



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS
75202-2733

November 17, 2015

Camp Minden
ATTN: COL. (Ret) Ronnie D. Stuckey
100 Louisiana Boulevard
Minden, Louisiana 71055

RE: May 2015 Sampling of Camp Minden
100 Louisiana Boulevard, Minden, Louisiana

Dear COL (Ret.) Stuckey,

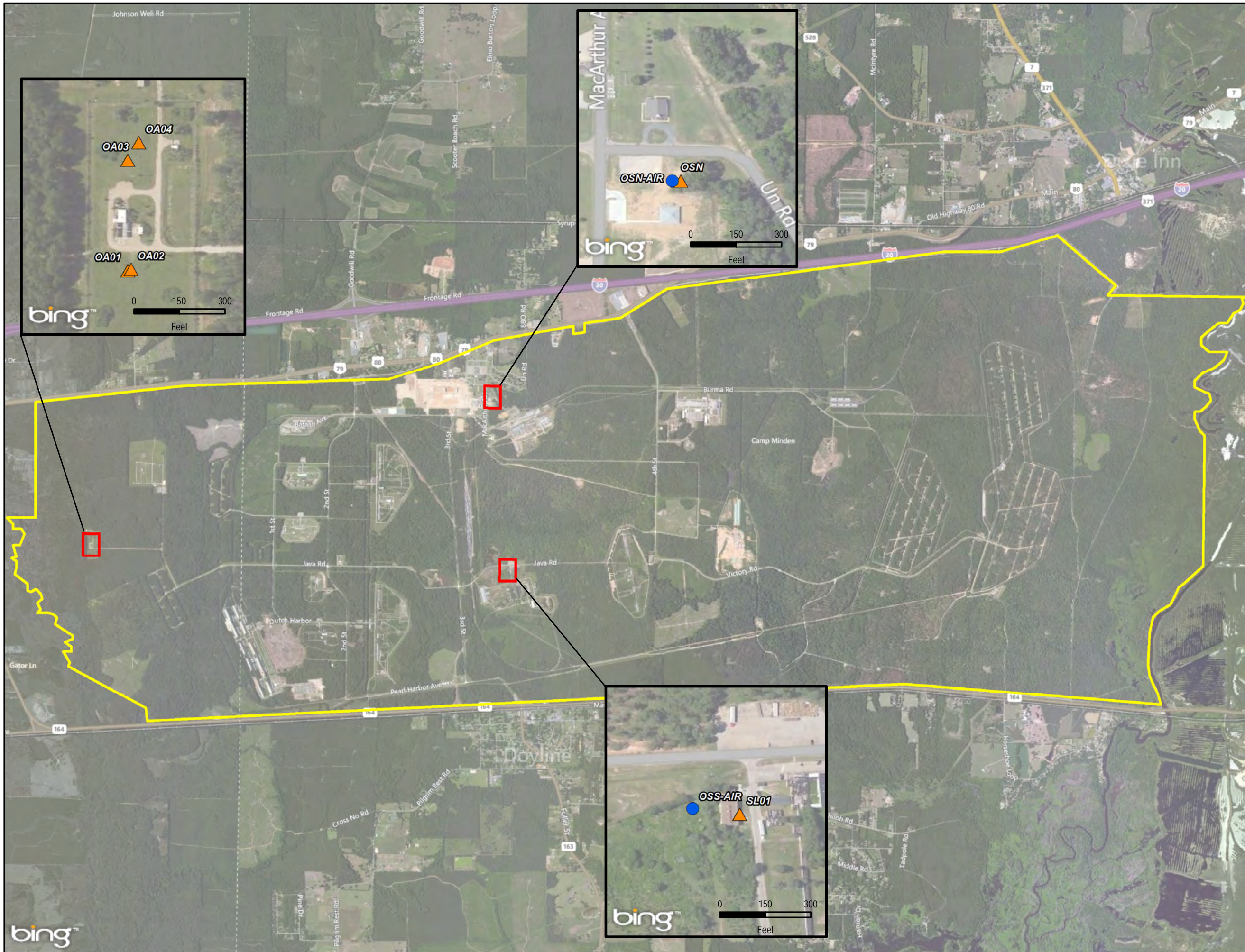
The Environmental Protection Agency (EPA) conducted real-time air monitoring and collected soil and air samples from Camp Minden in May 2015. The monitoring and sampling was conducted to establish a baseline for soil and air prior to implementation of the removal operations at Camp Minden. Air monitoring was for carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxide (NO), nitrogen dioxide (NO₂), NOX, sulfur dioxide (SO₂), and fine particulates (2.5 micrometers [PM_{2.5}]). Soil samples were analyzed for dioxin/furans, semi-volatile organic compounds (SVOCs), pH, and volatile organic compounds (VOCs). The air samples were analyzed for dioxin/furans, SVOCs, particulates (PM₁₀ and PM_{2.5}), and volatile organic compounds (VOCs).

Maximum detections for air monitoring are summarized on Table 1 - Air Monitoring Summary, and the data collected during the monitoring period is presented as graphs. The analytical results for the soil samples are summarized on the attached Table 2 - Soil Analytical Results. The results for the air samples are summarized on Tables 3 through 5 - Air Analytical Results. The monitoring and sampling locations is shown on the attached figure.

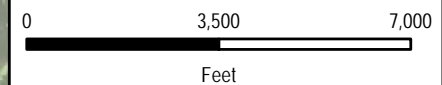
Thank you for your cooperation. Please contact me at 214-665-2779 (office), Adam.Adams@epa.gov (email), or the EPA toll free number 800-533-3508 if you have any questions.

Adam Adams
On-Scene Coordinator
Prevention and Response Branch
USEPA Region 6 Dallas, TX

Enclosures: Table 1 – Air Monitoring Summary with graphs by analyte
Table 2 – Soil Analytical Results
Table 3 – Air Analytical Results – Dioxin/Furans
Table 4 – Air Analytical Results – SVOCs and Particulates
Table 5 – Air Analytical Results - VOCs
Figure 1 - Sample Location Map
Toxicology Summary



- LEGEND**
- ▲ Soil Sampling Locations
 - Air Sampling Locations
 - Camp Minden Industrial Complex



TDD NO: 5/WESTON-042-15-006
 CONTRACT NO: EP-W-06-042
 SOURCE: 2010 Microsoft Corporation and its data suppliers



FIGURE 1
SAMPLE LOCATION MAP
CAMP MINDEN
100 LOUISIANA BLVD
MINDEN, WEBSTER PARISH
LOUISIANA

| DATE | PROJECT NO | SCALE |
|---------------|-----------------------|----------|
| NOVEMBER 2015 | 20406.012.005.0934.01 | AS SHOWN |

U.S. ENVIRONMENTAL PROTECTION AGENCY

Region VI



Air Monitoring Summary

Camp Minden Baseline Event

Camp Minden North

Start Time: 05-7-2015 10:00 - End Time: 05-9-2015 11:00

Camp Minden Central/S Line

Start Time: 05-6-2015 10:00 - End Time: 05-8-2015 11:00

Below is a summary of Camp Minden Air Monitoring Data collected at the location referenced above. The table contains a detailed listing of the following:

- 1 Total count of readings from May 6, 2015 10:00 through May 9, 2015 11:00
- 2 Average reading of each analyte from May 6, 2015 10:00 through May 9, 2015 11:00
- 3 Maximum reading of each analyte from May 6, 2015 10:00 through May 9, 2015 11:00

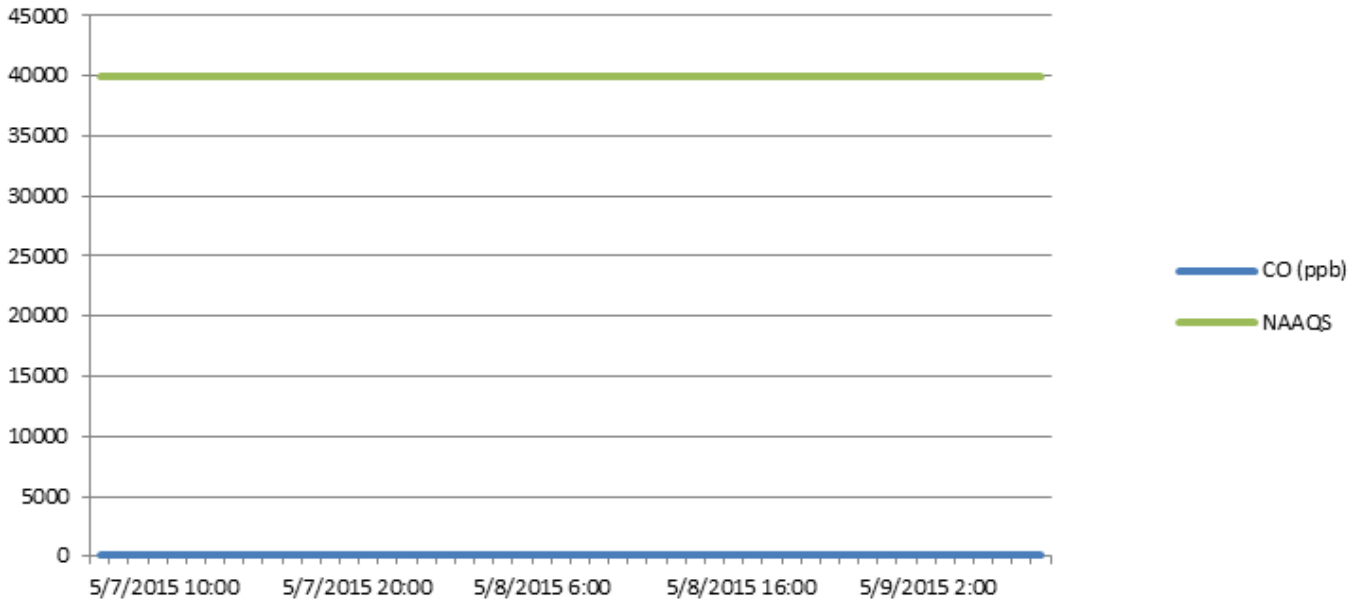
National Ambient Air Quality Standards (NAAQS) are listed with specific time frames and calculation formulas. Please visit NAAQS website for more in-depth information on how these are calculated - <http://www.epa.gov/air/criteria.html>.

** Note: PM2.5 was captured in 60-min averages. All other analytes were captured in 1-min averages.

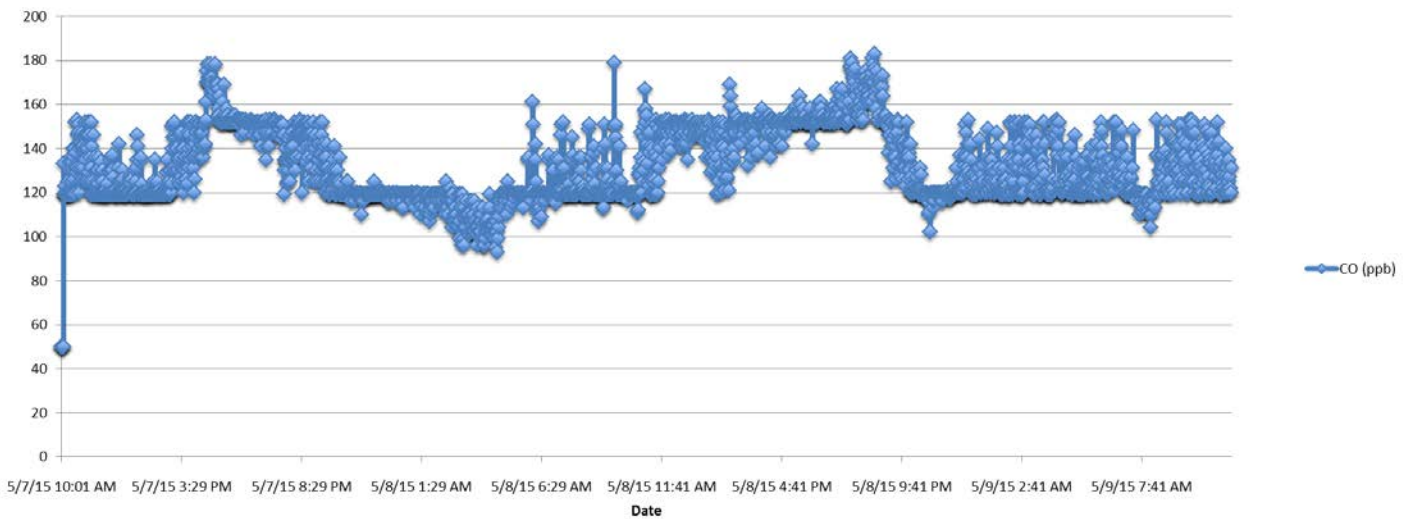
Summary of Location: Camp Minden North

| Parameter | Count of 1-min Readings | Maximum Average Concentration | Maximum Detection | Units | NAAQS Standard |
|-----------|--------------------------|-------------------------------|-------------------|-------|-----------------|
| CO | 2925 | 165.2 | 183 | ppb | 40,000 (1-hour) |
| CO2 | 2958 | 446900 | 770400 | ppb | |
| NO | 2898 | 1.217 | 8.5 | ppb | |
| NO2 | 2898 | 3.262 | 10.5 | ppb | 100 (1-hour) |
| NOX | 2898 | 4.272 | 17.3 | ppb | 188 (1-hour) |
| SO2 | 2796 | 5.543 | 8.901 | ppb | 365 (3-hour) |
| Parameter | Count of 60-min Readings | Maximum Average Concentration | Maximum Detection | Units | NAAQS Standard |
| PM 2.5 | 48 | 17.065 | 68 | ug/m3 | 35 (24-hour) |

