 00:28  
Dilution Factor: 100000  
Method.....: SW846 6860

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	19000	5000	ug/L	880

U.S. Geological Survey (USGS)

Client Sample ID: HTA-19

HPLC

Lot-Sample #....: D8L110294-001    Work Order #....: K4JAL1AA    Matrix.....: WATER  
 Date Sampled....: 12/09/08 11:15    Date Received...: 12/11/08  
 Prep Date.....: 12/11/08    Analysis Date...: 12/16/08  
 Prep Batch #....: 8346463    Analysis Time...: 16:32  
 Dilution Factor: 1  
 Method.....: SW846 8330

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	0.051
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	0.058
1,3-Dinitrobenzene	ND	0.40	ug/L	0.089
2,4-Dinitrotoluene	ND	0.40	ug/L	0.084
2,6-Dinitrotoluene	ND	0.20	ug/L	0.064
HMX	ND	0.40	ug/L	0.088
Nitrobenzene	ND	0.40	ug/L	0.091
2-Nitrotoluene	ND	0.40	ug/L	0.086
3-Nitrotoluene	ND	0.40	ug/L	0.083
4-Nitrotoluene	ND	1.0	ug/L	0.20
<b>RDX</b>	<b>0.22</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.052</b>
Tetryl	ND	0.20	ug/L	0.079
1,3,5-Trinitrobenzene	ND	1.0	ug/L	0.20
2,4,6-Trinitrotoluene	ND	0.40	ug/L	0.072
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>		
1,2-Dinitrobenzene	95	(75 - 118)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-19

HPLC

Lot-Sample #...: D8L110294-001    Work Order #...: K4JAL1AF    Matrix.....: WATER  
Date Sampled...: 12/09/08 11:15    Date Received...: 12/11/08  
Prep Date.....: 12/16/08    Analysis Date...: 01/01/09  
Prep Batch #...: 8351616    Analysis Time...: 08:34  
Dilution Factor: 1.84

Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	<u>UNITS</u>	<u>MDL</u>
<u>RDX</u>	<u>0.24</u>	<u>0.22</u>	<u>ug/L</u>	<u>0.039</u>
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
<u>Nitrobenzene-d5</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
	72	(47 - 130)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-25

HPLC

Lot-Sample #....: D8L110294-002    Work Order #....: K4JA21AA    Matrix.....: WATER  
 Date Sampled....: 12/09/08 12:15    Date Received...: 12/11/08  
 Prep Date.....: 12/11/08    Analysis Date...: 12/16/08  
 Prep Batch #....: 8346463    Analysis Time...: 16:56  
 Dilution Factor: 1  
 Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	0.051
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	0.058
1,3-Dinitrobenzene	ND	0.40	ug/L	0.089
2,4-Dinitrotoluene	ND	0.40	ug/L	0.084
2,6-Dinitrotoluene	ND	0.20	ug/L	0.064
HMX	ND	0.40	ug/L	0.088
Nitrobenzene	ND	0.40	ug/L	0.091
2-Nitrotoluene	ND	0.40	ug/L	0.086
3-Nitrotoluene	ND	0.40	ug/L	0.083
4-Nitrotoluene	ND	1.0	ug/L	0.20
<b>RDX</b>	<b>4.4</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.052</b>
Tetryl	ND	0.20	ug/L	0.079
1,3,5-Trinitrobenzene	ND	1.0	ug/L	0.20
2,4,6-Trinitrotoluene	ND	0.40	ug/L	0.072
	PERCENT	RECOVERY		
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
1,2-Dinitrobenzene	85	(75 - 118)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-25

HPLC

Lot-Sample #....: D8L110294-002    Work Order #....: K4JA21AF    Matrix.....: WATER  
Date Sampled....: 12/09/08 12:15    Date Received...: 12/11/08  
Prep Date.....: 12/16/08    Analysis Date...: 01/01/09  
Prep Batch #....: 8351616    Analysis Time...: 08:53  
Dilution Factor: 1.82

Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
<u>RDX</u>	<u>1.4</u>	<u>0.22</u>	<u>ug/L</u>	<u>0.038</u>

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
<u>Nitrobenzene-d5</u>	<u>70</u>	<u>(47 - 130)</u>

U.S. Geological Survey (USGS)

Client Sample ID: HTA-13

HPLC

Lot-Sample #...: D8L110294-003 Work Order #...: K4JA31AA Matrix.....: WATER  
 Date Sampled...: 12/09/08 13:20 Date Received...: 12/11/08  
 Prep Date.....: 12/11/08 Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463 Analysis Time...: 17:20  
 Dilution Factor: 1

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	0.051
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	0.058
1,3-Dinitrobenzene	ND	0.40	ug/L	0.089
2,4-Dinitrotoluene	ND	0.40	ug/L	0.084
2,6-Dinitrotoluene	ND	0.20	ug/L	0.064
HMX	ND	0.40	ug/L	0.088
Nitrobenzene	ND	0.40	ug/L	0.091
2-Nitrotoluene	ND	0.40	ug/L	0.086
3-Nitrotoluene	ND	0.40	ug/L	0.083
4-Nitrotoluene	ND	1.0	ug/L	0.20
<b>RDX</b>	<b>3.1</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.052</b>
Tetryl	ND	0.20	ug/L	0.079
1,3,5-Trinitrobenzene	ND	1.0	ug/L	0.20
2,4,6-Trinitrotoluene	ND	0.40	ug/L	0.072
	PERCENT	RECOVERY		
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
1,2-Dinitrobenzene	98	(75 - 118)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-13

HPLC

Lot-Sample #....: D8L110294-003    Work Order #....: K4JA31AF    Matrix.....: WATER  
Date Sampled....: 12/09/08 13:20    Date Received...: 12/11/08  
Prep Date.....: 12/16/08    Analysis Date...: 01/01/09  
Prep Batch #....: 8351616    Analysis Time...: 09:11  
Dilution Factor: 1.81  
Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
<u>RDX</u>	<u>2.5</u>	<u>0.22</u>	<u>ug/L</u>	<u>0.038</u>
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
<u>Nitrobenzene-d5</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
	78	(47 - 130)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-12

HPLC

Lot-Sample #...: D8L110294-004 Work Order #...: K4JA41AA Matrix.....: WATER  
 Date Sampled...: 12/09/08 10:50 Date Received...: 12/11/08  
 Prep Date.....: 12/11/08 Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463 Analysis Time...: 17:44  
 Dilution Factor: 1  
 Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	0.051
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	0.058
1,3-Dinitrobenzene	ND	0.40	ug/L	0.089
2,4-Dinitrotoluene	ND	0.40	ug/L	0.084
2,6-Dinitrotoluene	ND	0.20	ug/L	0.064
HMX	ND	0.40	ug/L	0.088
Nitrobenzene	ND	0.40	ug/L	0.091
2-Nitrotoluene	ND	0.40	ug/L	0.086
3-Nitrotoluene	ND	0.40	ug/L	0.083
4-Nitrotoluene	ND	1.0	ug/L	0.20
RDX	ND	0.20	ug/L	0.052
Tetryl	ND	0.20	ug/L	0.079
1,3,5-Trinitrobenzene	ND	1.0	ug/L	0.20
2,4,6-Trinitrotoluene	ND	0.40	ug/L	0.072
	PERCENT	RECOVERY		
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
1,2-Dinitrobenzene	97	(75 - 118)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-11

HPLC

Lot-Sample #...: D8L110294-005    Work Order #...: K4JA61AA    Matrix.....: WATER  
 Date Sampled...: 12/09/08 11:45    Date Received...: 12/11/08  
 Prep Date.....: 12/11/08    Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463    Analysis Time...: 18:08  
 Dilution Factor: 10

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	2.0	ug/L	0.51
4-Amino-2,6-dinitrotoluene	ND	2.0	ug/L	0.58
1,3-Dinitrobenzene	ND	4.0	ug/L	0.89
2,4-Dinitrotoluene	ND	4.0	ug/L	0.84
2,6-Dinitrotoluene	ND	2.0	ug/L	0.64
<b>HMX</b>	<b>2.2 J</b>	<b>4.0</b>	<b>ug/L</b>	<b>0.88</b>
Nitrobenzene	ND	4.0	ug/L	0.91
2-Nitrotoluene	ND	4.0	ug/L	0.86
3-Nitrotoluene	ND	4.0	ug/L	0.83
4-Nitrotoluene	ND	10	ug/L	2.0
<b>RDX</b>	<b>130</b>	<b>2.0</b>	<b>ug/L</b>	<b>0.52</b>
Tetryl	ND	2.0	ug/L	0.79
1,3,5-Trinitrobenzene	ND	10	ug/L	2.0
2,4,6-Trinitrotoluene	ND	4.0	ug/L	0.72

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	NC,DIL	(75 - 118)

**NOTE (S) :**

- NC The recovery and/or RPD were not calculated.  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 J Estimated result. Result is less than RL.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-99

HPLC

Lot-Sample #...: D8L110294-006    Work Order #...: K4JA71AA    Matrix.....: WATER  
 Date Sampled...: 12/09/08 11:50    Date Received...: 12/11/08  
 Prep Date.....: 12/11/08    Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463    Analysis Time...: 18:32  
 Dilution Factor: 10

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	2.0	ug/L	0.51
4-Amino-2,6-dinitrotoluene	ND	2.0	ug/L	0.58
1,3-Dinitrobenzene	ND	4.0	ug/L	0.89
2,4-Dinitrotoluene	ND	4.0	ug/L	0.84
2,6-Dinitrotoluene	ND	2.0	ug/L	0.64
<b>HMX</b>	<b>2.2 J</b>	<b>4.0</b>	<b>ug/L</b>	<b>0.88</b>
Nitrobenzene	ND	4.0	ug/L	0.91
2-Nitrotoluene	ND	4.0	ug/L	0.86
3-Nitrotoluene	ND	4.0	ug/L	0.83
4-Nitrotoluene	ND	10	ug/L	2.0
<b>RDX</b>	<b>130</b>	<b>2.0</b>	<b>ug/L</b>	<b>0.52</b>
Tetryl	ND	2.0	ug/L	0.79
1,3,5-Trinitrobenzene	ND	10	ug/L	2.0
2,4,6-Trinitrotoluene	ND	4.0	ug/L	0.72

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	NC, DIL	(75 - 118)

**NOTE (S) :**

NC The recovery and/or RPD were not calculated.  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 J Estimated result. Result is less than RL.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-10A

HPLC

Lot-Sample #...: D8L110294-007    Work Order #...: K4JA81AA    Matrix.....: WATER  
 Date Sampled...: 12/09/08 12:35    Date Received...: 12/11/08  
 Prep Date.....: 12/11/08    Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463    Analysis Time...: 18:56  
 Dilution Factor: 10

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	2.0	ug/L	0.51
4-Amino-2,6-dinitrotoluene	ND	2.0	ug/L	0.58
1,3-Dinitrobenzene	ND	4.0	ug/L	0.89
2,4-Dinitrotoluene	ND	4.0	ug/L	0.84
2,6-Dinitrotoluene	ND	2.0	ug/L	0.64
<b>HMX</b>	<b>1.4 J</b>	<b>4.0</b>	<b>ug/L</b>	<b>0.88</b>
Nitrobenzene	ND	4.0	ug/L	0.91
2-Nitrotoluene	ND	4.0	ug/L	0.86
3-Nitrotoluene	ND	4.0	ug/L	0.83
4-Nitrotoluene	ND	10	ug/L	2.0
<b>RDX</b>	<b>120</b>	<b>2.0</b>	<b>ug/L</b>	<b>0.52</b>
Tetryl	ND	2.0	ug/L	0.79
1,3,5-Trinitrobenzene	ND	10	ug/L	2.0
2,4,6-Trinitrotoluene	ND	4.0	ug/L	0.72