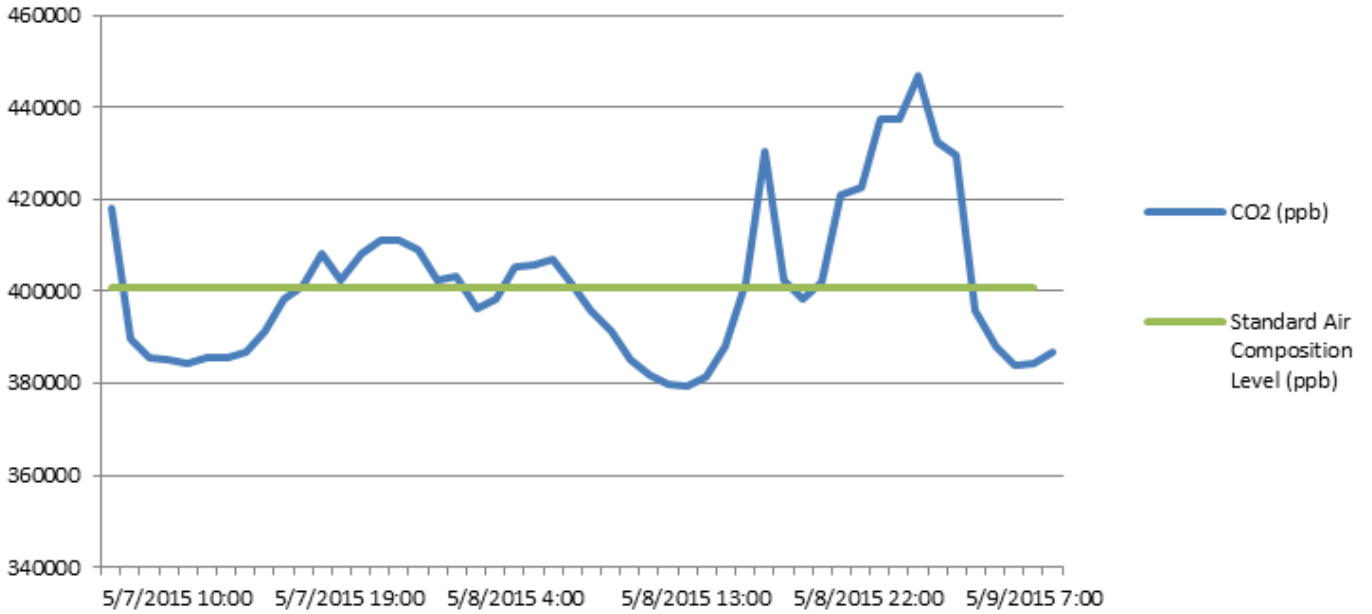
Camp Minden North - Hourly Averages CO (ppb)



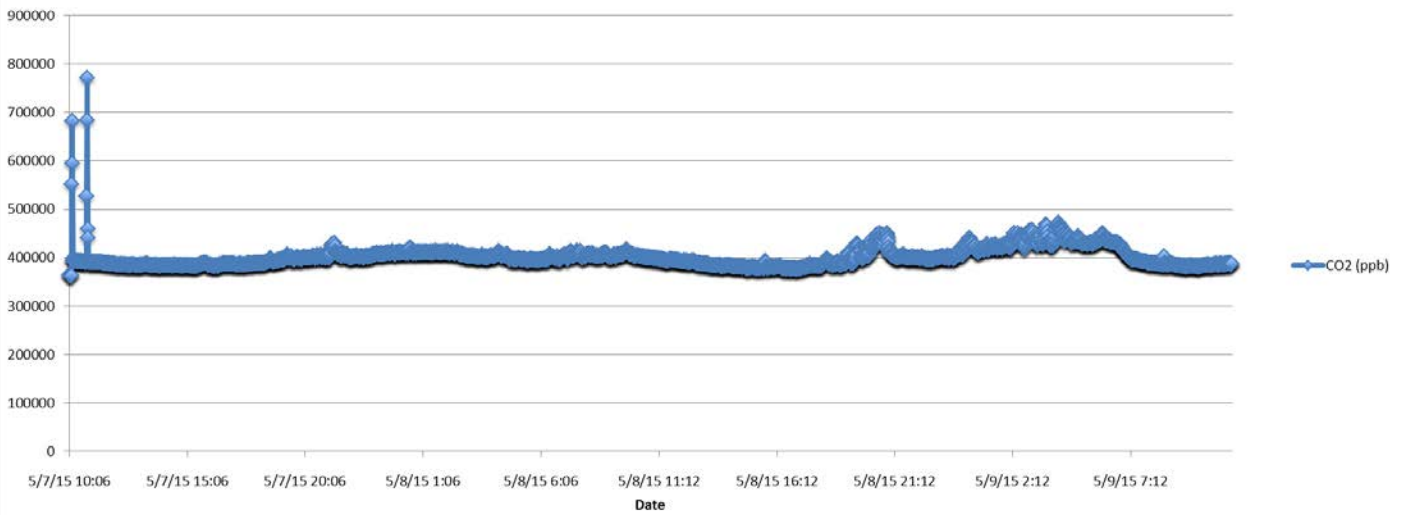
Camp Minden North - 1 Minute Averages CO (ppb)



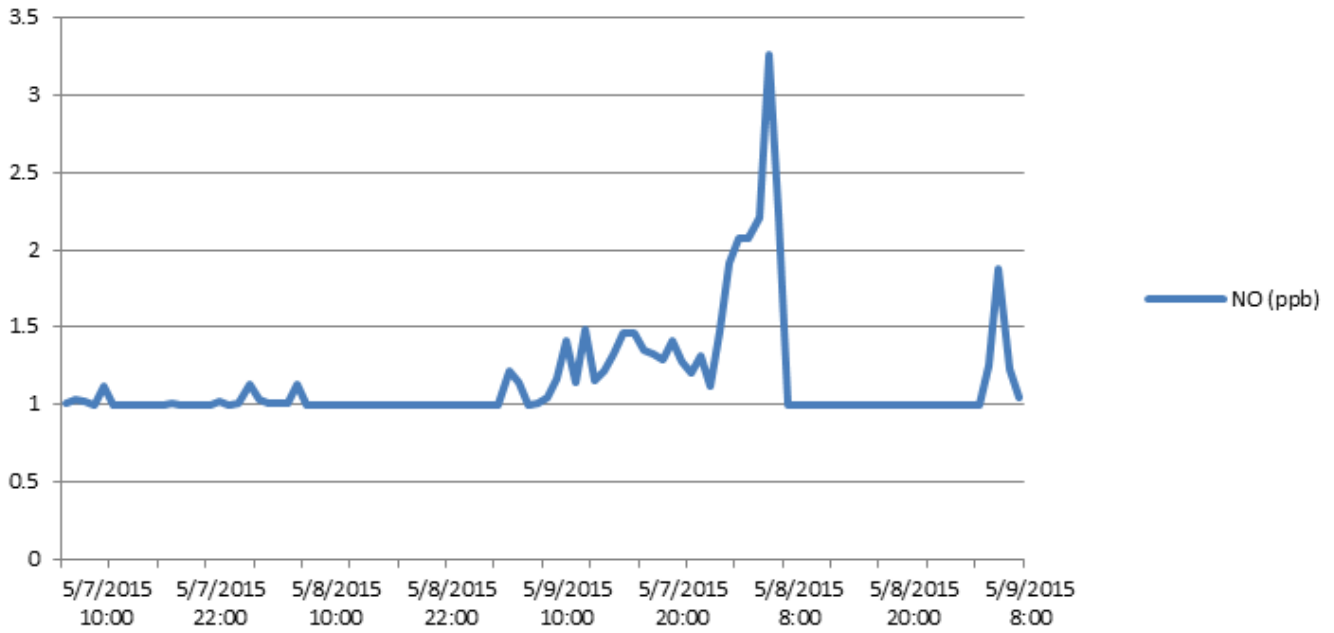
Camp Minden North - Hourly Averages CO2 (ppb)



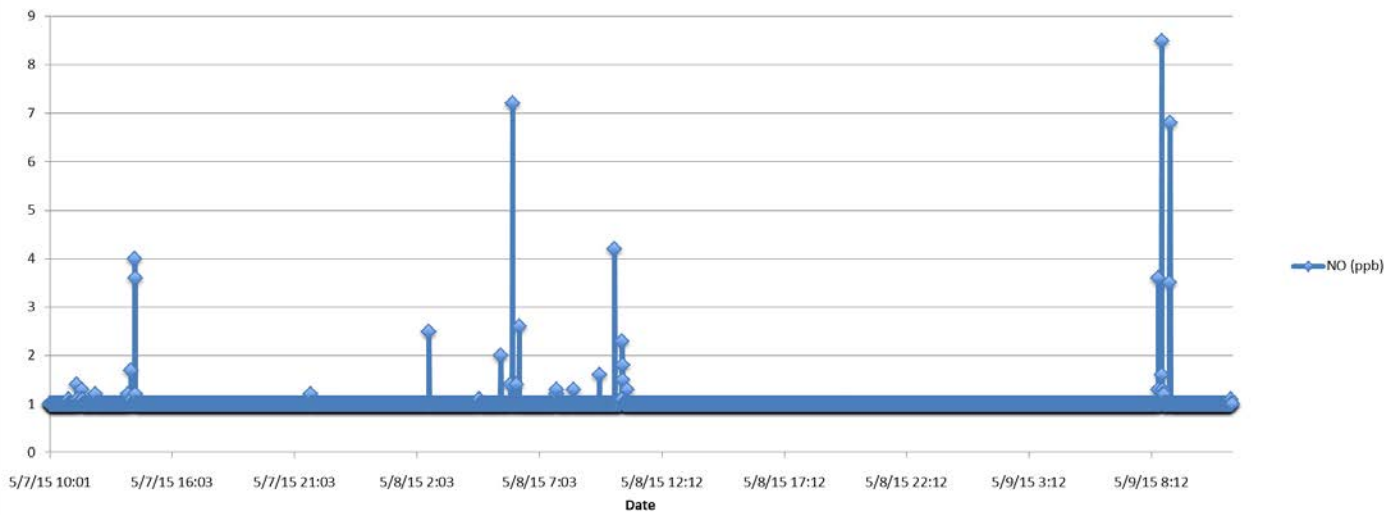
Camp Minden North - 1 Minute Averages CO2 (ppb)



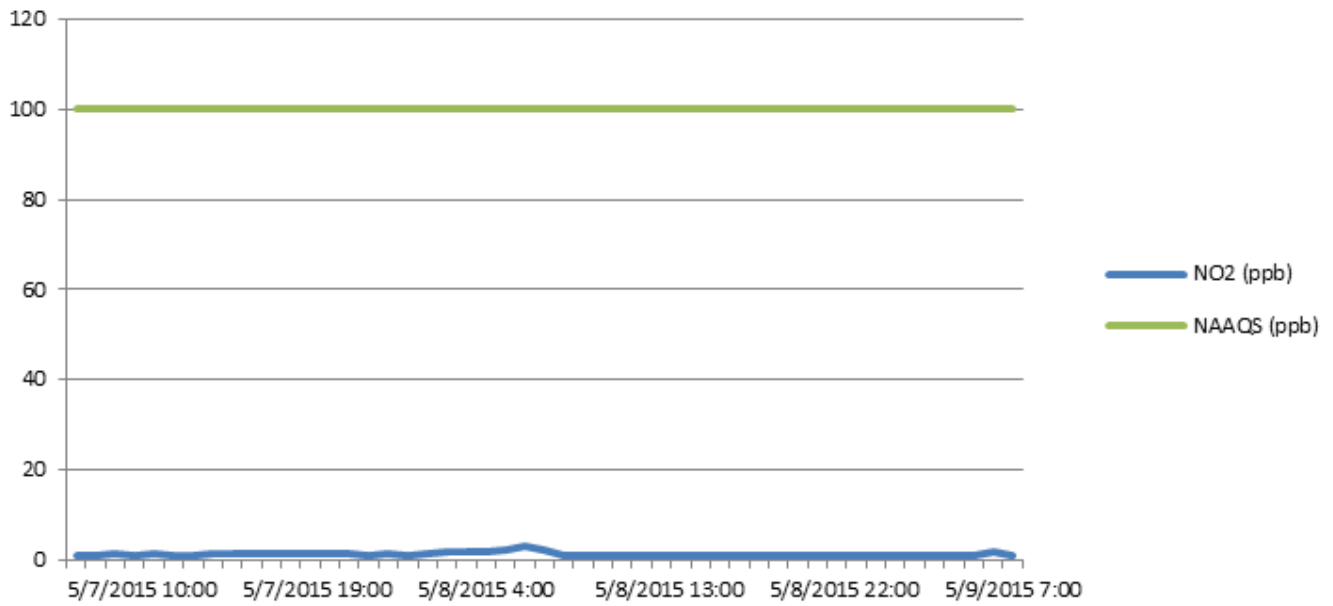
Camp Minden North - Hourly Averages NO (ppb)



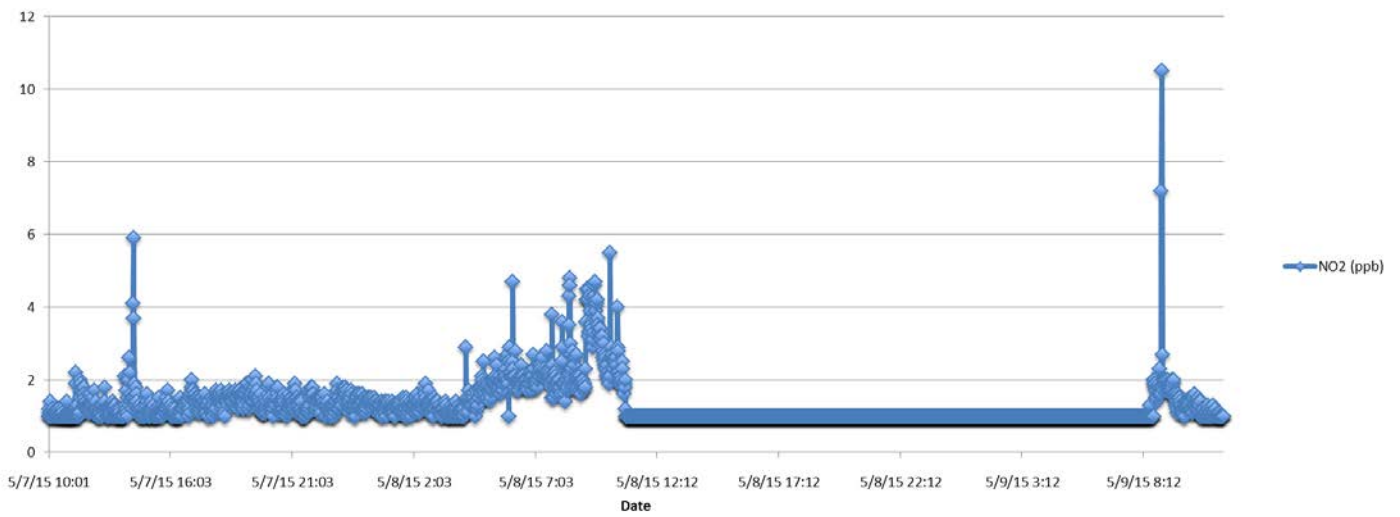
Camp Minden North - 1 Minute Averages NO (ppb)



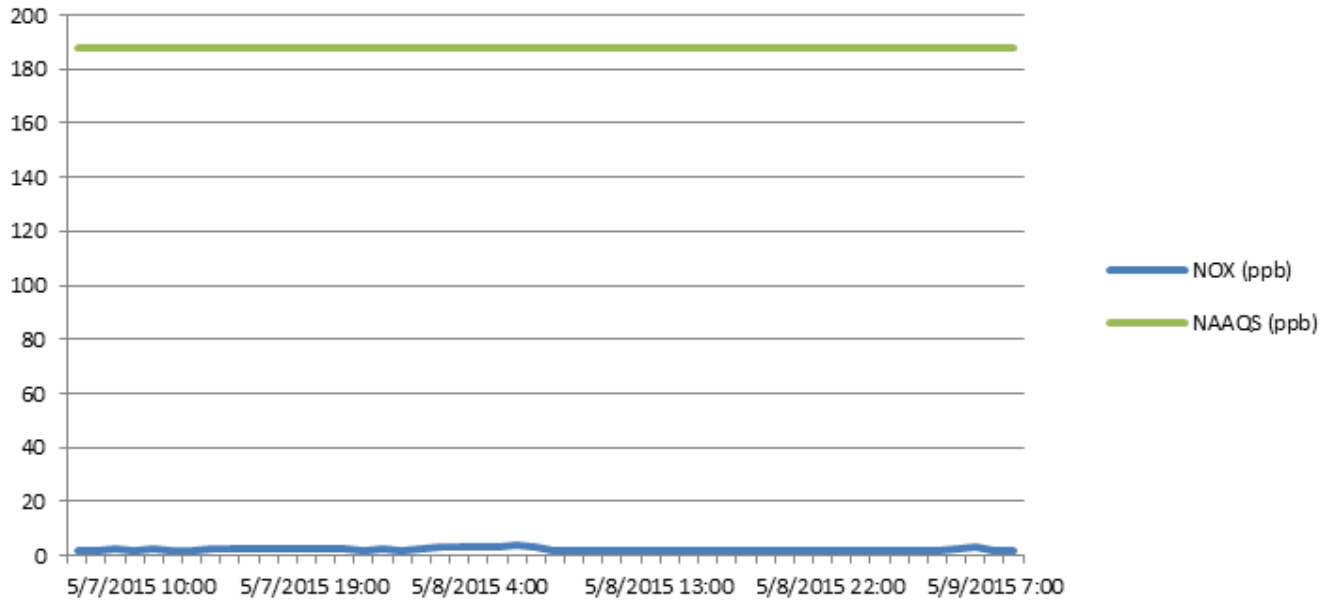
Camp Minden North - Hourly Averages NO2 (ppb)



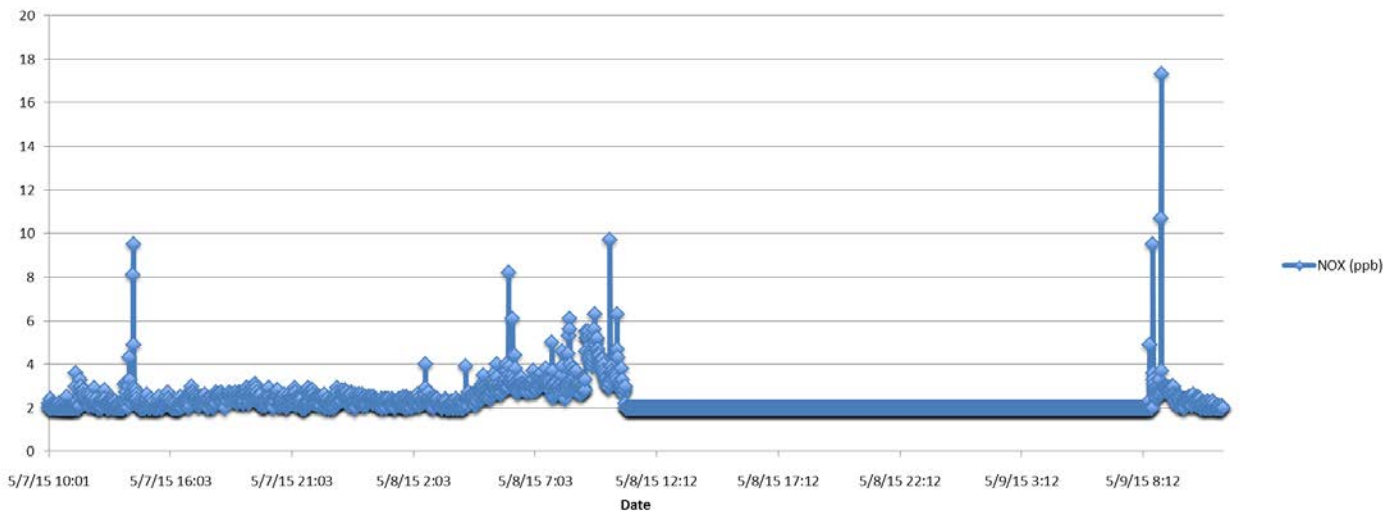
Camp Minden North - 1 Minute Averages NO2 (ppb)



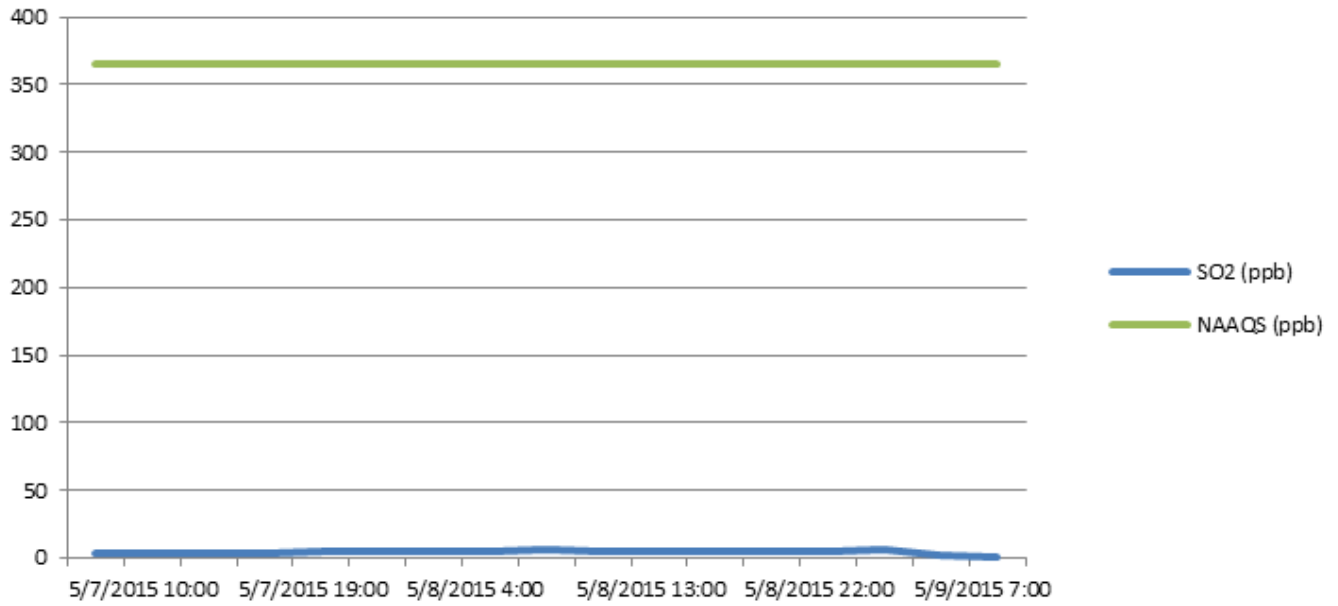
Camp Minden North - Hourly Averages NOX (ppb)



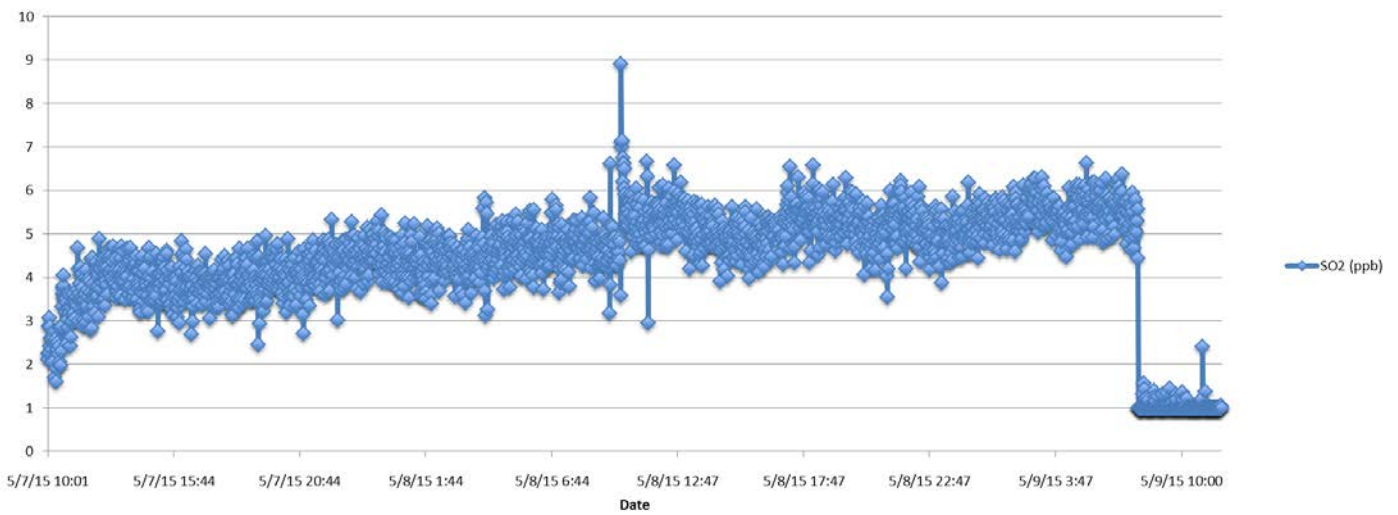
Camp Minden North - 1 Minute Averages NOX (ppb)