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	NC, DIL	(75 - 118)

**NOTE(S) :**

NC The recovery and/or RPD were not calculated.  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 J Estimated result. Result is less than RL.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-17

HPLC

Lot-Sample #....: D8L110294-008    Work Order #....: K4JA91AA    Matrix.....: WATER  
 Date Sampled....: 12/09/08 13:35    Date Received...: 12/11/08  
 Prep Date.....: 12/11/08    Analysis Date...: 12/17/08  
 Prep Batch #....: 8346463    Analysis Time...: 12:20  
 Dilution Factor: 2  
 Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	0.40	ug/L	0.10
4-Amino-2,6-dinitrotoluene	ND	0.40	ug/L	0.12
1,3-Dinitrobenzene	ND	0.80	ug/L	0.18
2,4-Dinitrotoluene	ND	0.80	ug/L	0.17
2,6-Dinitrotoluene	ND	0.40	ug/L	0.13
HMX	ND	0.80	ug/L	0.18
Nitrobenzene	ND	0.80	ug/L	0.18
2-Nitrotoluene	ND	0.80	ug/L	0.17
3-Nitrotoluene	ND	0.80	ug/L	0.17
4-Nitrotoluene	ND	2.0	ug/L	0.40
<b>RDX</b>	<b>40</b>	<b>0.40</b>	<b>ug/L</b>	<b>0.10</b>
Tetryl	ND	0.40	ug/L	0.16
1,3,5-Trinitrobenzene	ND	2.0	ug/L	0.40
2,4,6-Trinitrotoluene	ND	0.80	ug/L	0.14
	PERCENT	RECOVERY		
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
1,2-Dinitrobenzene	99	(75 - 118)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-16

HPLC

Lot-Sample #...: D8L110294-009    Work Order #...: K4JCC1AA    Matrix.....: WATER  
 Date Sampled...: 12/09/08 15:00    Date Received...: 12/11/08  
 Prep Date.....: 12/11/08    Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463    Analysis Time...: 19:41  
 Dilution Factor: 2

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	0.40	ug/L	0.10
4-Amino-2,6-dinitrotoluene	ND	0.40	ug/L	0.12
1,3-Dinitrobenzene	ND	0.80	ug/L	0.18
2,4-Dinitrotoluene	ND	0.80	ug/L	0.17
2,6-Dinitrotoluene	ND	0.40	ug/L	0.13
<b>HMX</b>	<b>0.49 J</b>	<b>0.80</b>	<b>ug/L</b>	<b>0.18</b>
Nitrobenzene	ND	0.80	ug/L	0.18
2-Nitrotoluene	ND	0.80	ug/L	0.17
3-Nitrotoluene	ND	0.80	ug/L	0.17
4-Nitrotoluene	ND	2.0	ug/L	0.40
<b>RDX</b>	<b>28</b>	<b>0.40</b>	<b>ug/L</b>	<b>0.10</b>
Tetryl	ND	0.40	ug/L	0.16
1,3,5-Trinitrobenzene	ND	2.0	ug/L	0.40
2,4,6-Trinitrotoluene	ND	0.80	ug/L	0.14

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	102	(75 - 118)

**NOTE (S) :**

J Estimated result. Result is less than RL.

U.S. Geological Survey (USGS)

Client Sample ID: HFA-20

HPLC

Lot-Sample #...: D8L110294-010 Work Order #...: K4JCD1AA Matrix.....: WATER  
 Date Sampled...: 12/09/08 14:10 Date Received...: 12/11/08  
 Prep Date.....: 12/11/08 Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463 Analysis Time...: 20:05  
 Dilution Factor: 5

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	1.0	ug/L	0.25
4-Amino-2,6-dinitrotoluene	ND	1.0	ug/L	0.29
1,3-Dinitrobenzene	ND	2.0	ug/L	0.44
2,4-Dinitrotoluene	ND	2.0	ug/L	0.42
2,6-Dinitrotoluene	ND	1.0	ug/L	0.32
HMX	ND	2.0	ug/L	0.44
Nitrobenzene	ND	2.0	ug/L	0.46
2-Nitrotoluene	ND	2.0	ug/L	0.43
3-Nitrotoluene	ND	2.0	ug/L	0.42
4-Nitrotoluene	ND	5.0	ug/L	1.0
<b>RDX</b>	<b>44</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.26</b>
Tetryl	ND	1.0	ug/L	0.40
1,3,5-Trinitrobenzene	ND	5.0	ug/L	1.0
2,4,6-Trinitrotoluene	ND	2.0	ug/L	0.36

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	NC, DIL	(75 - 118)

**NOTE (S) :**

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-15

HPLC

Lot-Sample #...: D8L110294-011 Work Order #...: K4JCE1AA Matrix.....: WATER  
 Date Sampled...: 12/09/08 15:10 Date Received...: 12/11/08  
 Prep Date.....: 12/11/08 Analysis Date...: 12/17/08  
 Prep Batch #...: 8346463 Analysis Time...: 12:44  
 Dilution Factor: 1  
 Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	0.051
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	0.058
1,3-Dinitrobenzene	ND	0.40	ug/L	0.089
2,4-Dinitrotoluene	ND	0.40	ug/L	0.084
2,6-Dinitrotoluene	ND	0.20	ug/L	0.064
HMX	ND	0.40	ug/L	0.088
Nitrobenzene	ND	0.40	ug/L	0.091
2-Nitrotoluene	ND	0.40	ug/L	0.086
3-Nitrotoluene	ND	0.40	ug/L	0.083
4-Nitrotoluene	ND	1.0	ug/L	0.20
<b>RDX</b>	<b>21</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.052</b>
Tetryl	ND	0.20	ug/L	0.079
1,3,5-Trinitrobenzene	ND	1.0	ug/L	0.20
2,4,6-Trinitrotoluene	ND	0.40	ug/L	0.072
	PERCENT	RECOVERY		
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
1,2-Dinitrobenzene	98	(75 - 118)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-3

HPLC

**Lot-Sample #...**: D8L110294-012    **Work Order #...**: K4JCF1AA    **Matrix.....**: WATER  
**Date Sampled...**: 12/09/08 16:15    **Date Received...**: 12/11/08  
**Prep Date.....**: 12/11/08    **Analysis Date...**: 12/16/08  
**Prep Batch #...**: 8346463    **Analysis Time...**: 20:54  
**Dilution Factor:** 1  
**Method.....**: SW846 8330

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	0.051
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	0.058
1,3-Dinitrobenzene	ND	0.40	ug/L	0.089
2,4-Dinitrotoluene	ND	0.40	ug/L	0.084
2,6-Dinitrotoluene	ND	0.20	ug/L	0.064
HMX	ND	0.40	ug/L	0.088
Nitrobenzene	ND	0.40	ug/L	0.091
2-Nitrotoluene	ND	0.40	ug/L	0.086
3-Nitrotoluene	ND	0.40	ug/L	0.083
4-Nitrotoluene	ND	1.0	ug/L	0.20
RDX	ND	0.20	ug/L	0.052
Tetryl	ND	0.20	ug/L	0.079
1,3,5-Trinitrobenzene	ND	1.0	ug/L	0.20
2,4,6-Trinitrotoluene	ND	0.40	ug/L	0.072
	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>		
1,2-Dinitrobenzene	99	(75 - 118)		

U.S. Geological Survey (USGS)

Client Sample ID: HTA-16D

HPLC

Lot-Sample #....: D8L110294-013    Work Order #....: K4JCK1AF    Matrix.....: WATER  
 Date Sampled....: 12/09/08 15:45    Date Received...: 12/11/08  
 Prep Date.....: 12/12/08    Analysis Date...: 12/19/08  
 Prep Batch #....: 8347441    Analysis Time...: 10:27  
 Dilution Factor: 2

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
2-Amino-4,6-dinitrotoluene	ND	0.40	ug/L	0.10
4-Amino-2,6-dinitrotoluene	ND	0.40	ug/L	0.12
1,3-Dinitrobenzene	ND	0.80	ug/L	0.18
2,4-Dinitrotoluene	ND	0.80	ug/L	0.17
2,6-Dinitrotoluene	ND	0.40	ug/L	0.13
HMX	ND	0.80	ug/L	0.18
Nitrobenzene	ND	0.80	ug/L	0.18
2-Nitrotoluene	ND	0.80	ug/L	0.17
3-Nitrotoluene	ND	0.80	ug/L	0.17
4-Nitrotoluene	ND	2.0	ug/L	0.40
<b>RDX</b>	<b>27</b>	<b>0.40</b>	<b>ug/L</b>	<b>0.10</b>
Tetryl	ND	0.40	ug/L	0.16
1,3,5-Trinitrobenzene	ND	2.0	ug/L	0.40
2,4,6-Trinitrotoluene	ND	0.80	ug/L	0.14

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	100	(75 - 118)

U.S. Geological Survey (USGS)

Client Sample ID: HTA-19

General Chemistry

Lot-Sample #...: D8L110294-001    Work Order #...: K4JAL    Matrix.....: WATER  
Date Sampled...: 12/09/08 11:15    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.31	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 12:56	MDL.....: 0.11	
Nitrate-Nitrite	23 Q	0.50	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 5		Analysis Time...: 12:45	MDL.....: 0.096	

**NOTE(S) :**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-25

General Chemistry

Lot-Sample #...: D8L110294-002    Work Order #...: K4JA2    Matrix.....: WATER  
Date Sampled...: 12/09/08 12:15    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.24	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 13:13	MDL.....: 0.11	
Nitrate-Nitrite	2.6	0.10	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 1		Analysis Time...: 12:45	MDL.....: 0.019	

U.S. Geological Survey (USGS)

Client Sample ID: HTA-13

General Chemistry

Lot-Sample #...: D8L110294-003    Work Order #...: K4JA3    Matrix.....: WATER  
Date Sampled...: 12/09/08 13:20    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.21	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 13:30	MDL.....: 0.11	
Nitrate-Nitrite	6.8	0.10	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 1		Analysis Time...: 12:45	MDL.....: 0.019	

U.S. Geological Survey (USGS)

Client Sample ID: HTA-12

General Chemistry

Lot-Sample #...: D8L110294-004    Work Order #...: K4JA4    Matrix.....: WATER  
Date Sampled...: 12/09/08 10:50    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.25	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 13:46	MDL.....: 0.11	
Nitrate-Nitrite	2.3	0.10	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 1		Analysis Time...: 12:45	MDL.....: 0.019	

U.S. Geological Survey (USGS)

Client Sample ID: HTA-11

General Chemistry

Lot-Sample #...: D8L110294-005    Work Order #...: K4JA6    Matrix.....: WATER  
Date Sampled...: 12/09/08 11:45    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.97	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 14:03	MDL.....: 0.11	
Nitrate-Nitrite	8.9 Q	0.50	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 5		Analysis Time...: 12:45	MDL.....: 0.096	