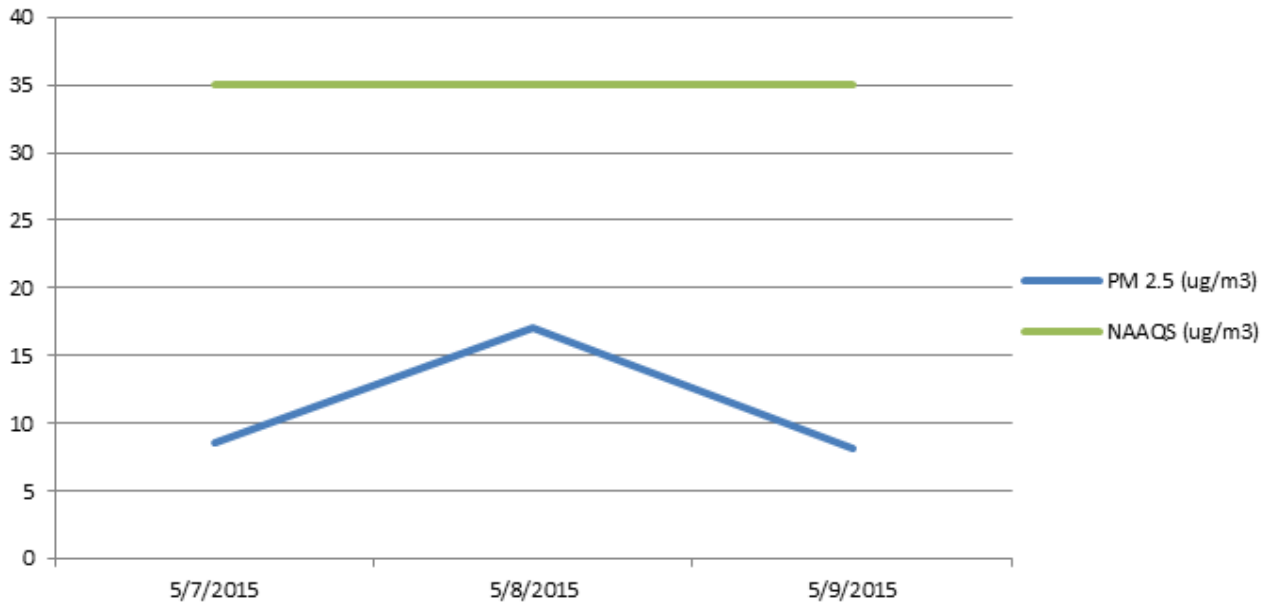
Camp Minden North - 3 Hour Averages SO2 (ppb)



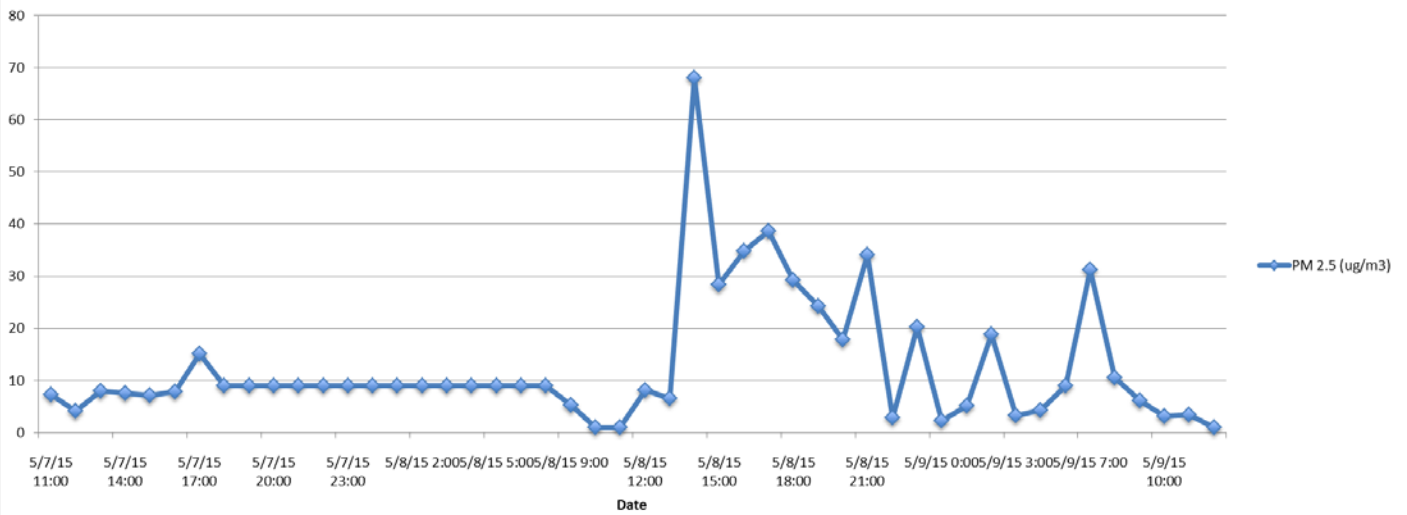
Camp Minden North - 1 Minute Averages SO2 (ppb)



Camp Minden North - 24 Hour Averages PM 2.5 (ug/m3)



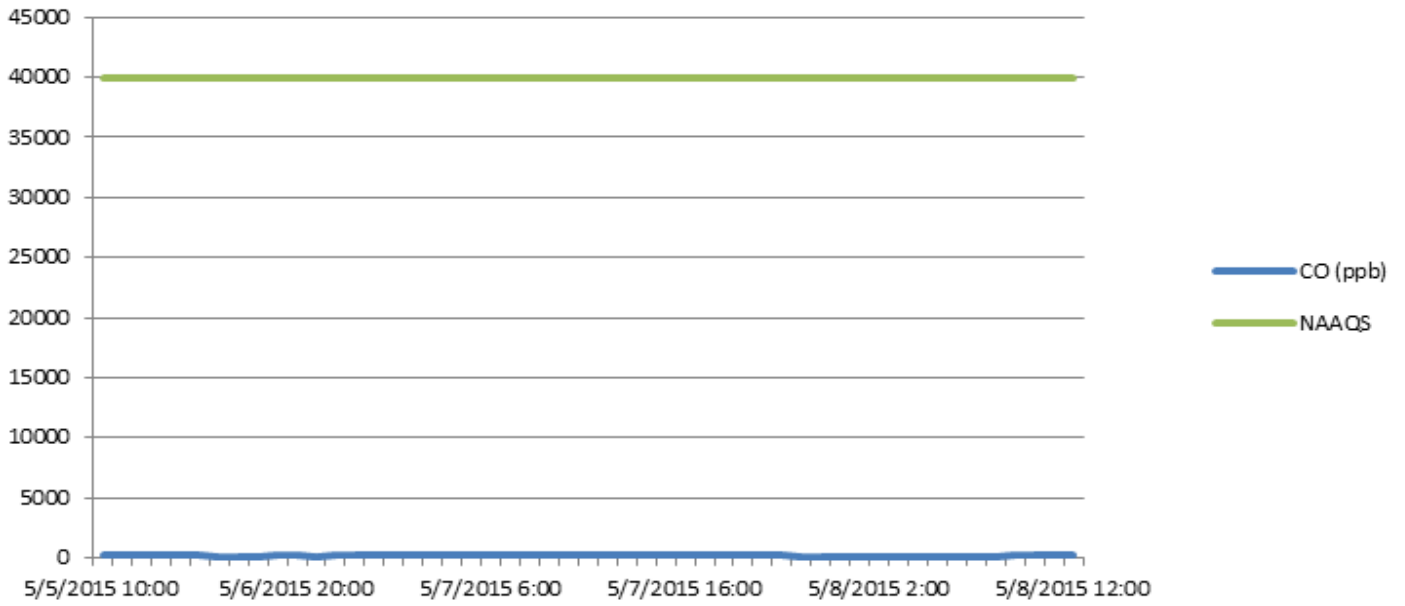
Camp Minden North - 1 Hour Averages PM 2.5 (ug/m3)



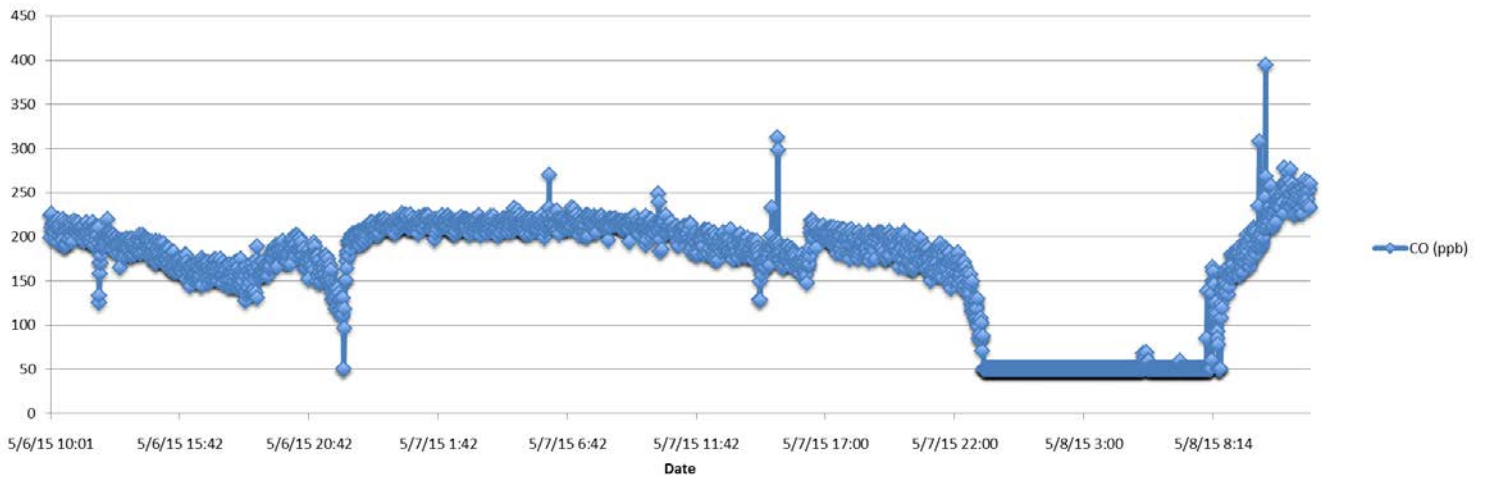
Summary of Location: Camp Minden Central/ S Line

| Parameter | Count of 1-min Readings | Maximum Average Concentration | Maximum Detection | Units | NAAQS Standard |
|-----------|--------------------------|-------------------------------|-------------------|-------|-----------------|
| CO | 2927 | 260 | 394 | ppb | 40,000 (1-hour) |
| CO2 | 2752 | 530400 | 562400 | ppb | |
| NO | 2816 | 2.493 | 56.5 | ppb | |
| NO2 | 2816 | 2.303 | 15.6 | ppb | 100 (1-hour) |
| NOX | 2816 | 4.06 | 72.1 | ppb | 188 (1-hour) |
| SO2 | 2885 | 1.226 | 7.690 | ppb | 365 (3-hour) |
| Parameter | Count of 60-min Readings | Maximum Average Concentration | Maximum Detection | Units | NAAQS standard |
| PM 2.5 | 48 | 2.333 | 16.8 | ug/m3 | 35 (24-hour) |

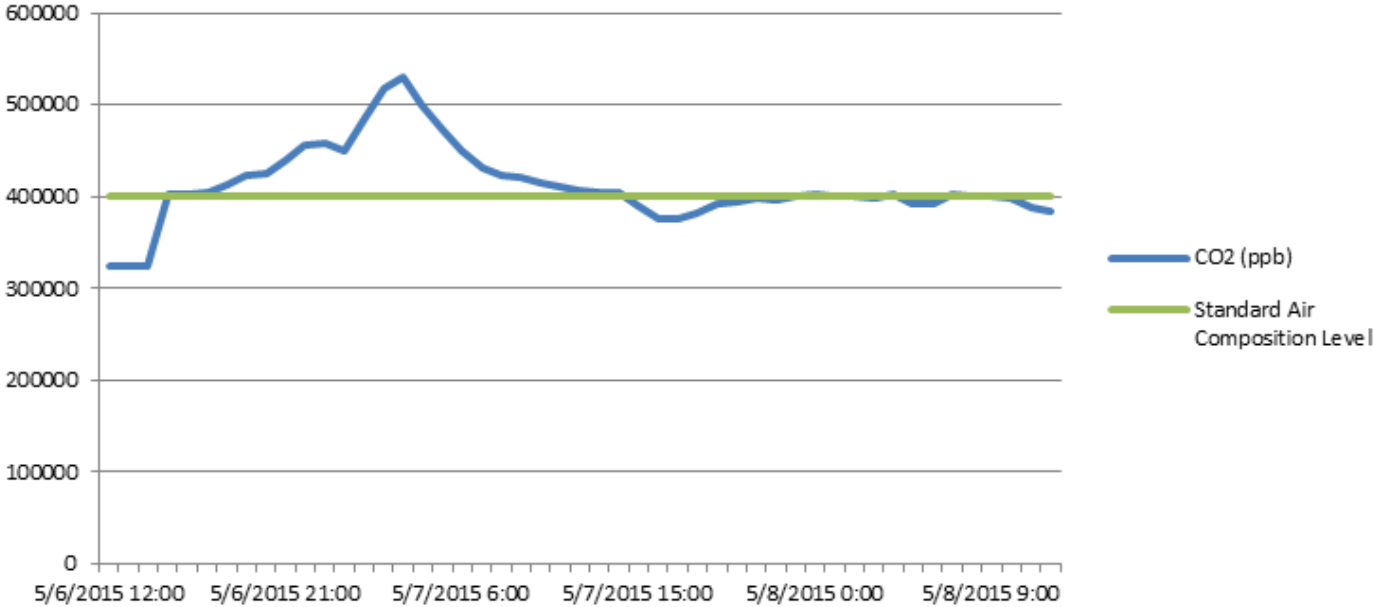
CAMP MINDEN CENTRAL/S-LINE – Hourly Averages CO (ppb)