**NOTE(S) :**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-99

General Chemistry

Lot-Sample #...: D8L110294-006    Work Order #...: K4JA7    Matrix.....: WATER  
Date Sampled...: 12/09/08 11:50    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.92	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 14:20	MDL.....: 0.11	
Nitrate-Nitrite	9.4 Q	0.50	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 5		Analysis Time...: 12:45	MDL.....: 0.096	

**NOTE(S) :**

RL Reporting Limit  
Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-10A

General Chemistry

Lot-Sample #...: D8L110294-007    Work Order #...: K4JA8    Matrix.....: WATER  
Date Sampled...: 12/09/08 12:35    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.27	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 15:10	MDL.....: 0.11	
Nitrate-Nitrite	9.9 Q	0.10	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 1		Analysis Time...: 12:45	MDL.....: 0.019	

**NOTE(S) :**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-17

General Chemistry

Lot-Sample #...: D8L110294-008    Work Order #...: K4JA9    Matrix.....: WATER  
 Date Sampled...: 12/09/08 13:35    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.23	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 15:43	MDL.....: 0.11	
Nitrate-Nitrite	12 Q	0.50	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 5		Analysis Time...: 12:45	MDL.....: 0.096	

**NOTE(S) :**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-16

General Chemistry

Lot-Sample #...: D8L110294-009    Work Order #...: K4JCC    Matrix.....: WATER  
Date Sampled...: 12/09/08 15:00    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.22	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 16:00	MDL.....: 0.11	
Nitrate-Nitrite	9.1 Q	0.50	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 5		Analysis Time...: 12:45	MDL.....: 0.096	

**NOTE(S) :**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

U.S. Geological Survey (USGS)

Client Sample ID: HFA-20

General Chemistry

Lot-Sample #...: D8L110294-010    Work Order #...: K4JCD    Matrix.....: WATER  
Date Sampled...: 12/09/08 14:10    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.24	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 16:16	MDL.....: 0.11	
Nitrate-Nitrite	11 Q	0.50	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 5		Analysis Time...: 12:45	MDL.....: 0.096	

**NOTE(S):**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-15

General Chemistry

Lot-Sample #...: D8L110294-011    Work Order #...: K4JCE    Matrix.....: WATER  
 Date Sampled...: 12/09/08 15:10    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
<b>Bromide</b>	<b>0.23</b>	<b>0.20</b>	<b>mg/L</b>	<b>MCAWW 300.0A</b>	<b>01/02/09</b>	<b>9005229</b>
		Dilution Factor: 1		Analysis Time...: 16:33	MDL.....: 0.11	
<b>Nitrate-Nitrite</b>	<b>11 Q</b>	<b>0.50</b>	<b>mg/L</b>	<b>MCAWW 353.2</b>	<b>12/30/08</b>	<b>8366120</b>
		Dilution Factor: 5		Analysis Time...: 12:45	MDL.....: 0.096	

**NOTE(S) :**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

U.S. Geological Survey (USGS)

Client Sample ID: HTA-3

General Chemistry

Lot-Sample #...: D8L110294-012    Work Order #...: K4JCF    Matrix.....: WATER  
Date Sampled...: 12/09/08 16:15    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.21	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 16:49	MDL.....: 0.11	
Nitrate-Nitrite	2.7	0.10	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 1		Analysis Time...: 12:45	MDL.....: 0.019	

U.S. Geological Survey (USGS)

Client Sample ID: HTA-16D

General Chemistry

Lot-Sample #...: D8L110294-013    Work Order #...: K4JCK    Matrix.....: WATER  
Date Sampled...: 12/09/08 15:45    Date Received...: 12/11/08

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	0.23	0.20	mg/L	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1		Analysis Time...: 17:39	MDL.....: 0.11	
Nitrate-Nitrite	10 Q	0.50	mg/L	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 5		Analysis Time...: 12:45	MDL.....: 0.096	

**NOTE(S) :**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

## **APPENDIX II**

### Laboratory Quality Assurance / Quality Control Results

# ***LABORATORY DATA VALIDATION CHECKLIST***

## **SECTION 1.0: GENERAL INFORMATION** (also see Appendix A)

Data reviewer(s) name, affiliation, title, signature, and date of review:

Fredrick Gebhardt, USGS-WRD, Hydrologic Technician March 6, 2009

### **Data Inventory**

1.1 Sample project numbers: TestAmerica No. D8L110294

1.2 Operable unit and site: Open Burn/Open Detonation (OB/OD) Unit,  
Hazardous Test Area (HTA) site

1.3 Sample collection date: December 9, 2008

Sample locations (location IDs): HTA 3, HTA10A, HTA11, HTA12, HTA13, HTA15, HTA16,  
HTA16D, HTA17, HTA19, HTA20, HTA25; HTA99 is a field duplicate sample.

1.4 Sample matrix (ground water, soil, other): ground water

1.5 Type and number of field samples (environmental and quality control) in sample project:

<u>Type</u>	<u>number</u>	<u>Type</u>	<u>number</u>
environmental	12	MS/MSD	1 pair
field duplicate	1	trip blank	0
equipment blank	0	ambient blank	0

Data validation level: note--see appendix A for description of different levels

### **LEVEL 1**

## SECTION 2.0: DATA REPORTS AND COMPLETENESS

Name of reviewer(s) and review date: Fredrick Gebhardt March 6, 2009

### Laboratory Data Reports

2.1 Analytical Results Report--report date: January 8, 2009

2.2 Raw Data Report--number of volumes: Raw data not reviewed

2.3 Was completeness of lab reports acceptable? Yes  No

(overview, analytical results, quality-control report)

### Data Completeness

2.4 Were all samples requested on chain of custody form analyzed by lab? Yes  No

	<u>Explosives</u>	<u>Metals</u>	<u>General Chem.</u>	<u>Perchlorate</u>
requested:	13	0	13	13
analyzed:	13	0	13	13

2.5 List cancelled analyses on cancelled-data worksheet: None

2.6 Were sample cooler seals intact upon receipt by lab? Yes

2.7 What were the sample cooler temperatures upon receipt by lab? 2.3 – 4.4 °C at TestAmerica Laboratories

2.8 Additional comments:

The Explosives (8330) volume for sample HTA-16D was inadvertently broken while unpacking the sample coolers. Sample volume was split off from the unpreserved 1L poly bottle submitted for Bromide analysis. Sufficient volume remained to perform all requested analysis.

The 8330 analysis of samples HTA-19, HTA-25, and HTA-13 exhibited detections of RDX above the reporting limit. These samples were analyzed for RDX by method 8321A to confirm the RDX results detected by method 8330. Both results have been provided for confirmation.

## SECTION 3.0: DATA VALIDATION REVIEW

In the following table (Table II-1), the resulting data from the December 9, 2008 sampling round is reviewed for the following data validation parameters: holding times, surrogate spike recovery, field duplicates, equipment blanks, lab control samples, lab method blanks, matrix spike and duplicates, and results over the reporting limits with qualifiers. Data validation parameters are reviewed for compliance with individual requirements for each parameter specific to the individual analyses of explosives (method SW8330); nitrate plus nitrite (method MCAWW353.2); and perchlorate (method SW6860).

**Table II-1.** Data validation worksheet table for December 9, 2008, sampling round at HTA – validation parameters, analytes, and methods (USEPA, 1994a; USEPA, 1994b; USGS, 1992).

<b>Data Validation Parameters</b>	<b>Explosives SW8330</b>	<b>Nitrate-Nitrite MCAWW353.2</b>	<b>Perchlorate SW6860</b>
<i><b>Holding times</b></i>	7 days to extract, 40-days from extraction to analysis	28-day limit	28-day limit
<b>Met</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes
<i><b>Surrogate Spike Recovery</b></i>	% Recovery (R) varies for surrogates	Not Applicable	Not Applicable
<b>Met</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, see notes		
<i><b>Field Duplicates</b></i>	RPD < 30%	RPD < 30%	RPD < 30%
<b>Met</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes
<i><b>Equipment Blanks</b></i>	Not Applicable	Not Applicable	Not Applicable
<b>Met</b>			
<i><b>Lab Control Samples</b></i>	% R and RPD within 3 Standard Deviations (SD) of historical performance	%R within 3 SD of historical performance	%R within 3 SD of historical performance
<b>Met</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes
<i><b>Lab Method Blanks</b></i>	≤ RL, except for common lab contaminants, then < 5 X RL	≤ RL	≤ RL
<b>Met</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes
<i><b>Matrix Spike and Duplicates</b></i>	Met various % R and RPD requirements	%R within 3 SD of historical performance	%R within 3 SD of historical performance
<b>Met</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, see notes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, see notes
<i><b>Results over RL with Qualifiers</b></i>	None	The reporting limit is elevated due to high nitrate-nitrite levels in HTA10A, 11, 15, 16, 16D, 17, 19, 20, and 99	None.

**Table II-2.** Data validation worksheet table for December 9, 2008, sampling round at HTA- notes.

<b>Analyte and Method:</b>	<b>Notes of Data Validation Parameters:</b>
Explosives SW8330	-The surrogates' percent recovery was not calculated for HTA10A, 11, 20 and 99 due to dilution or the presence of interfering analytes.
Nitrate-Nitrite MCAWW353.2	-MS/MSDs associated with QC batch 8366120 were performed on sample HTA-3. The MS/MSD exhibited percent recoveries outside the control limits for Nitrate-Nitrite. Method precision and accuracy has been verified by the acceptable LCS/LCSD analysis data; therefore, corrective action is deemed unnecessary.
Perchlorate SW6860	-None

## **Appendix A -- Laboratory Data Validation Checklist**

### Instruction Notes for the Data Validation Checklist

This data validation checklist will be used when validating the chemical analytical results. Data validation is a systematic and independent verification of data quality and consists of checking, verifying, evaluating, and qualifying the chemical analytical results.

Two different levels of data validation are used with level I being not as detailed or as rigorous as level II. Level I data validation includes: (1) checking holding times limits, (2) evaluating the results of field and laboratory quality-control (QC) samples such as field replicates, matrix spikes, surrogate samples, and duplicate control samples, and (3) checking that contamination during sample processing has not occurred in QC blanks such as equipment, method, ambient, and trip blanks. Most of the information and data used to conduct a level I data validation is contained in the summary-data reports prepared by the reporting laboratory. Level II data validation includes all the level I guidelines plus using the raw-data reports prepared by the reporting laboratory to: (1) check that the laboratory instruments have been properly tuned and calibrated, and (2) verify that selected sample results do not have any omissions, problems, discrepancies, transcription errors, and reduction (dilution, conversion) errors.

Field samples (environmental and QC) are processed and analyzed by the reporting laboratory in specific groups of samples called sample projects (also called sample cases). A sample project usually consists of 20 or fewer samples that are collected from one or more sampling locations (monitoring well) in a given sampling period. Numerous laboratory QC samples also are analyzed with the field samples for each sample project.

This data validation checklist is designed to be used when validating the analytical results for a given sample project and it has a multi-level organization. The first part of the checklist contains general information (section 1.0) about the scope (who, when, how, and what) of the data validation and data reports and completeness (section 2.0) for each sample project. Sections 1.0 and 2.0 will be completed and included with all data validation checklists. The data validation checklist also contains numerous supplemental sections that are listed at the bottom of the first page of this document. These supplemental checklist sections are used for specific analytical methods and will be marked with a checkmark (✓) when they are completed for a given sample project. Specific project-required frequency and QC acceptance criteria and pertinent reference page numbers are listed with most of the checklist items. The major data-validation references are the USEPA guidance documents (USEPA 1994).