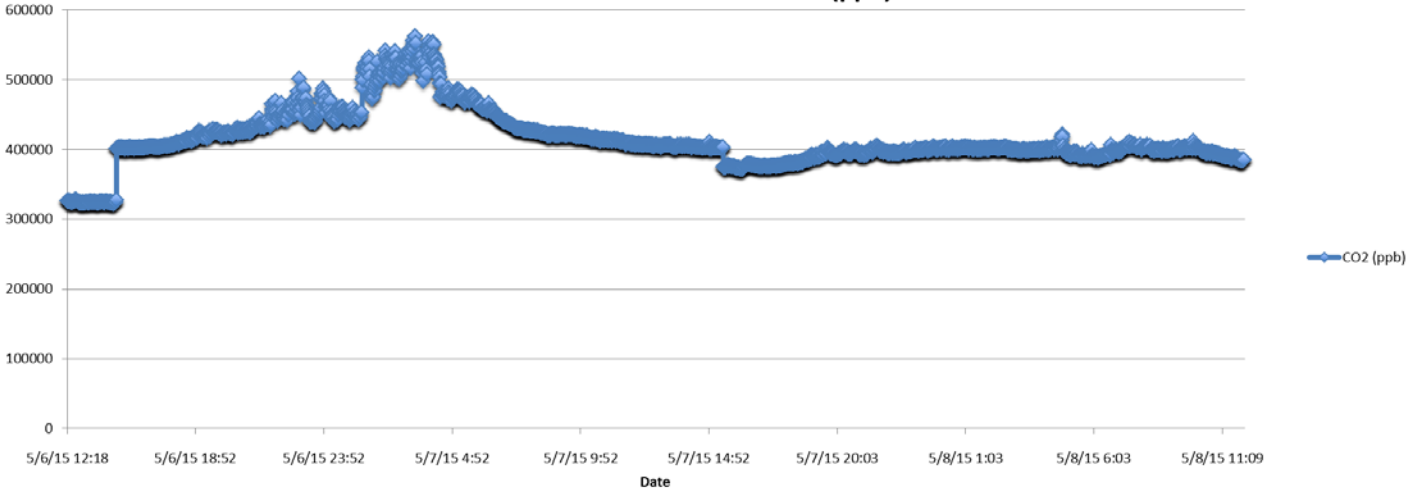
CAMP MINDEN CENTRAL / S-LINE - 1 Minute Averages CO (ppb)



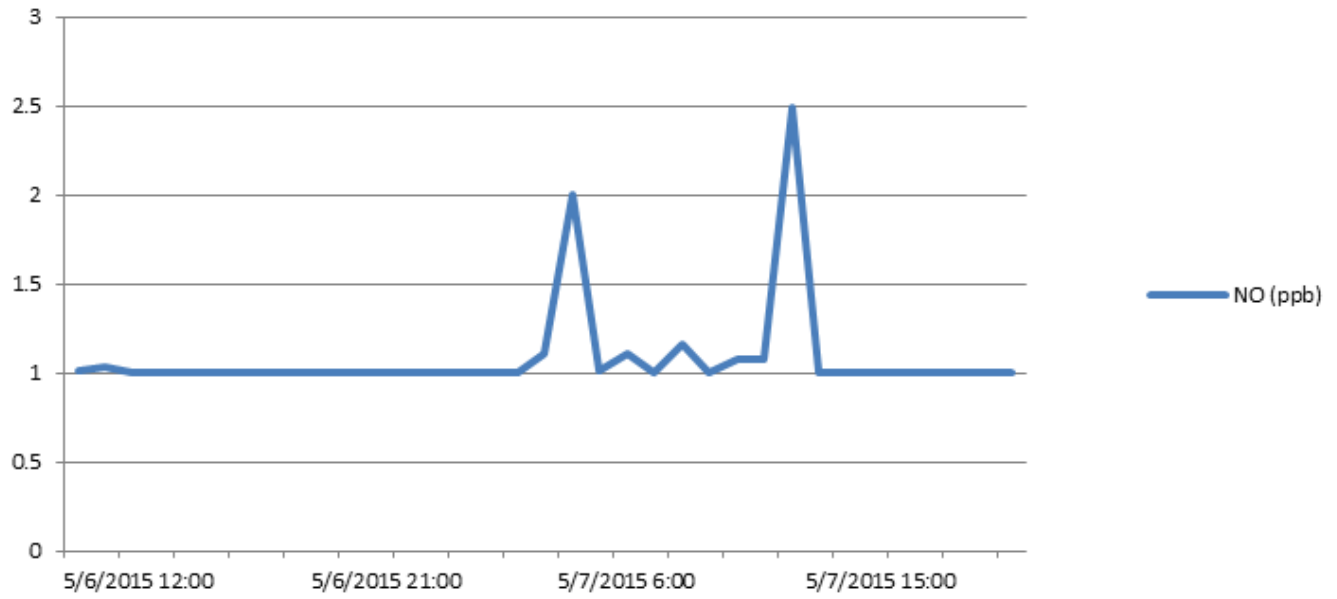
CAMP MINDEN CENTRAL/S-LINE – Hourly Averages CO2 (ppb)



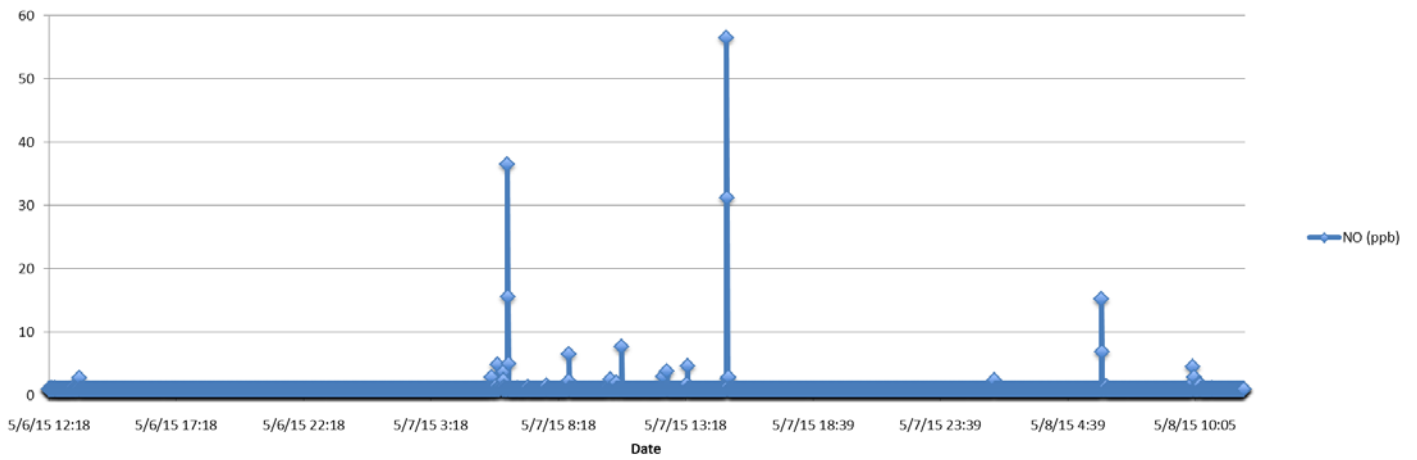
CAMP MINDEN CENTRAL / S-LINE - 1 Minute Averages CO2 (ppb)



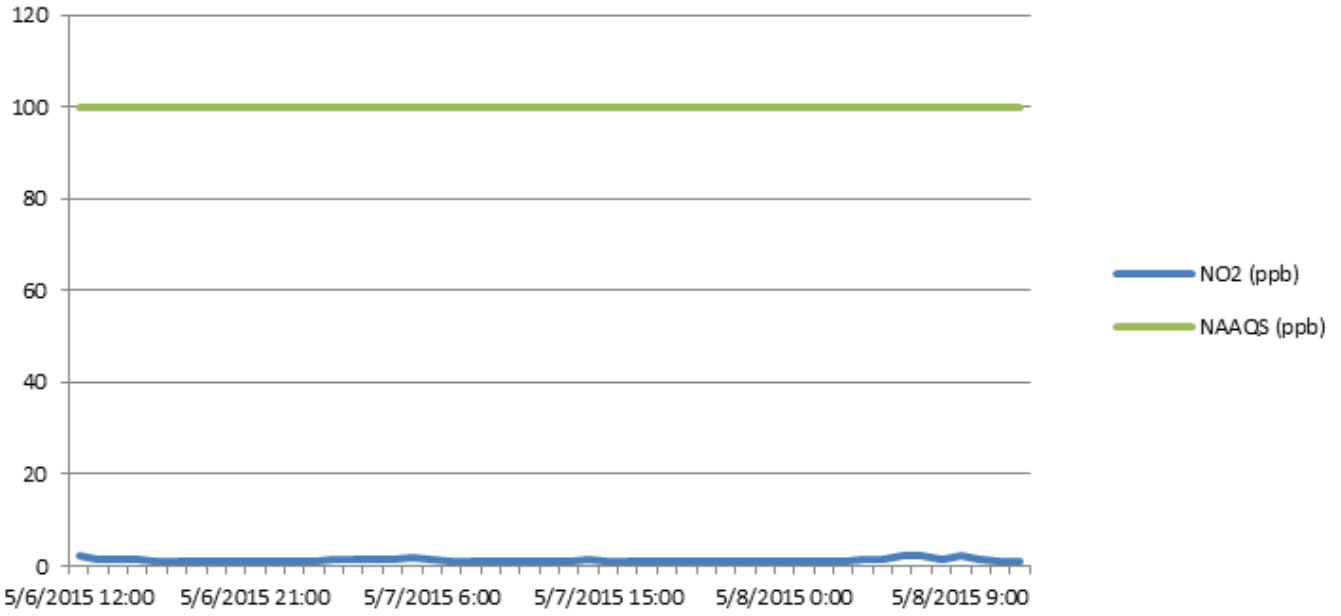
CAMP MINDEN CENTRAL/S-LINE – Hourly Averages NO (ppb)



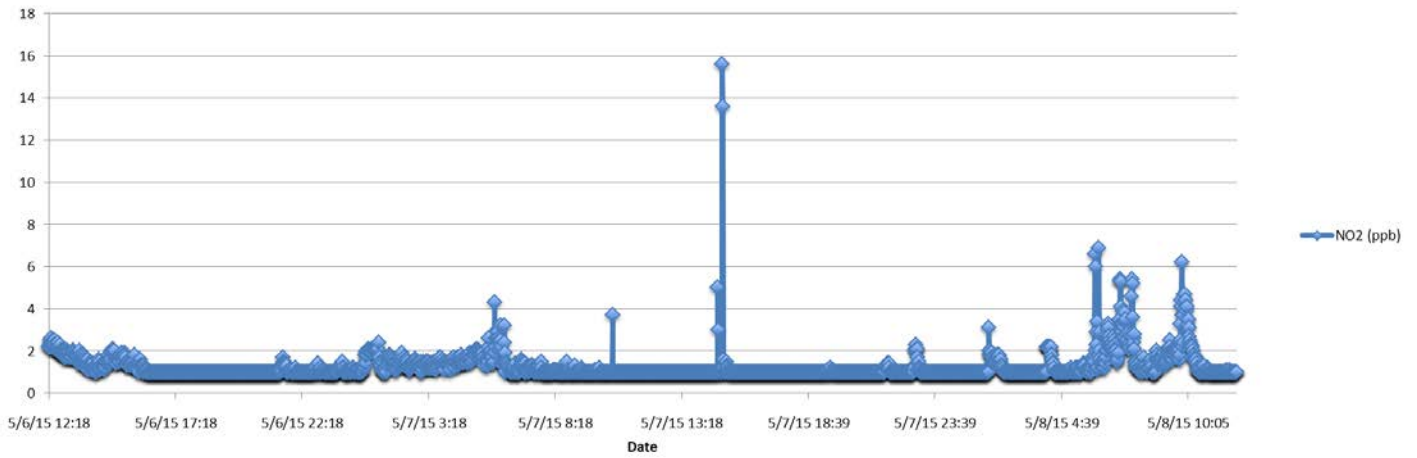
CAMP MINDEN CENTRAL / S-LINE - 1 Minute Averages NO (ppb)