## **References**

USEPA, 1994a, USEPA Contract laboratory program national functional guidelines for organic data review, February 1994, Publication 9240.1-05, Document number PB94-963501, 124 p.

USEPA, 1994b, USEPA contract laboratory program national functional guidelines for inorganic data review, February 1994, Publication 9240.1-05-01, Document number PB94-963502, 42 p.

USGS, 1992, Laboratory data validation checklist: Wyoming District, U.S. Geological Survey checklist prepared for the U.S. Air Force, multiple pages.

**CONTRACT LABORATORY DATA-REVIEW WORKSHEET****1.0 GENERAL INFORMATION**Data reviewer: Gary Cottrell Review date: 1-12-9Office, Project, & Account #: NM, White Sands HTA, 8636-9K411Lots in SDG: 08L110294**2.0 DATA DELIVERABLES**Date of Lab analytical report: 1-7-9 Number of copies: bound \_\_\_\_\_ unbound 2No. of CD copies of raw-data report: 2 Remarks: \_\_\_\_\_Raw-data report reviewed? Yes \_\_\_ No  Electronic data files on CD? Yes  No \_\_\_EDD file format: QWDATA  TAL QUA08  ERPIMS \_\_\_\_\_ Other \_\_\_\_\_Date rec'd data deliverables: 1-12-9 Date sent deliverables to USGS office 1-13-9Data deliverables sent to USGS Office by FedEx:  or by regular mail: \_\_\_\_\_**3.0 INVOICE STATUS FOR SDG:** OK**4.0 SAMPLE INFORMATION** (Page #'s listed in this worksheet refer to lab analytical report)Sample collection date(s): 12-9-8 Sample matrix: WaterNo. of sample types in lot: Environmental 13 Trip blank \_\_\_\_\_ Equip. blank \_\_\_\_\_

MS/MSD \_\_\_\_\_ Other: \_\_\_\_\_

Date samples received at laboratory: 12-11-84.1 Were accelerated turn-around times (TATs) requested for analyses? Yes \_\_\_ No 

If yes, list TAT period and if completed: \_\_\_\_\_

4.2 Were analyses on chain-of-custody (COC) form performed by lab? YES  NO \_\_\_

If no, list missing or cancelled analyses and reason for non-performance: \_\_\_\_\_

4.3 Were the samples properly preserved, labeled, no lab log-in problems, and(or) at appropriate temperature (<6 deg. C) upon receipt by the laboratory: Yes  No \_\_\_

If no, list sample/lab IDs and associated problems or reference lab report case narrative:

1 - Broken By Lab - See Narrative

4.4 Were preparation (extraction) and/or analysis holding times met? Yes  No

If **no**, list analytical methods and sample/lab IDs for samples that exceeded holding-time limits:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.5 Did surrogate recoveries meet QC acceptance criteria? Yes  No  NA

If **no**, list methods, surrogates, associated sample/lab IDs, lab report page #s:

\_\_\_\_\_  
\_\_\_\_\_

4.6 Were dilution factors greater than 1 for **organic** analyses? Yes  No  NA

If **yes**, list analytical methods and reason for raised dilution factors:

high-analyte levels  matrix interferences  other

*SW 846 8330 - see p 2 of Narrative*  
*Explosives + Perchlorate*

4.7 Were dilution factors greater than 1 for **inorganic** analyses? Yes  No  NA

If **yes**, list analytical methods and reason for raised dilution factors:

high-analyte levels  matrix interferences  other

*Br,*

4.8 Additional comments about sample analyses: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**5.0 QUALITY CONTROL (QC) ANALYSES and RESULTS**

5.1 Were any target analytes detected in the **Laboratory Method Blanks**? Yes  No

If **yes**, list method, analytes, prep batch #, report page #s,:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5.2 Did lab control samples (LCS/LSCD) meet percent recoveries (%R) criteria? Yes  No

If **no**, list method, analytes, LCS/LCSD, prep batch #, report page #s, \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

5.3 Did the **MS/MSD** results meet %R or RPD acceptance criteria? Yes  No  NA

Note: matrix spike and matrix spike duplicate (MS/MSD) data are used to evaluate the effect of sample matrix on the analytical process and should be only used in conjunction with other available lab QC data. In some cases, MS samples not directly associated with this lot may be used by the laboratory.

If **no**, list method; analytes; MS, MSD or RPD; and lab report page #:

<u>NO<sub>2</sub> - NO<sub>3</sub></u>	associated MS lot # yes <input checked="" type="checkbox"/> no <input type="checkbox"/>
<u>NOT Performed for Explosives - insert Vol.</u>	associated MS lot # yes <input type="checkbox"/> no <input type="checkbox"/>
_____	associated MS lot # yes <input type="checkbox"/> no <input type="checkbox"/>
_____	associated MS lot # yes <input type="checkbox"/> no <input type="checkbox"/>

No MS results reported for method(s): \_\_\_\_\_

\_\_\_\_\_

5.4 Did the **lab-sample duplicate** results meet RPD acceptance criteria? Yes  No  NA

If **no**, list method, analytes, prep batch #, report page #s, \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

5.5 Additional comments about QC results: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**6.0 ANALYTICAL METHODS USED in this LABORATORY SDG NUMBER**

- VOCs by GC/MS--method 8260B/ 524.2 [water (W) or solids (S) analysis holding-time (HT) of 14 days]
- Gasoline Range Organics (GRO)+BTEX-method 8015M(GRO)/ 8021 [W and S: analysis HT 14 days]
- Diesel Range Organics-method 8015M-DRO [W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]
- Pesticides by GC--method 8081A [W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]
- PCBs by GC--method 8082 [W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]
- Pesticides by GC--method 8141A [W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]
- Herbicides by GC--method 8151A [W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]
- SVOCs by GC/MS--method 8270C [W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]
- Dioxins and Furans--methods 8280/ 8290/ 161 [W and S: prep HT 30 days; analysis HT 45 days]
- PAHs by HPLC method 8310 [W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]
- Explosives by HPLC method 8330 or 8321A [W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]
- Hexane extractable materials (HEM and SGT-HEM)-method 1664/ 9071B [W/S: analysis HT 28 days]
- Total organic carbon (TOC) or DOC--methods 415.1 or 9060 [W: analysis HT 28 days]
- Perchlorate--methods 314.0 or 6850 LC/MS/MS or 6860 IC/MS/MS [W: analysis HT 28 days]
- Metals by ICP--method 6010B or 200.7 [W and S: analysis HT 180 days]
- Metals by ICP/MS--method 6020 or 200.8 [W and S: analysis HT 180 days]
- Mercury by CVAA--method 7470A (W) and 7471A (S) [W and S: analysis HT 28 days]
- Inorganic anions-method 300/ 9056 [W: analysis HT 48 hours- NO<sub>2</sub>, NO<sub>3</sub>, ortho-P; HT 28 days-Br, Cl, F, SO<sub>4</sub>]
- Total dissolved solids (TDS)--method 160.1 and(or) TSS--method 160.2 [W: analysis HT 7 days]
- Alkalinity--method 310.1 (Total, OH, HCO<sub>3</sub>, and CO<sub>3</sub>) [W: analysis HT 14 days]
- Nitrogen, ammonia--method 350.1 [W: analysis HT 28 days]
- Nitrogen, TKN--method 351.2 [W: analysis HT 28 days]
- Nitrogen, nitrate + nitrite--method 353.2 [W: analysis HT 28 days] NO<sub>3</sub> or NO<sub>2</sub> only [HT 48 hours]
- Nitrogen, nitrite--method 353.2 or 354.1 [W: analysis HT 48 hours]
- Phosphorus-method 365.3 and ortho P by 365.3 [Phosphorus: W: analysis HT 28 days, ortho P 48 hours]
- Phosphorus-method 365.1 and ortho P by 365.1 [Phosphorus: W: analysis HT 28 days, ortho P 48 hours]
- Cyanide, total, dissolved, or amenable--methods 9012A/ 335.4 [W and S: analysis HT 14 days]
- Moisture content--methods D2216 or 160.3M
- BOD--method 405.1 (HT 48 hours) or COD--method 410.4
- Turbidity--method 180.1 (HT 48 hours) ; Hardness 2340B
- Physical properties: pH--method 150.1 (48 hours); specific conductance--method 120.1
- Other analyses: \_\_\_\_\_

# QC DATA ASSOCIATION SUMMARY

HTA-29 : D8L110294

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WATER	SW846 8330		8346463	8346271
	WATER	SW846 8321A		8351616	
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
002	WATER	SW846 8330		8346463	8346271
	WATER	SW846 8321A		8351616	
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
003	WATER	SW846 8330		8346463	8346271
	WATER	SW846 8321A		8351616	
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
004	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
005	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
006	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
007	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
008	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280

(Continued on next page)

# QC DATA ASSOCIATION SUMMARY

HTA-29 : D8L110294

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
009	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
010	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
011	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
012	WATER	SW846 8330		8346463	8346271
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280
013	WATER	SW846 8330		8347441	
	WATER	MCAWW 353.2		8366120	8366117
	WATER	MCAWW 300.0A		9005229	9005158
	WATER	SW846 6860		8358491	8358280

METHOD BLANK REPORT

HPLC

Client Lot #...: HTA-29                      Work Order #...: K47PD1AA                      Matrix.....: WATER  
MB Lot-Sample #: R8L230000-491  
Prep Date.....: 12/23/08                      Analysis Time...: 12:20  
Analysis Date...: 12/24/08                      Prep Batch #...: 8358491  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Perchlorate	ND	0.050	ug/L	SW846 6860

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: HTA-29                      Work Order #...: K47PD1AC                      Matrix.....: WATER  
LCS Lot-Sample#: R8L230000-491  
Prep Date.....: 12/23/08                      Analysis Date...: 12/24/08  
Prep Batch #...: 8358491                      Analysis Time...: 12:54  
Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>METHOD</u>
<b>Perchlorate</b>	<b>107</b>	<b>(80 - 120)</b>	<b>SW846 6860</b>

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

HPLC

Client Lot #...: HTA-29                      Work Order #...: K47PD1AC                      Matrix.....: WATER  
LCS Lot-Sample#: R8L230000-491  
Prep Date.....: 12/23/08                      Analysis Date...: 12/24/08  
Prep Batch #...: 8358491                      Analysis Time...: 12:54  
Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
<b>Perchlorate</b>	<b>0.0500</b>	<b>0.0537</b>	<b>ug/L</b>	<b>107</b>	<b>SW846 6860</b>

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**HPLC**

Client Lot #...: HTA-29                      Work Order #...: K4JCF1AH-MS                      Matrix.....: WATER  
 MS Lot-Sample #: D8L110294-012                      K4JCF1AJ-MSD  
 Date Sampled...: 12/09/08 16:15      Date Received...: 12/11/08  
 Prep Date.....: 12/23/08                      Analysis Date...: 12/24/08  
 Prep Batch #...: 8358491                      Analysis Time...: 23:26  
 Dilution Factor: 10

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Perchlorate</b>	<b>119</b>	<b>(80 - 120)</b>			<b>SW846 6860</b>
	<b>112</b>	<b>(80 - 120)</b>	<b>1.1</b>	<b>(0-15)</b>	<b>SW846 6860</b>