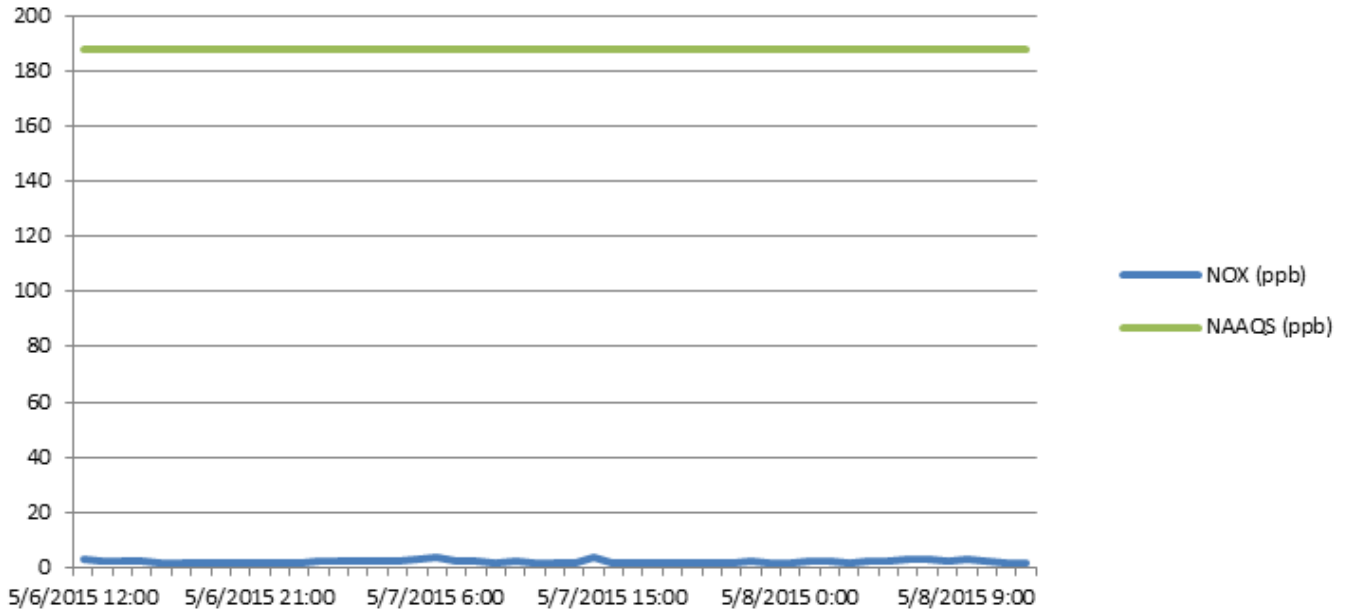
CAMP MINDEN CENTRAL/S-LINE – Hourly Averages NO2 (ppb)



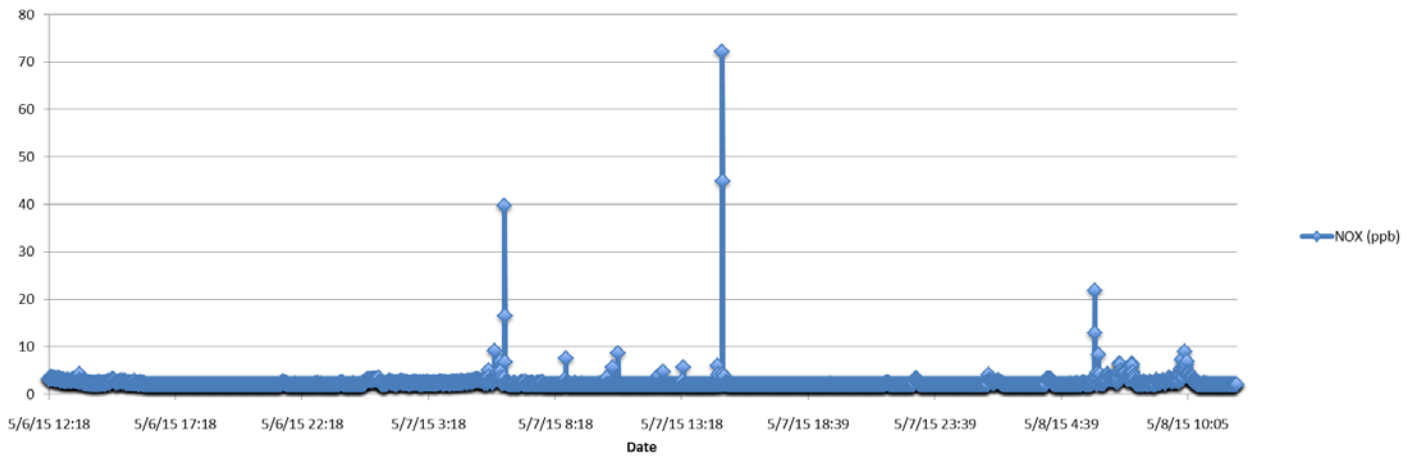
CAMP MINDEN CENTRAL / S-LINE - 1 Minute Averages NO2 (ppb)



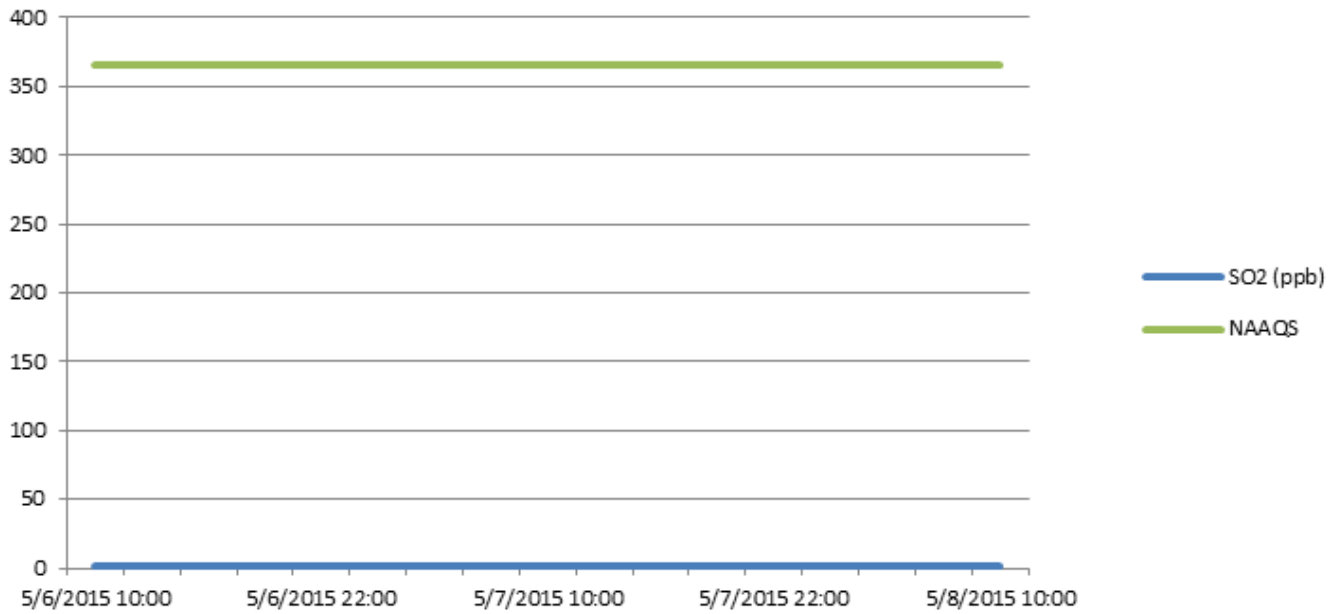
CAMP MINDEN CENTRAL/S-LINE – Hourly Averages NOX (ppb)



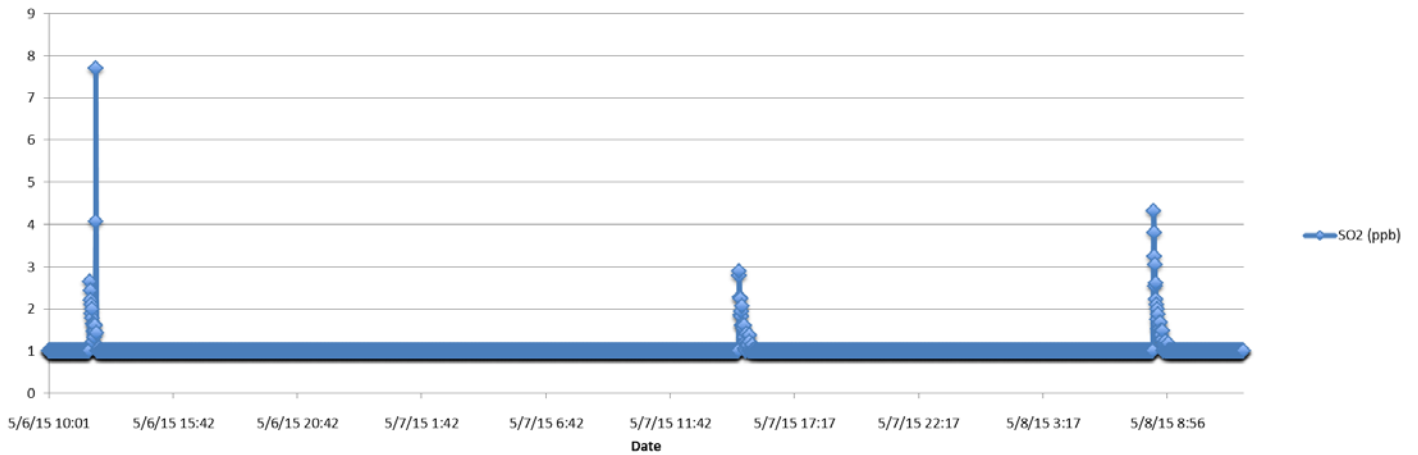
CAMP MINDEN CENTRAL / S-LINE - 1 Minute Averages NOX (ppb)



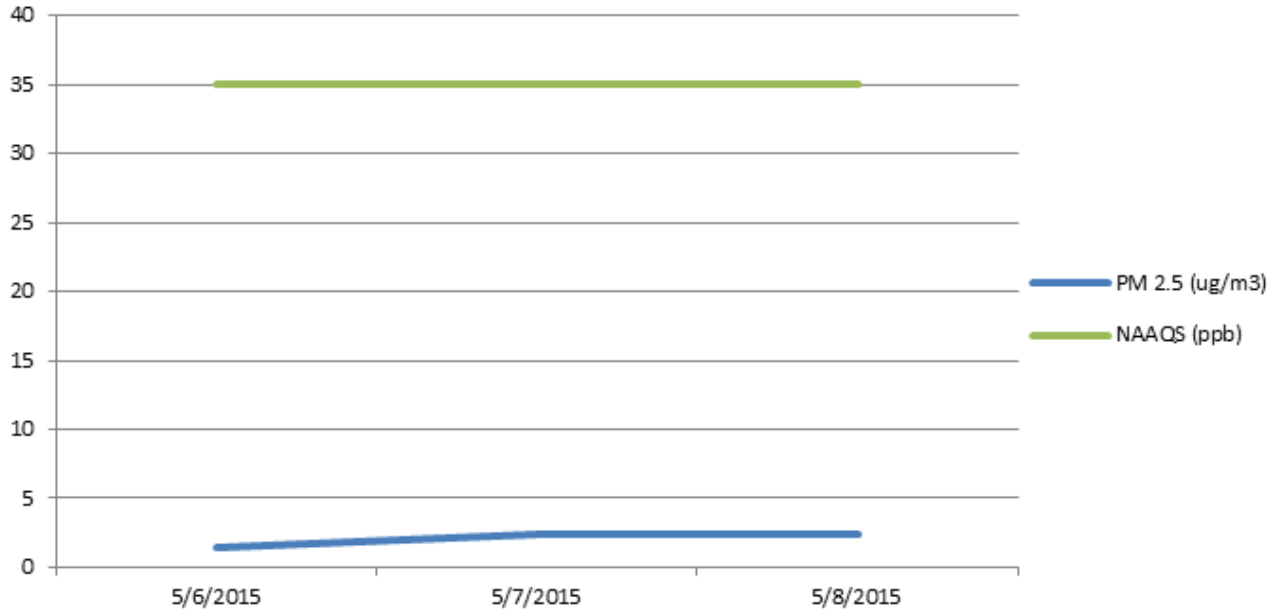
CAMP MINDEN CENTRAL/S-LINE – 3 HOUR AVERAGES SO2 (ppb)



CAMP MINDEN CENTRAL / S-LINE - 1 Minute Averages SO2 (ppb)