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**MATRIX SPIKE SAMPLE DATA REPORT**

**HPLC**

Client Lot #...: HTA-29                      Work Order #...: K4JCF1AH-MS                      Matrix.....: WATER  
 MS Lot-Sample #: D8L110294-012                      K4JCF1AJ-MSD  
 Date Sampled...: 12/09/08 16:15                      Date Received...: 12/11/08  
 Prep Date.....: 12/23/08                      Analysis Date...: 12/24/08  
 Prep Batch #...: 8358491                      Analysis Time...: 23:26  
 Dilution Factor: 10

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Perchlorate	2.2	<b>0.500</b>	2.81	ug/L	<b>119</b>		<b>SW846 6860</b>
	2.2	<b>0.500</b>	2.78	ug/L	<b>112</b>	1.1	<b>SW846 6860</b>

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

METHOD BLANK REPORT

HPLC

Client Lot #...: HTA-29                      Work Order #...: K4JVT1AA                      Matrix.....: WATER  
 MB Lot-Sample #: D8L110000-463  
 Prep Date.....: 12/11/08                      Analysis Time...: 15:20  
 Analysis Date...: 12/16/08                      Prep Batch #...: 8346463  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
1,3-Dinitrobenzene	ND	0.40	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.40	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
HMX	ND	0.40	ug/L	SW846 8330
Nitrobenzene	ND	0.40	ug/L	SW846 8330
2-Nitrotoluene	ND	0.40	ug/L	SW846 8330
3-Nitrotoluene	ND	0.40	ug/L	SW846 8330
4-Nitrotoluene	ND	1.0	ug/L	SW846 8330
RDX	ND	0.20	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	1.0	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.40	ug/L	SW846 8330

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	105	(75 - 118)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

HPLC

Client Lot #...: HTA-29                      Work Order #...: K4MC81AA                      Matrix.....: WATER  
 MB Lot-Sample #: D8L120000-441  
 Prep Date.....: 12/12/08                      Analysis Time...: 13:23  
 Analysis Date...: 12/16/08                      Prep Batch #...: 8347441  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
1,3-Dinitrobenzene	ND	0.40	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.40	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
HMX	ND	0.40	ug/L	SW846 8330
Nitrobenzene	ND	0.40	ug/L	SW846 8330
2-Nitrotoluene	ND	0.40	ug/L	SW846 8330
3-Nitrotoluene	ND	0.40	ug/L	SW846 8330
4-Nitrotoluene	ND	1.0	ug/L	SW846 8330
RDX	ND	0.20	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	1.0	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.40	ug/L	SW846 8330

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	102	(75 - 118)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**HPLC**

Client Lot #...: HTA-29                      Work Order #...: K4JVT1AC-LCS    Matrix.....: WATER  
 LCS Lot-Sample#: D8L110000-463                      K4JVT1AD-LCSD  
 Prep Date.....: 12/11/08                      Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463                      Analysis Time...: 15:44  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>2-Amino-4,6-dinitrotoluene</b>	<b>103</b>	<b>(75 - 115)</b>			<b>SW846 8330</b>
	102	(75 - 115)	1.4	(0-18)	SW846 8330
<b>4-Amino-2,6-dinitrotoluene</b>	<b>102</b>	<b>(57 - 115)</b>			<b>SW846 8330</b>
	101	(57 - 115)	1.8	(0-22)	SW846 8330
<b>1,3-Dinitrobenzene</b>	<b>104</b>	<b>(78 - 115)</b>			<b>SW846 8330</b>
	104	(78 - 115)	0.72	(0-19)	SW846 8330
<b>2,4-Dinitrotoluene</b>	<b>109</b>	<b>(75 - 115)</b>			<b>SW846 8330</b>
	109	(75 - 115)	0.50	(0-21)	SW846 8330
<b>2,6-Dinitrotoluene</b>	<b>102</b>	<b>(77 - 115)</b>			<b>SW846 8330</b>
	102	(77 - 115)	0.44	(0-20)	SW846 8330
<b>Picric Acid</b>	<b>86</b>	<b>(50 - 150)</b>			<b>SW846 8330</b>
	86	(50 - 150)	0.0	(0-30)	SW846 8330
<b>HMX</b>	<b>106</b>	<b>(78 - 115)</b>			<b>SW846 8330</b>
	105	(78 - 115)	0.57	(0-26)	SW846 8330
<b>Nitrobenzene</b>	<b>80</b>	<b>(51 - 115)</b>			<b>SW846 8330</b>
	81	(51 - 115)	0.68	(0-32)	SW846 8330
<b>2-Nitrotoluene</b>	<b>64</b>	<b>(35 - 115)</b>			<b>SW846 8330</b>
	63	(35 - 115)	2.4	(0-43)	SW846 8330
<b>3-Nitrotoluene</b>	<b>75</b>	<b>(30 - 115)</b>			<b>SW846 8330</b>
	70	(30 - 115)	6.3	(0-74)	SW846 8330
<b>4-Nitrotoluene</b>	<b>80</b>	<b>(40 - 115)</b>			<b>SW846 8330</b>
	78	(40 - 115)	2.2	(0-44)	SW846 8330
<b>RDX</b>	<b>108</b>	<b>(69 - 118)</b>			<b>SW846 8330</b>
	107	(69 - 118)	0.88	(0-37)	SW846 8330
<b>Tetryl</b>	<b>102</b>	<b>(69 - 127)</b>			<b>SW846 8330</b>
	100	(69 - 127)	1.7	(0-24)	SW846 8330
<b>1,3,5-Trinitrobenzene</b>	<b>107</b>	<b>(73 - 122)</b>			<b>SW846 8330</b>
	105	(73 - 122)	1.3	(0-21)	SW846 8330
<b>2,4,6-Trinitrotoluene</b>	<b>104</b>	<b>(73 - 116)</b>			<b>SW846 8330</b>
	104	(73 - 116)	0.33	(0-19)	SW846 8330

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
1,2-Dinitrobenzene	102	(75 - 118)
	101	(75 - 118)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE DATA REPORT**

**HPLC**

Client Lot #...: HTA-29                      Work Order #...: K4JVT1AC-LCS    Matrix.....: WATER  
 LCS Lot-Sample#: D8L110000-463                      K4JVT1AD-LCSD  
 Prep Date.....: 12/11/08                      Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463                      Analysis Time...: 15:44  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
<b>2-Amino-4,6-dinitrotoluene</b>	<b>2.00</b>	<b>2.06</b>	<b>ug/L</b>	<b>103</b>		<b>SW846 8330</b>
	2.00	2.04	ug/L	102	1.4	SW846 8330
<b>4-Amino-2,6-dinitrotoluene</b>	<b>2.00</b>	<b>2.05</b>	<b>ug/L</b>	<b>102</b>		<b>SW846 8330</b>
	2.00	2.01	ug/L	101	1.8	SW846 8330
<b>1,3-Dinitrobenzene</b>	<b>2.00</b>	<b>2.09</b>	<b>ug/L</b>	<b>104</b>		<b>SW846 8330</b>
	2.00	2.07	ug/L	104	0.72	SW846 8330
<b>2,4-Dinitrotoluene</b>	<b>2.00</b>	<b>2.18</b>	<b>ug/L</b>	<b>109</b>		<b>SW846 8330</b>
	2.00	2.17	ug/L	109	0.50	SW846 8330
<b>2,6-Dinitrotoluene</b>	<b>2.00</b>	<b>2.05</b>	<b>ug/L</b>	<b>102</b>		<b>SW846 8330</b>
	2.00	2.04	ug/L	102	0.44	SW846 8330
<b>Picric Acid</b>	<b>2.00</b>	<b>1.72</b>	<b>ug/L</b>	<b>86</b>		<b>SW846 8330</b>
	2.00	1.72	ug/L	86	0.0	SW846 8330
<b>HMX</b>	<b>2.00</b>	<b>2.11</b>	<b>ug/L</b>	<b>106</b>		<b>SW846 8330</b>
	2.00	2.10	ug/L	105	0.57	SW846 8330
<b>Nitrobenzene</b>	<b>2.00</b>	<b>1.60</b>	<b>ug/L</b>	<b>80</b>		<b>SW846 8330</b>
	2.00	1.62	ug/L	81	0.68	SW846 8330
<b>2-Nitrotoluene</b>	<b>2.00</b>	<b>1.28</b>	<b>ug/L</b>	<b>64</b>		<b>SW846 8330</b>
	2.00	1.25	ug/L	63	2.4	SW846 8330
<b>3-Nitrotoluene</b>	<b>2.00</b>	<b>1.50</b>	<b>ug/L</b>	<b>75</b>		<b>SW846 8330</b>
	2.00	1.41	ug/L	70	6.3	SW846 8330
<b>4-Nitrotoluene</b>	<b>2.00</b>	<b>1.59</b>	<b>ug/L</b>	<b>80</b>		<b>SW846 8330</b>
	2.00	1.56	ug/L	78	2.2	SW846 8330
<b>RDX</b>	<b>2.00</b>	<b>2.16</b>	<b>ug/L</b>	<b>108</b>		<b>SW846 8330</b>
	2.00	2.14	ug/L	107	0.88	SW846 8330
<b>Tetryl</b>	<b>2.00</b>	<b>2.04</b>	<b>ug/L</b>	<b>102</b>		<b>SW846 8330</b>
	2.00	2.00	ug/L	100	1.7	SW846 8330
<b>1,3,5-Trinitrobenzene</b>	<b>2.00</b>	<b>2.13</b>	<b>ug/L</b>	<b>107</b>		<b>SW846 8330</b>
	2.00	2.10	ug/L	105	1.3	SW846 8330
<b>2,4,6-Trinitrotoluene</b>	<b>2.00</b>	<b>2.09</b>	<b>ug/L</b>	<b>104</b>		<b>SW846 8330</b>
	2.00	2.08	ug/L	104	0.33	SW846 8330

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
<b>1,2-Dinitrobenzene</b>	102	(75 - 118)
	101	(75 - 118)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**HPLC**

Client Lot #...: HTA-29                      Work Order #...: K4MC81AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: D8L120000-441                      K4MC81AD-LCSD  
 Prep Date.....: 12/12/08                      Analysis Date...: 12/16/08  
 Prep Batch #...: 8347441                      Analysis Time...: 13:47  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>2-Amino-4,6-dinitrotoluene</b>	<b>101</b>	<b>(75 - 115)</b>			<b>SW846 8330</b>
	99	(75 - 115)	1.6	(0-18)	SW846 8330
<b>4-Amino-2,6-dinitrotoluene</b>	<b>99</b>	<b>(57 - 115)</b>			<b>SW846 8330</b>
	98	(57 - 115)	1.5	(0-22)	SW846 8330
<b>1,3-Dinitrobenzene</b>	<b>103</b>	<b>(78 - 115)</b>			<b>SW846 8330</b>
	100	(78 - 115)	2.1	(0-19)	SW846 8330
<b>2,4-Dinitrotoluene</b>	<b>109</b>	<b>(75 - 115)</b>			<b>SW846 8330</b>
	107	(75 - 115)	1.9	(0-21)	SW846 8330
<b>2,6-Dinitrotoluene</b>	<b>100</b>	<b>(77 - 115)</b>			<b>SW846 8330</b>
	99	(77 - 115)	1.6	(0-20)	SW846 8330
<b>HMX</b>	<b>104</b>	<b>(78 - 115)</b>			<b>SW846 8330</b>
	102	(78 - 115)	1.7	(0-26)	SW846 8330
<b>Nitrobenzene</b>	<b>80</b>	<b>(51 - 115)</b>			<b>SW846 8330</b>
	74	(51 - 115)	8.0	(0-32)	SW846 8330
<b>2-Nitrotoluene</b>	<b>69</b>	<b>(35 - 115)</b>			<b>SW846 8330</b>
	57	(35 - 115)	18	(0-43)	SW846 8330
<b>3-Nitrotoluene</b>	<b>84</b>	<b>(30 - 115)</b>			<b>SW846 8330</b>
	68	(30 - 115)	21	(0-74)	SW846 8330
<b>4-Nitrotoluene</b>	<b>84</b>	<b>(40 - 115)</b>			<b>SW846 8330</b>
	72	(40 - 115)	15	(0-44)	SW846 8330
<b>RDX</b>	<b>104</b>	<b>(69 - 118)</b>			<b>SW846 8330</b>
	103	(69 - 118)	0.72	(0-37)	SW846 8330
<b>Tetryl</b>	<b>100</b>	<b>(69 - 127)</b>			<b>SW846 8330</b>
	98	(69 - 127)	2.3	(0-24)	SW846 8330
<b>1,3,5-Trinitrobenzene</b>	<b>104</b>	<b>(73 - 122)</b>			<b>SW846 8330</b>
	104	(73 - 122)	0.38	(0-21)	SW846 8330
<b>2,4,6-Trinitrotoluene</b>	<b>103</b>	<b>(73 - 116)</b>			<b>SW846 8330</b>
	102	(73 - 116)	0.34	(0-19)	SW846 8330

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
<b>1,2-Dinitrobenzene</b>	<b>102</b>	<b>(75 - 118)</b>
	99	(75 - 118)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE DATA REPORT**

**HPLC**

Client Lot #...: HTA-29                      Work Order #...: K4MC81AC-LCS    Matrix.....: WATER  
 LCS Lot-Sample#: D8L120000-441                      K4MC81AD-LCSD  
 Prep Date.....: 12/12/08                      Analysis Date...: 12/16/08  
 Prep Batch #...: 8347441                      Analysis Time...: 13:47  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
<b>2-Amino-4,6-dinitrotoluene</b>	2.00	2.01	ug/L	101		SW846 8330
	2.00	1.98	ug/L	99	1.6	SW846 8330
<b>4-Amino-2,6-dinitrotoluene</b>	2.00	1.99	ug/L	99		SW846 8330
	2.00	1.96	ug/L	98	1.5	SW846 8330
<b>1,3-Dinitrobenzene</b>	2.00	2.05	ug/L	103		SW846 8330
	2.00	2.01	ug/L	100	2.1	SW846 8330
<b>2,4-Dinitrotoluene</b>	2.00	2.18	ug/L	109		SW846 8330
	2.00	2.14	ug/L	107	1.9	SW846 8330
<b>2,6-Dinitrotoluene</b>	2.00	2.01	ug/L	100		SW846 8330
	2.00	1.98	ug/L	99	1.6	SW846 8330
<b>HMX</b>	2.00	2.07	ug/L	104		SW846 8330
	2.00	2.04	ug/L	102	1.7	SW846 8330
<b>Nitrobenzene</b>	2.00	1.61	ug/L	80		SW846 8330
	2.00	1.48	ug/L	74	8.0	SW846 8330
<b>2-Nitrotoluene</b>	2.00	1.38	ug/L	69		SW846 8330
	2.00	1.15	ug/L	57	18	SW846 8330
<b>3-Nitrotoluene</b>	2.00	1.68	ug/L	84		SW846 8330
	2.00	1.36	ug/L	68	21	SW846 8330
<b>4-Nitrotoluene</b>	2.00	1.67	ug/L	84		SW846 8330
	2.00	1.44	ug/L	72	15	SW846 8330
<b>RDX</b>	2.00	2.08	ug/L	104		SW846 8330
	2.00	2.06	ug/L	103	0.72	SW846 8330
<b>Tetryl</b>	2.00	2.00	ug/L	100		SW846 8330
	2.00	1.96	ug/L	98	2.3	SW846 8330
<b>1,3,5-Trinitrobenzene</b>	2.00	2.08	ug/L	104		SW846 8330
	2.00	2.07	ug/L	104	0.38	SW846 8330
<b>2,4,6-Trinitrotoluene</b>	2.00	2.06	ug/L	103		SW846 8330
	2.00	2.05	ug/L	102	0.34	SW846 8330

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
1,2-Dinitrobenzene	102	(75 - 118)
	99	(75 - 118)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: HTA-29                      Work Order #...: K4JCF1AF-MS                      Matrix.....: WATER  
 MS Lot-Sample #: D8L110294-012                      K4JCF1AG-MSD  
 Date Sampled...: 12/09/08 16:15                      Date Received...: 12/11/08  
 Prep Date.....: 12/11/08                      Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463                      Analysis Time...: 21:18  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
2-Amino-4,6-dinitrotoluene	98	(75 - 115)			SW846 8330
	105	(75 - 115)	9.4	(0-18)	SW846 8330
4-Amino-2,6-dinitrotoluene	98	(57 - 115)			SW846 8330
	105	(57 - 115)	10	(0-22)	SW846 8330
1,3-Dinitrobenzene	99	(78 - 115)			SW846 8330
	107	(78 - 115)	10	(0-19)	SW846 8330
2,4-Dinitrotoluene	103	(75 - 115)			SW846 8330
	113	(75 - 115)	12	(0-21)	SW846 8330
2,6-Dinitrotoluene	94	(77 - 115)			SW846 8330
	103	(77 - 115)	12	(0-20)	SW846 8330
Picric Acid	90	(50 - 150)			SW846 8330
	91	(50 - 150)	3.7	(0-30)	SW846 8330
HMX	101	(78 - 115)			SW846 8330
	108	(78 - 115)	9.0	(0-26)	SW846 8330
Nitrobenzene	77	(51 - 115)			SW846 8330
	83	(51 - 115)	10	(0-32)	SW846 8330
2-Nitrotoluene	60	(35 - 115)			SW846 8330
	67	(35 - 115)	13	(0-43)	SW846 8330
3-Nitrotoluene	66	(30 - 115)			SW846 8330
	80	(30 - 115)	22	(0-74)	SW846 8330
4-Nitrotoluene	72	(40 - 115)			SW846 8330
	86	(40 - 115)	20	(0-44)	SW846 8330
RDX	106	(69 - 118)			SW846 8330
	110	(69 - 118)	6.4	(0-37)	SW846 8330
Tetryl	98	(69 - 127)			SW846 8330
	104	(69 - 127)	8.7	(0-24)	SW846 8330
1,3,5-Trinitrobenzene	101	(73 - 122)			SW846 8330
	109	(73 - 122)	10	(0-21)	SW846 8330
2,4,6-Trinitrotoluene	98	(73 - 116)			SW846 8330
	106	(73 - 116)	10	(0-19)	SW846 8330

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
1,2-Dinitrobenzene	95	(75 - 118)
	102	(75 - 118)

(Continued on next page)

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**HPLC**

**Client Lot #...**: HTA-29      **Work Order #...**: K4JCF1AF-MS      **Matrix.....**: WATER  
**MS Lot-Sample #**: D8L110294-012      K4JCF1AG-MSD

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

HPLC

Client Lot #...: HTA-29                      Work Order #...: K4JCF1AF-MS                      Matrix.....: WATER  
 MS Lot-Sample #: D8L110294-012                      K4JCF1AG-MSD  
 Date Sampled...: 12/09/08 16:15                      Date Received...: 12/11/08  
 Prep Date.....: 12/11/08                      Analysis Date...: 12/16/08  
 Prep Batch #...: 8346463                      Analysis Time...: 21:18  
 Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
2-Amino-4,6-dinitrotoluene	ND	1.99	1.96	ug/L	98		SW846 8330
	ND	2.04	2.15	ug/L	105	9.4	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	1.99	1.95	ug/L	98		SW846 8330
	ND	2.04	2.15	ug/L	105	10	SW846 8330
1,3-Dinitrobenzene	ND	1.99	1.97	ug/L	99		SW846 8330
	ND	2.04	2.18	ug/L	107	10	SW846 8330
2,4-Dinitrotoluene	ND	1.99	2.05	ug/L	103		SW846 8330
	ND	2.04	2.30	ug/L	113	12	SW846 8330
2,6-Dinitrotoluene	ND	1.99	1.86	ug/L	94		SW846 8330
	ND	2.04	2.10	ug/L	103	12	SW846 8330
Picric Acid	ND	1.99	1.79	ug/L	90		SW846 8330
	ND	2.04	1.86	ug/L	91	3.7	SW846 8330
HMX	ND	1.99	2.02	ug/L	101		SW846 8330
	ND	2.04	2.21	ug/L	108	9.0	SW846 8330
Nitrobenzene	ND	1.99	1.53	ug/L	77		SW846 8330
	ND	2.04	1.69	ug/L	83	10	SW846 8330
2-Nitrotoluene	ND	1.99	1.20	ug/L	60		SW846 8330
	ND	2.04	1.36	ug/L	67	13	SW846 8330
3-Nitrotoluene	ND	1.99	1.32	ug/L	66		SW846 8330
	ND	2.04	1.64	ug/L	80	22	SW846 8330
4-Nitrotoluene	ND	1.99	1.43	ug/L	72		SW846 8330
	ND	2.04	1.75	ug/L	86	20	SW846 8330
RDX	ND	1.99	2.10	ug/L	106		SW846 8330
	ND	2.04	2.24	ug/L	110	6.4	SW846 8330
Tetryl	ND	1.99	1.94	ug/L	98		SW846 8330
	ND	2.04	2.12	ug/L	104	8.7	SW846 8330
1,3,5-Trinitrobenzene	ND	1.99	2.00	ug/L	101		SW846 8330
	ND	2.04	2.22	ug/L	109	10	SW846 8330
2,4,6-Trinitrotoluene	ND	1.99	1.96	ug/L	98		SW846 8330
	ND	2.04	2.17	ug/L	106	10	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	95	(75 - 118)
	102	(75 - 118)

(Continued on next page)

**MATRIX SPIKE SAMPLE DATA REPORT**

**HPLC**

**Client Lot #...**: HTA-29      **Work Order #...**: K4JCF1AF-MS      **Matrix.....**: WATER  
**MS Lot-Sample #**: D8L110294-012      K4JCF1AG-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
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**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

HPLC

Client Lot #...: HTA-29  
MB Lot-Sample #: R8L160000-616  
Analysis Date...: 01/01/09  
Dilution Factor: 1

Work Order #...: K4TFC1AA  
Prep Date.....: 12/16/08  
Prep Batch #...: 8351616

Matrix.....: WATER  
Analysis Time...: 07:38

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
RDX	ND	0.12	ug/L	SW846 8321A
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
	<u>RECOVERY</u>	<u>LIMITS</u>		
Nitrobenzene-d5	66	(47 - 130)		