**CAMP MINDEN CENTRAL/S-LINE – 24 HOUR AVERAGES
PM 2.5 (ug/m3)**



**CAMP MINDEN CENTRAL / S-LINE - 1 Hour Averages
PM 2.5 (ug/m3)**

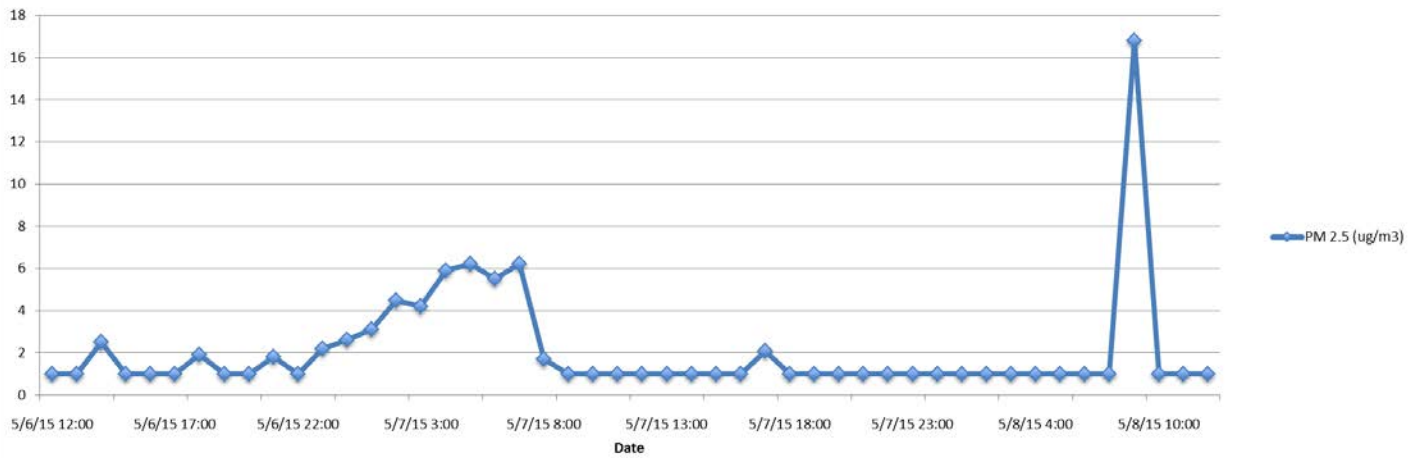


Table 2
Soil Analytical Results
Camp Minden
Camp Minden - Explo Baseline Study

| Station | | | | OA01 | OA02 | OA03 | OA04 | OSN | SL01 | SL01 | SL01 |
|-----------------------------------|------------|----------|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------|
| Date | | | | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 14/2015 | 5/13 & 14/2015 | 5/13/2015 | 5/14/2015 |
| Type | | | | FS | FS | FS | FS | FS | FS | DUP | FS |
| Analyte | CAS.NO | Units | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dioxin TEQ | | | | | | | | | | | |
| TEQ WHO2005 ND=0 | 3333-30-0 | ng/kg | -- | 1.21 | 1.79 | 2.32 | 0.0863 | 0.624 | 42.2 | 106 | NS |
| TEQ WHO2005 ND=0.5 | 3333-30-1 | ng/kg | -- | 2.91 | 3.43 | 4.07 | 1.78 | 2.33 | 42.3 | 109 | NS |
| Dioxin/Furans | | | | | | | | | | | |
| 1,2,3,4,6,7,8,9-OCDD | 3268-87-9 | ng/kg | -- | 1630 | 4200 J | 6030 J | 175 | 1540 | 9990 J | 21000 J | NS |
| 1,2,3,4,6,7,8,9-OCDF | 39001-02-0 | ng/kg | -- | 9.15 | 9.08 U | 9.25 U | 8.94 U | 5.41 J | 432 | 1060 | NS |
| 1,2,3,4,6,7,8-HpCDD | 35822-46-9 | ng/kg | -- | 40.2 | 36.8 | 51.4 | 3.37 J | 14.5 | 1250 | 3140 | NS |
| 1,2,3,4,6,7,8-HpCDF | 67562-39-4 | ng/kg | -- | 4.35 J | 4.54 U | 4.63 U | 4.47 U | 1.63 J | 330 | 774 | NS |
| 1,2,3,4,7,8,9-HpCDF | 55673-89-7 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 15.2 | 33.9 | NS |
| 1,2,3,4,7,8-HxCDD | 39227-28-6 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 21.9 | 55.1 | NS |
| 1,2,3,4,7,8-HxCDF | 70648-26-9 | ng/kg | -- | 4.56 U | 1.58 J | 4.63 U | 4.47 U | 4.53 U | 18.1 | 46.8 | NS |
| 1,2,3,6,7,8-HxCDD | 57653-85-7 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 51.4 | 146 | NS |
| 1,2,3,6,7,8-HxCDF | 57117-44-9 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 9.2 | 25.4 | NS |
| 1,2,3,7,8,9-HxCDD | 19408-74-3 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 49.6 | 133 | NS |
| 1,2,3,7,8,9-HxCDF | 72918-21-9 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 1.83 J | 22.9 U | NS |
| 1,2,3,7,8-PeCDD | 40321-76-4 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 6.24 | 16.7 J | NS |
| 1,2,3,7,8-PeCDF | 57117-41-6 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 4.55 U | 22.9 U | NS |
| 2,3,4,6,7,8-HxCDF | 60851-34-5 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 11.7 | 30.1 | NS |
| 2,3,4,7,8-PeCDF | 57117-31-4 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 1.52 J | 22.9 U | NS |
| 2,3,7,8-TCDD | 1746-01-6 | ng/kg | -- | 0.912 U | 0.908 U | 0.925 U | 0.894 U | 0.906 U | 0.911 U | 4.57 U | NS |
| 2,3,7,8-TCDF | 51207-31-9 | ng/kg | -- | 3.02 | 0.908 U | 0.925 U | 0.894 U | 0.906 U | 0.911 U | 4.57 U | NS |
| Total Heptachlorodibenzofuran | 38998-75-3 | ng/kg | -- | 10.4 | 1.67 J | 4.63 U | 4.47 U | 5.38 | 762 | 1810 | NS |
| Total Heptachlorodibenzo-p-dioxin | 37871-00-4 | ng/kg | -- | 98.5 | 86.9 | 123 | 8.76 | 31.9 | 2240 J | 5500 | NS |
| Total Hexachlorodibenzofuran | 55684-94-1 | ng/kg | -- | 3.02 J | 1.58 J | 4.63 U | 4.47 U | 4.53 U | 302 | 754 | NS |
| Total Hexachlorodibenzo-p-dioxin | 34465-46-8 | ng/kg | -- | 12.6 | 6.14 | 8.09 | 4.47 U | 3.26 J | 397 | 1120 | NS |
| Total Pentachlorodibenzofuran | 30402-15-4 | ng/kg | -- | 2.07 J | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 37 | 92.3 | NS |
| Total Pentachlorodibenzo-p-dioxin | 36088-22-9 | ng/kg | -- | 4.56 U | 4.54 U | 4.63 U | 4.47 U | 4.53 U | 25.7 | 55.1 | NS |
| Total Tetrachlorodibenzofuran | 30402-14-3 | ng/kg | -- | 17.6 | 0.908 U | 0.674 J | 0.463 J | 0.906 U | 3.34 | 4.32 J | NS |
| Total Tetrachlorodibenzo-p-dioxin | 41903-57-5 | ng/kg | -- | 0.912 U | 0.908 U | 0.925 U | 0.894 U | 0.906 U | 0.448 J | 1.63 J | NS |
| pH | | | | | | | | | | | |
| pH | C-006 | pH Units | -- | 6.6 | 6 | 5.3 | 6.1 | 7.2 | 5.6 | 5.4 | NS |
| SVOCs | | | | | | | | | | | |
| 2,4-Dinitrotoluene | 121-14-2 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| 2,6-Dinitrotoluene | 606-20-2 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| 2-Methylnaphthalene | 91-57-6 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Acenaphthene | 83-32-9 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Acenaphthylene | 208-96-8 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Anthracene | 120-12-7 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Benzo (a) anthracene | 56-55-3 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Benzo (a) pyrene | 50-32-8 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Benzo (b) fluoranthene | 205-99-2 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 389 | NS |
| Benzo (g,h,i) perylene | 191-24-2 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |



Table 2
Soil Analytical Results
Camp Minden
Camp Minden - Explo Baseline Study

| Station | | | | OA01 | OA02 | OA03 | OA04 | OSN | SL01 | SL01 | SL01 |
|---------------------------------------|------------------|-------|----|----------------|----------------|----------------|----------------|----------------|----------------|-----------|-----------|
| Date | | | | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 14/2015 | 5/13 & 14/2015 | 5/13/2015 | 5/14/2015 |
| Type | | | | FS | FS | FS | FS | FS | FS | DUP | FS |
| Analyte | CAS.NO | Units | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo (k) fluoranthene | 207-08-9 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 345 | NS |
| Chrysene | 218-01-9 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 278 | NS |
| Dibenz (a,h) anthracene | 53-70-3 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Di-n-butyl phthalate | 84-74-2 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Fluoranthene | 206-44-0 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Fluorene | 86-73-7 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Indeno (1,2,3-cd) pyrene | 193-39-5 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Naphthalene | 91-20-3 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| N-Nitrosodiphenylamine/Diphenylamine | 86-30-6/122-39-4 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Phenanthrene | 85-01-8 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| Pyrene | 129-00-0 | µg/Kg | -- | 250 U | 284 U | 261 U | 247 U | 214 U | 215 U | 222 U | NS |
| TCLP Metals | | | | | | | | | | | |
| Arsenic | 7440-38-2 | mg/L | -- | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | NS |
| Barium | 7440-39-3 | mg/L | -- | 1.62 | 0.81 | 1.32 | 1.04 | 0.84 | 1.38 | 1.2 | NS |
| Cadmium | 7440-43-9 | mg/L | -- | 10.6 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | NS |
| Chromium | 7440-47-3 | mg/L | -- | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | NS |
| Lead | 7439-92-1 | mg/L | -- | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | NS |
| Selenium | 7782-49-2 | mg/L | -- | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | NS |
| Silver | 7440-22-4 | mg/L | -- | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | NS |
| VOCs | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,1,2-Trichloroethane | 79-00-5 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,1-Dichloroethane | 75-34-3 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,1-Dichloroethene | 75-35-4 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,2-Dibromoethane | 106-93-4 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,2-Dichlorobenzene | 95-50-1 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,2-Dichloroethane | 107-06-2 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,2-Dichloropropane | 78-87-5 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,3-Dichlorobenzene | 541-73-1 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 1,4-Dichlorobenzene | 106-46-7 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 2-Butanone | 78-93-3 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 2-Hexanone | 591-78-6 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| 4-Methyl-2-pentanone | 108-10-1 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Acetone | 67-64-1 | µg/Kg | -- | 9 B | 19.1 U | 8.6 B | 31.9 B | 10.8 B, J | NS | NS | 22.9 B, J |
| Benzene | 71-43-2 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Bromodichloromethane | 75-27-4 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Bromoform | 75-25-2 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Bromomethane | 74-83-9 | µg/Kg | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |



Table 2
Soil Analytical Results
Camp Minden
Camp Minden - Explo Baseline Study

| Analyte | CAS.NO | Units | Type | Station | OA01 | OA02 | OA03 | OA04 | OSN | SL01 | SL01 | SL01 |
|---------------------------|------------------|--------------|-----------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|-----------|-----------|
| | | | | Date | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 18/2015 | 5/13 & 14/2015 | 5/13 & 14/2015 | 5/13/2015 | 5/14/2015 |
| | | | | FS | FS | FS | FS | FS | FS | DUP | FS | |
| Carbon disulfide | 75-15-0 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Carbon tetrachloride | 56-23-5 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Chlorobenzene | 108-90-7 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Chloroethane | 75-00-3 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Chloroform | 67-66-3 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Chloromethane | 74-87-3 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| cis-1,2-Dichloroethene | 156-59-2 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| cis-1,3-Dichloropropene | 10061-01-5 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Cyclohexane | 110-82-7 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Dibromochloromethane | 124-48-1 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Dichlorodifluoromethane | 75-71-8 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Ethylbenzene | 100-41-4 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Isopropylbenzene | 98-82-8 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| meta-/para-Xylene | na | µg/Kg | -- | -- | 8.1 U | 19.1 U | 8.3 U | 9 U | 8.6 U | NS | NS | 12.6 U |
| Methyl acetate | 79-20-9 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Methyl tert-butyl ether | 1634-04-4 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Methylcyclohexane | 108-87-2 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Methylene chloride | 75-09-2 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| ortho-Xylene | 95-47-6 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Styrene | 100-42-5 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Tetrachloroethene | 127-18-4 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Toluene | 108-88-3 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| trans-1,2-Dichloroethene | 156-60-5 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| trans-1,3-Dichloropropene | 10061-02-6 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Trichloroethene | 79-01-6 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Trichlorofluoromethane | 75-69-4 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Vinyl chloride | 75-01-4 | µg/Kg | -- | -- | 4 U | 9.5 U | 4.1 U | 4.5 U | 4.3 U | NS | NS | 6.3 U |
| Xylenes (total) | 1330-20-7 | µg/Kg | -- | -- | 0 | 0 | 0 | 0 | 0 | NS | NS | 0 |

Notes:

ng/kg - nanograms per kilogram

µg/kg - micrograms per kilogram

FS - Field Sample

DUP - Field Duplicate Sample

DUP - Field Duplicate Sample

FS - Field Sample

NS - No sample collected for that analysis group on that day

TEQ - Toxicity Equivalency Quotient calculated based on 2005 World Health Organization (WHO) dioxin toxicity equivalency factors (TEF).