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**HPLC**

Client Lot #....: HTA-29                      Work Order #....: K4TFC1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: R8L160000-616                      K4TFC1AD-LCSD  
 Prep Date.....: 12/16/08                      Analysis Date...: 01/01/09  
 Prep Batch #....: 8351616                      Analysis Time...: 07:57  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>RDX</b>	<b>90</b>	<b>(72 - 130)</b>			<b>SW846 8321A</b>
	<b>89</b>	<b>(72 - 130)</b>	<b>1.4</b>	<b>(0-25)</b>	<b>SW846 8321A</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	60	(48 - 130)
	66	(48 - 130)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE DATA REPORT**

**HPLC**

**Client Lot #...**: HTA-29                      **Work Order #...**: K4TFC1AC-LCS                      **Matrix.....**: WATER  
**LCS Lot-Sample#**: R8L160000-616                      K4TFC1AD-LCSD  
**Prep Date.....**: 12/16/08                      **Analysis Date...**: 01/01/09  
**Prep Batch #...**: 8351616                      **Analysis Time...**: 07:57  
**Dilution Factor**: 1

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
<b>RDX</b>	<b>0.500</b>	<b>0.449</b>	<b>ug/L</b>	<b>90</b>		<b>SW846 8321A</b>
	<b>0.500</b>	<b>0.443</b>	<b>ug/L</b>	<b>89</b>	<b>1.4</b>	<b>SW846 8321A</b>
<u>SURROGATE</u>				<u>PERCENT RECOVERY</u>		<u>RECOVERY LIMITS</u>
Nitrobenzene-d5				60		(48 - 130)
				66		(48 - 130)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

METHOD BLANK REPORT

General Chemistry

Client Lot #....: HTA-29

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>	
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>	
Bromide	ND	Work Order #: K5F3P1AA	0.20 mg/L	MB Lot-Sample #: D9A050000-229	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1					
		Analysis Time...: 12:23					
Nitrate-Nitrite	ND	Work Order #: K5D7W1AA	0.10 mg/L	MB Lot-Sample #: D8L310000-120	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 1					
		Analysis Time...: 12:45					

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**General Chemistry**

**Lot-Sample #....: HTA-29**

**Matrix.....: WATER**

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide		WO#:K5F3P1AC-LCS/K5F3P1AD-LCSD			LCS Lot-Sample#: D9A050000-229		
	100	(90 - 110)			MCAWW 300.0A	01/02/09	9005229
	99	(90 - 110)	0.10	(0-10)	MCAWW 300.0A	01/02/09	9005229
		Dilution Factor: 1			Analysis Time...: 11:50		
Nitrate-Nitrite		WO#:K5D7W1AC-LCS/K5D7W1AD-LCSD			LCS Lot-Sample#: D8L310000-120		
	101	(90 - 112)			MCAWW 353.2	12/30/08	8366120
	101	(90 - 112)	0.38	(0-10)	MCAWW 353.2	12/30/08	8366120
		Dilution Factor: 1			Analysis Time...: 12:45		

**NOTE (S) :**

---

Calculations are performed before rounding to avoid round-off errors in calculated results.



**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: HTA-29

Matrix.....: WATER

Date Sampled...: 12/09/08 16:15 Date Received...: 12/11/08

PARAMETER	PERCENT	RECOVERY	RPD		METHOD	PREPARATION-	PREP
	RECOVERY	LIMITS	RPD	LIMITS		ANALYSIS DATE	BATCH #
Bromide			WO#: K4JCF1AM-MS/K4JCF1AN-MSD		MS Lot-Sample #:	D8L110294-012	
	103	(80 - 120)			MCAWW 300.0A	01/02/09	9005229
	113	(80 - 120)	9.4	(0-20)	MCAWW 300.0A	01/02/09	9005229
			Dilution Factor: 1				
			Analysis Time...: 17:06				
Nitrate-Nitrite			WO#: K4JCF1AP-MS/K4JCF1AQ-MSD		MS Lot-Sample #:	D8L110294-012	
	175 N	(72 - 113)			MCAWW 353.2	12/30/08	8366120
	181 N	(72 - 113)	2.4	(0-17)	MCAWW 353.2	12/30/08	8366120
			Dilution Factor: 1				
			Analysis Time...: 12:45				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

**MATRIX SPIKE SAMPLE DATA REPORT**

**General Chemistry**

Client Lot #...: HTA-29

Matrix.....: WATER

Date Sampled...: 12/09/08 16:15 Date Received...: 12/11/08

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	0.21	5.00	5.34	mg/L	103		MCAWW 300.0A	01/02/09	9005229
	0.21	5.00	5.87	mg/L	113	9.4	MCAWW 300.0A	01/02/09	9005229

WO#: K4JCF1AM-MS/K4JCF1AN-MSD MS Lot-Sample #: D8L110294-012  
 Dilution Factor: 1  
 Analysis Time...: 17:06

Nitrate-Nitrite	2.7	4.00	9.66 N	mg/L	175		MCAWW 353.2	12/30/08	8366120
	2.7	4.00	9.90 N	mg/L	181	2.4	MCAWW 353.2	12/30/08	8366120

WO#: K4JCF1AP-MS/K4JCF1AQ-MSD MS Lot-Sample #: D8L110294-012  
 Dilution Factor: 1  
 Analysis Time...: 12:45

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

**U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT  
ANALYTICAL REQUEST/CHAIN OF CUSTODY**

3-8 104  
Rm 12/11/08  
1 OF 5

Project Name & Number White Sands Missile Range (WSMR), Ground Water Sampling (86369KY11)				PACKING AND SHIPPING DETAILS			
Sampling Location Hazardous Test Area (HTA)				Packed and Sealed for Shipping by Fred Gebhardt		Seal Number 669537	
Team Leader Fred Gebhardt				Delivered to Shipper by Fred Gebhardt		Airbill Number 865224460719	
Sample Date				Sampling Status <input checked="" type="checkbox"/> Done <input type="checkbox"/> Continuing			
Sample Time				Analytical Methods (Parameters)			
Field Sample Number				Remarks			
Sample Type				No. of Containers			
No. of Containers				Analytical Methods (Parameters)			
Ground Water				Environmental Sample			
4				MCAWW E353.2 (NO2 + NO3) MCAWW E300.0A (Bromide) SW846 6860 (Perchlorate) SW846 8330 (Explosives by HPLC)			
12/9/08				11			
1215 W208				11			
HTA-25				4			
11				11			
1320 W230				4			
HTA-13				11			
11				11			
Additional Comments Please batch all samples collected during the week of Dec. 8, 2008. Thanks.							
CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER			
Relinquished by (signed)		Received by (signed)		Date		Time	
Fredrick S. Gebhardt		TD FEDERAL EXPRESS		12/10/08		1100	
		Sammy Daniels		12/11/08		0900	
Analytical Laboratory				Seal Intact upon Receipt <input type="checkbox"/> Yes <input type="checkbox"/> No			
TestAmerica Labs 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0103 Attention: Lisa Antonczak				Condition of Contents			
				Contents Temperature			
				Laboratory Project Number			

**U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT  
ANALYTICAL REQUEST/CHAIN OF CUSTODY**

5 OF 5

43 12/1  
2 PM 12/11/08

Project Name & Number				PACKING AND SHIPPING DETAILS			
White Sands Missile Range (WSMR), Ground Water Sampling (86369KY11)				Packed and Sealed for Shipping by Fred Gebhardt		Seal Number 669507	
Sampling Location Hazardous Test Area (HTA)				Delivered to Shipper by Fred Gebhardt		Airbill Number 8652 24460719	
Team Leader Fred Gebhardt				Sampling Status <input type="checkbox"/> Done <input type="checkbox"/> Continuing			
Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks	Environmental Sample
12/9/08	1050	HTA-12	GROUND WATER	4	MCAWW E353.2 (NO2 + NO3) MCAWW E300.0A (Bromide) SW846 6860 (Perchlorate) SW846 8330 (Explosives by HPLC)		
"	1145	HTA-11	"	4	"	"	"
"	1150	HTA-99	"	4	"	"	"
Additional Comments Please batch all samples collected during the week of Dec. 8, 2008. Thanks.							
CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER			
Relinquished by (signed)		Received by (signed)		Date	Time	Analytical Laboratory	
<i>Fred Gebhardt</i>		TD FEDERAL EXPRESS		12/10/08	1100	TestAmerica Labs 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0103	
		<i>Sherry Smith</i>		12/10/08	0900	Attention: Lisa Antonczak	
						Seal Intact upon Receipt <input type="checkbox"/> Yes <input type="checkbox"/> No Condition of Contents Contents Temperature Laboratory Project Number	

**U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT  
ANALYTICAL REQUEST/CHAIN OF CUSTODY**

4 OF 5

1/4/10  
Kim 12/11/08

Project Name & Number White Sands Missile Range (WSMR), Ground Water Sampling (86369KYY11)				PACKING AND SHIPPING DETAILS			
Sampling Location Hazardous Test Area (HTA)				Packed and Sealed for Shipping by Fred Gebhardt		Seal Number 669517	
Team Leader Fred Gebhardt				Delivered to Shipper by Fred Gebhardt		Airbill Number 865224460719	
Sample Date				Sampling Status <input checked="" type="checkbox"/> Done <input type="checkbox"/> Continuing			
Sample Time				Analytical Methods (Parameters)			
Field Sample Number				Environmental Sample			
Sample Type				Remarks			
No. of Containers							
12/9/08	1235	HTA-10A	GROUND WATER	4	MCAWW E353.2 (NO2 + NO3) MCAWW E300.0A (Bromide) SW846 6860 (Perchlorate) SW846 8330 (Explosives by HPLC)	4	
	1335	HTA-17	"	4	"	4	
	1500	HTA-16	"	4	"	4	
Additional Comments Please batch all samples collected during the week of Dec. 8, 2008. Thanks.							
CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER			
Relinquished by (signed)		Received by (signed)		Date	Time	Analytical Laboratory	
<i>Fred Gebhardt</i>		<i>Fred Gebhardt</i>		12/10/08	1100	TestAmerica Labs 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0103	
				12/11/08	0900	Attention: Lisa Antonczak	
				Seal Intact upon Receipt <input type="checkbox"/> Yes <input type="checkbox"/> No			
				Condition of Contents			
				Contents Temperature			
				Laboratory Project Number			

**U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT  
ANALYTICAL REQUEST/CHAIN OF CUSTODY**

2.3 12/1  
Jim 12/11/08

Project Name & Number				PACKING AND SHIPPING DETAILS			
White Sands Missile Range (WSMR), Ground Water Sampling (86369KY11)				Packed and Sealed for Shipping by Fred Gebhardt		Seal Number 669547	
Sampling Location Hazardous Test Area (HTA)				Delivered to Shipper by Fred Gebhardt		Airbill Number 865224466719	
Team Leader Fred Gebhardt				Sampling Status <input checked="" type="checkbox"/> Done <input type="checkbox"/> Continuing		Remarks	
Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Environmental Sample	Remarks
12/9/08	1410	HTA-20	GROUND WATER	4	MCAWW E353.2 (NO2 + NO3) MCAWW E300.0A (Bromide) SW846 6860 (Perchlorate) SW846 8330 (Explosives by HPLC)		
"	1510	HTA-15	"	4	"	"	"
"	1615	HTA-3	"	4	"	"	"
Additional Comments Please batch all samples collected during the week of Dec. 8, 2008. Thanks.							
CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER			
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory			
Judith S. Burkhardt	TD FEDERAL EXPRESS	12/10/08	1100	TestAmerica Labs 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0103			
	Sammy Smiddy	12/11/08	0900	Attention: Lisa Antonczak			
				Seal Intact upon Receipt <input type="checkbox"/> Yes <input type="checkbox"/> No		Condition of Contents	
				Contents Temperature		Laboratory Project Number	

**U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT  
ANALYTICAL REQUEST/CHAIN OF CUSTODY**

3 OF 5

4.0 1/21  
SM 12/11/08

Project Name & Number				PACKING AND SHIPPING DETAILS			
White Sands Missile Range (WSMR), Ground Water Sampling (86369KY11)				Packed and Sealed for Shipping by Fred Gebhardt		Seal Number <b>669527</b>	
Sampling Location Hazardous Test Area (HTA)				Delivered to Shipper by Fred Gebhardt		Airbill Number <b>86522440719</b>	
Team Leader Fred Gebhardt				Sampling Status <input checked="" type="checkbox"/> Done <input type="checkbox"/> Continuing		Remarks	
Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Environmental Sample	Remarks
12/9/08	1545	HTA-16D	GROUND WATER	4	MCAWW E353.2 (NO2 + NO3) MCAWW E300.0A (Bromide) SW846 6860 (Perchlorate) SW846 8330 (Explosives by HPLC)	Environmental Sample	
"	1620	HTA-3MS	"	4	"	"	MATRIX SPIKE
"	1625	HTA-3MSD	"	4	"	"	MATRIX SPIKE DUPLICATE
Additional Comments Please batch all samples collected during the week of Dec. 8, 2008. Thanks.							
CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER			
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory			
<i>Fredrick S. Beldner</i>	TO FEDERAL EXPRESS	12/10/08	1100	TestAmerica Labs 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0103  Attention: Lisa Antonczak			
	<i>Sammy Smalls</i>	12/11/08	0900	Seal Intact upon Receipt <input type="checkbox"/> Yes <input type="checkbox"/> No  Condition of Contents  Contents Temperature  Laboratory Project Number			



TestAmerica Denver  
Sample Receiving Checklist

Lot # DBL110294

Login Checks:

N/A Yes No

Initials

AB

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? 1
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

90 days

Labeling and Storage Checks:

Initials

SE

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).

## **APPENDIX III**

Container and Preservation Requirements

Field Data

### Sample container and preservation requirements

Parameters and Methods	Bottle Size and Type	Preservatives
Explosive compounds, SW8330	32 oz. glass	None, Chilled
Nitrate plus Nitrite, MCAWW353.2	16 oz. glass	2 mL 50% Sulfuric Acid, pH<2, Chilled
Perchlorate, SW8321A	125 mL polyethylene	None, Chilled

12/9/08

HTA

CALIBRATION OF METERS:

SET 1

pH METER: ORION 250 A+ S/N 014709

BUFFERS: 4.00 / 7.00 / 10.00

INITIAL READINGS: 4.00 / 7.03 / 10.11

ADJUSTED: 4.00 / 7.03 / 10.01

SLOPE 100.4

CONDUCTIVITY METER: ORION 130A S/N 1607234

STANDARD: 1800 LOT 1712418 EXP. 12/08

INITIAL READING: 1766

ADJUSTED: 1800

SLOPE : 471

DO METER: YSI 550 A S/N 0501996 A0

ELEVATION: 5700

SET 2

pH METER: ORION 250 A+ S/N 018139

BUFFERS: 4.00 / 7.00 / 10.00

INITIAL READINGS: 4.00 / 7.03 / 10.11

ADJUSTED: 4.00 / 7.03 / 10.01

SLOPE: 99.0

12/9/08

HTA

CONDUCTIVITY METER: ORION 130A S/N 1606409

STANDARD: 1800 LOT 1712418 EXP. 12/08

INITIAL READING: 1769

ADJUSTED: 1801

SLOPE: 474

DO METER: YSI 550A S/N 0571136 AD

ELEVATION: 5700.

0900 USGS PERSONNEL ANDREW ROBERTSON  
AND FRED GEBHARDT ARRIVE AT HTA/USMR  
STAGING AREA. ANDREW SET 1 METERS  
FRED SET 2.

12/9/08

HTA-12

0950 ARRIVES @ HTA 12 W.L. = 79.07'

1005 RETURNED TO STAGING AREA FOR TITRANC

1025 STARTED PUMPING

TIME	(g) VOL	(cc) I	pH	(µS/cm) COND	(mg/L) DO
1025	INITIAL	18.4	7.15	951	2.01
1028	5	19.1	7.10	966	1.20
1034	10	19.1	7.09	962	1.12
1039	15	19.1	7.09	966	1.09
1045	20	19.1	7.09	965	1.11

1050 COLLECTED SAMPLE HTA-12

Rec NO 00900124

12/9/08

HTA-11

1105 ARRIVE @ HTA-11 W.L. = 66.21

TIME	VOL (g)	T (°C)	pH	COND ( $\mu$ S/cm)	DO (mg/L)
11:18	INITIAL	14.3	7.35	1009	4.83
11:23	5	14.3	7.31	897	7.10
11:29	10	14.3	7.28	889	6.00
11:35	15	14.4	7.26	890	5.83
11:40	20	14.4	7.25	889	5.87

11:45 COLLECTED SAMPLE HTA-11

11:50 COLLECTED SAMPLES DUPLICATE HTA-89

Rec NO 00900125

12/9/06

## HTA-10A

12:10 ARRIVE @ HTA 10A - WL = 64.70

TIME	VOL (g)	T (°C)	pH	COND ( $\mu\text{S}/\text{cm}$ )	DO (mg/L)
12:14	INITIAL	19.3	7.28	880	5.65
12:17	5	19.5	7.34	880	4.43
12:22	10	19.4	7.42	879	3.25
12:26	15	19.4	7.45	878	2.92
12:31	20	19.3	7.45	876	2.98

12:35 COLLECTED SAMPLE HTA-10A

Rec NO 00900127

12/2/08

HITA-17

1300 MARIÑO @ HITA-17 WL = 87.61

130

TIME	VOL (g)	T (°C)	pH	COND (µS/cm)	DO (mg/L)
1307	INITIAL	18.3	7.31	996	4.27
1315	5	19.3	7.27	987	3.71
1320	10	19.4	7.28	987	3.67
1326	15	19.3	7.28	987	3.75
1332	20	19.4	7.27	987	3.71

1335 COLLECTED ENVIRCO. SAMRIZ HITA-17

Rec NO 00900128

12/9/08

HTA-16

1359 ANALYSIS @ HTA-16

WL = 87.13

Time	VOL(g)	T (°C)	pH	COND ( $\mu\text{S}/\text{cm}$ )	DO (mg/L)
1432	INITIAL	15.5	7.44	973	6.47
1438	5	19.1	7.42	953	6.16
1442	10	19.1	7.42	953	6.30
1449	15	19.2	7.41	954	6.20
1457	20	19.4	7.40	955	6.00

1500 COLLECTING RUNTA SAMPLE HTA-16

Rec NO 00900129

12/9/08

HTA-161

1514  
1314 ARRIVED AT HTA-161

TIME	Vol (g)	T(°C)	pH	COND (µS/cm)	DO (mg/L)
1316 <sup>1516</sup>	INITIAL	19.5	7.28	978	3.44
1522	5	19.5	7.25	983	3.91
1529	10	19.6	7.24	983	4.04
1535	15	19.6	7.24	983	4.05
1542	20	19.5	7.23	983	4.11

1545 COLLECTED SAMPLE HTA-161

Rec NO 00900133

12-9-08

0955 FRED ARRIVES AT WELL HTA-19, WL 131.22.

<u>TIME</u>	<u>VOL</u>	<u>TEMP</u>	<u>pH</u>	<u>COND</u>	<u>DO</u>
1035	INITIAL	17.5	7.74	1003	6.07
1044	5	19.4	7.39	991	5.78
1052	10	19.4	7.37	990	5.76
1100	15	19.4	7.35	991	5.75
1108	20	19.5	7.33	990	5.53

1115 COLLECTED ENVIRONMENTAL SAMPLE HTA-19.

Rec NO 00900121

1128 ARRIVE AT WELL HTA-25. WL 84.49

<u>TIME</u>	<u>VOL</u>	<u>TEMP</u>	<u>pH</u>	<u>COND</u>	<u>DO</u>
1136	INITIAL	17.7	7.41	1010	1.50
1145	5	19.0	7.26	1003	0.09
1153	10	18.9	7.24	1002	0.15
1202	15	19.2	7.23	1002	0.14
1208	20	19.1	7.23	1002	0.48

~~1211~~

1215 COLLECTED SAMPLE HTA-25.

Rec NO 00900122

12/10 - 12-9-08

1230 ARRIVE AT WELL HTA-13. WL. 101.06

<u>TIME</u>	<u>VOL</u>	<u>TEMP</u>	<u>pH</u>	<u>COND</u>	<u>DO</u>
1241	INITIAL	17.9	7.47	868	5.91
1249	5	18.9	7.35	868	6.39
1258	10	19.0	7.34	866	6.25
1306	15	19.0	7.34	867	6.35
1314	20	19.0	7.34	866	6.30

1320 COLLECTED SAMPLE HTA-13. ~~WL~~

Rec NO 00900123

1329 ARRIVED AT WELL HTA-20. WL 75.80

<u>TIME</u>	<u>VOL</u>	<u>TEMP</u>	<u>pH</u>	<u>COND</u>	<u>DO</u>
1335	INITIAL	18.5	7.29	982	4.54
1342	5	18.9	7.21	988	4.57
1350	10	19.0	7.20	987	4.52
1357	15	19.0	7.20	987	4.51
1404	20	18.9	7.20	987	4.50

1410 COLLECTED SAMPLE HTA-20.

Rec NO 00900130

12-9-08

HTA

1428 ARRIVE AT WELL HTA-15. WL. 84.61.

<u>TIME</u>	<u>VDL</u>	<u>TEMP</u>	<u>pH</u>	<u>COND</u>	<u>DO</u>
1435	INITIAL	17.7	7.53	984	6.03
1443	5	19.0	7.37	990	5.84
1450	10	19.1	7.37	989	5.80
1458	15	19.3	7.35	988	5.72
1507	20	19.3	7.35	990	5.65

1510 COLLECTED SAMPLE HTA-15.

Rec No 00900131

ARRIVE AT PRODUCTION WELL HTA-3

<u>TIME</u>	<u>TEMP</u>	<u>pH</u>	<u>COND</u>	<u>DO</u>
1555	20.1	7.24	797	5.24
1600	20.1	7.32	797	5.24
1605	20.4	7.30	797	5.27
1610	20.4	7.30	799	5.29

1615 COLLECTED ENVIRONMENTAL SAMPLE HTA-3

1620 COLLECTED MATRIX SPIKE

1625 COLLECTED MATRIX SPIKE DUPLICATE.

12-10-08

1200	HTA-41	WL	111.44
1212	HTA-44	WL	100.63
1222	HTA-42		69.21
1233	HTA-46		87.35
1240	HTA-43		74.20
1251	HTA-51		89.40
1313	HTA-32		35.35
1323	HTA-4		32.25
1331	HTA-26		102.38
1336	HTA-30		94.95
1342	HTA-24		61.39
1348	HTA-34		49.23
1353	HTA-23		87.47
1359	HTA-22		95.84
1405	HTA-21		68.73
1410	HTA-18		116.16
1414	HTA-27		103.78
1420	HTA-28		80.48