J - Estimated value

U - Below detection limit

Bolded values denote detections



Table 3
Air Analytical Results - Dioxin/Furans
Camp Minden
Camp Minden - Explo Baseline

| Station | | | | Camp Minden North | | Camp Minden Central / S-Line |
|-----------------------------|------------|-------|----|-----------------------|------------------------|------------------------------|
| Date | | | | 5/9/2015 | 5/9/2015 | 5/8/2015 |
| Type | | | | FS | DUP | FS |
| Analyte | CAS.NO | Units | -- | -- | -- | -- |
| TEQ Calculation 2005 | | | | | | |
| TEQ (Dioxin) ND = DL | 1746-01-6 | pg/m3 | -- | 0.006617549207 | 0.0056941891403 | 0.0066424603714 |
| TEQ (Dioxin) ND = 0 | 1746-01-6 | pg/m3 | -- | 0.001886655917 | 0.0024314503303 | 0.0020242577414 |
| TEQ (Dioxin) ND = DL/2 | 1746-01-6 | pg/m3 | -- | 0.004252102562 | 0.0040628197353 | 0.0043333590564 |
| Dioxins/Furans | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 35822-46-9 | pg/m3 | -- | 0.035666398 J | 0.011757688 J | 0.030044661 J |
| 1,2,3,4,6,7,8-HpCDF | 67562-39-4 | pg/m3 | -- | 0.011276482 J | 0.009822375 J | 0.011747192 J |
| 1,2,3,4,7,8,9-HpCDF | 55673-89-7 | pg/m3 | | 0.001555377 U | 0.000823171 U | 0.00120314 U |
| 1,2,3,4,7,8-HxCDD | 39227-28-6 | pg/m3 | | 0.001903996 U | 0.001816013 U | 0.001583435 U |
| 1,2,3,4,7,8-HxCDF | 70648-26-9 | pg/m3 | | 0.002413516 J | 0.002081124 J | 0.002327785 J |
| 1,2,3,6,7,8-HxCDD | 57653-85-7 | pg/m3 | | 0.003968892 J | 0.002014846 U | 0.002963865 J |
| 1,2,3,6,7,8-HxCDF | 57117-44-9 | pg/m3 | | 0.002279431 J | 0.002372747 J | 0.002639058 J |
| 1,2,3,7,8,9-HxCDD | 19408-74-3 | pg/m3 | | 0.001971038 U | 0.001882291 U | 0.002598457 J |
| 1,2,3,7,8,9-HxCDF | 72918-21-9 | pg/m3 | | 0.001128989 U | 0.000811241 U | 0.000955474 U |
| 1,2,3,7,8-PeCDD | 40321-76-4 | pg/m3 | | 0.001903996 U | 0.001471368 U | 0.002084179 U |
| 1,2,3,7,8-PeCDF | 57117-41-6 | pg/m3 | | 0.002346474 U | 0.00269088 J | 0.002611991 U |
| 2,3,4,6,7,8-HxCDF | 60851-34-5 | pg/m3 | | 0.002105122 J | 0.001842524 J | 0.002327785 J |
| 2,3,4,7,8-PeCDF | 57117-31-4 | pg/m3 | | 0.00237329 U | 0.002982503 J | 0.002652592 U |
| 2,3,7,8-TCDD | 1746-01-6 | pg/m3 | | 0.00152856 U | 0.0011307 U | 0.001393964 U |
| 2,3,7,8-TCDF | 51207-31-9 | pg/m3 | | 0.002855994 J | 0.00595175 J | 0.002828529 J |
| OCDD | 3268-87-9 | pg/m3 | | 0.171627782 | 0.044671262 J | 0.116524564 J |
| OCDF | 39001-02-0 | pg/m3 | | 0.011477608 J | 0.006521739 J | 0.009446474 J |
| Total HpCDD | 37871-00-4 | pg/m3 | | 0.072271386 | 0.031680806 J | 0.081743132 |
| Total HpCDF | 38998-75-3 | pg/m3 | | 0.022526146 J | 0.014316013 J | 0.018270402 J |
| Total HxCDD | 34465-46-8 | pg/m3 | | 0.028157683 J | 0.018160127 J | 0.04181892 J |
| Total HxCDF | 55684-94-1 | pg/m3 | | 0.042772861 J | 0.036717922 J | 0.044119637 J |
| Total PeCDD | 36088-22-9 | pg/m3 | | 0.006717619 J | 0.01016702 J | 0.023683854 J |
| Total PeCDF | 30402-15-4 | pg/m3 | | 0.045454545 J | 0.073700954 | 0.084585194 |
| Total TCDD | 41903-57-5 | pg/m3 | | 0.012805042 J | 0.018160127 | 0.012884017 J |
| Total TCDF | 55722-27-5 | pg/m3 | | 0.062349155 | 0.132025451 | 0.11408851 |

Notes:

pg/m3 - picograms per cubic meter

Bolded values denote detections

DUP - Field Duplicate Sample

FS - Field Sample

J - Estimated concentration, detected between the sample detection limit (SDL) and the practical quantitation limit (PQL).

NA - Not Analyzed

NP - Limit Not Published

TEQ - Toxicity Equivalency Quotient calculated based on 2005 World Health Organization (WHO) dioxin toxicity equivalency factors (TEF).

U - Not detected above the indicated detection limit.



Table 4
Air Analytical Results - SVOCs and Particulates
Camp Minden
Camp Minden - Explo Baseline

| Station | | | | Camp Minden North | | | Camp Minden Central / S-Line | | |
|--|----------|-------|----|-------------------|-------------|---------------|------------------------------|---------------|---------------|
| Date | | | | 5/8/2015 | 5/8/2015 | 5/9/2015 | 5/7/2015 | 5/7/2015 | 5/8/2015 |
| Type | | | | FS | DUP | FS | FS | DUP | FS |
| Analyte | CAS.NO | Units | -- | -- | -- | -- | -- | -- | -- |
| Semi-volatile Organic Compounds | | | | | | | | | |
| 2,4-Dinitrotoluene | 121-14-2 | µg/m3 | -- | 0.0067 U | NS | 0.015 U | 0.015 U | 0.014 U | 0.015 U |
| 2,6-Dinitrotoluene | 606-20-2 | µg/m3 | -- | 0.0067 U | NS | 0.015 U | 0.015 U | 0.014 U | 0.015 U |
| 2-Chloronaphthalene | 91-58-7 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| 2-Methylnaphthalene | 91-57-6 | µg/m3 | -- | 0.022 | NS | 0.013 | 0.0082 | 0.0072 | 0.0041 |
| Acenaphthene | 83-32-9 | µg/m3 | -- | 0.022 | NS | 0.014 | 0.0048 | 0.0035 | 0.0029 U |
| Acenaphthylene | 208-96-8 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Anthracene | 120-12-7 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Benzo(a)anthracene | 56-55-3 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Benzo(a)pyrene | 50-32-8 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Benzo(b)fluoranthene | 205-99-2 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Benzo(g,h,i)perylene | 191-24-2 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Benzo(k)fluoranthene | 207-08-9 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Chrysene | 218-01-9 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Dibenz(a,h)anthracene | 53-70-3 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| di-n-Butylphthalate | 84-74-2 | µg/m3 | -- | 0.063 | NS | 0.062 U | 0.059 U | 0.055 U | 0.059 U |
| Diphenylamine | 122-39-4 | µg/m3 | -- | 0.013 U | NS | 0.031 U | 0.029 U | 0.028 U | 0.029 U |
| Fluoranthene | 206-44-0 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Fluorene | 86-73-7 | µg/m3 | -- | 0.013 | NS | 0.0092 | 0.0042 | 0.003 | 0.0029 U |
| Indeno(1,2,3-c,d)pyrene | 193-39-5 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Naphthalene | 91-20-3 | µg/m3 | -- | 0.02 | NS | 0.012 | 0.013 | 0.012 | 0.0066 |
| Phenanthrene | 85-01-8 | µg/m3 | -- | 0.017 | NS | 0.013 | 0.0089 | 0.0065 | 0.0059 |
| Pyrene | 129-00-0 | µg/m3 | -- | 0.0013 U | NS | 0.0031 U | 0.0029 U | 0.0028 U | 0.0029 U |
| Particulates | | | | | | | | | |
| PM10 | PM10 | µg/m3 | -- | 14.2 | NS | 18.4 | 20.3 | 20.8 | 13 |
| PM2.5 | PM2.5 | µg/m3 | -- | 6.96 | 6.62 | 10.3 | 11.4 | NS | 6.8 |

Notes:

µg/m3 - micrograms per cubic meter

Bolded values denote detections

DUP - Field Duplicate Sample

FS - Field Sample

NS - No sample collected for that analysis group on that day

U - Not detected above the indicated detection limit.



Table 5
Air Analytical Results - VOCs
Camp Minden
Camp Minden - Explo Baseline

| | | | | Station | | Camp Minden Central / S-Line | | |
|----------------------------------|------------|-------|----|-------------------|----------|------------------------------|----------|----------|
| | | | | Camp Minden North | | | | |
| Date | | | | 5/8/2015 | 5/9/2015 | 5/7/2015 | 5/7/2015 | 5/8/2015 |
| Type | | | | FS | FS | FS | DUP | FS |
| Analyte | CAS.NO | Units | -- | -- | -- | -- | -- | -- |
| VOCs | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | µg/m3 | -- | 5.3 U | 4.5 U | 4.4 U | 4 U | 4.8 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | µg/m3 | -- | 6.7 U | 5.7 U | 5.5 U | 5 U | 6 U |
| 1,1,2-Trichloroethane | 79-00-5 | µg/m3 | -- | 5.3 U | 4.5 U | 4.4 U | 4 U | 4.8 U |
| 1,1-Dichloroethane | 75-34-3 | µg/m3 | -- | 3.9 U | 3.4 U | 3.2 U | 3 U | 3.5 U |
| 1,1-Dichloroethene | 75-35-4 | µg/m3 | -- | 3.9 U | 3.3 U | 3.2 U | 2.9 U | 3.5 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | µg/m3 | -- | 29 U | 25 U | 24 U | 22 U | 26 U |
| 1,2,4-Trimethylbenzene | 95-63-6 | µg/m3 | -- | 4.8 U | 4.1 U | 3.9 U | 3.6 U | 4.3 U |
| 1,2-Dibromoethane (EDB) | 106-93-4 | µg/m3 | -- | 7.5 U | 6.4 U | 6.1 U | 5.6 U | 6.7 U |
| 1,2-Dichlorobenzene | 95-50-1 | µg/m3 | -- | 5.9 U | 5 U | 4.8 U | 4.4 U | 5.3 U |
| 1,2-Dichloroethane | 107-06-2 | µg/m3 | -- | 3.9 U | 3.4 U | 3.2 U | 3 U | 3.5 U |
| 1,2-Dichloropropane | 78-87-5 | µg/m3 | -- | 4.5 U | 3.8 U | 3.7 U | 3.4 U | 4 U |
| 1,3,5-Trimethylbenzene | 108-67-8 | µg/m3 | -- | 4.8 U | 4.1 U | 3.9 U | 3.6 U | 4.3 U |
| 1,3-Butadiene | 106-99-0 | µg/m3 | -- | 2.2 U | 1.8 U | 1.8 U | 1.6 U | 1.9 U |
| 1,3-Dichlorobenzene | 541-73-1 | µg/m3 | -- | 5.9 U | 5 U | 4.8 U | 4.4 U | 5.3 U |
| 1,4-Dichlorobenzene | 106-46-7 | µg/m3 | -- | 5.9 U | 5 U | 4.8 U | 4.4 U | 5.3 U |
| 1,4-Dioxane | 123-91-1 | µg/m3 | -- | 14 U | 12 U | 12 U | 10 U | 13 U |
| 2,2,4-Trimethylpentane | 540-84-1 | µg/m3 | -- | 4.6 U | 3.9 U | 3.7 U | 3.4 U | 4.1 U |
| 2-Butanone (Methyl Ethyl Ketone) | 78-93-3 | µg/m3 | -- | 12 U | 9.8 U | 9.4 U | 8.7 U | 10 U |
| 2-Hexanone | 591-78-6 | µg/m3 | -- | 16 U | 14 U | 13 U | 12 U | 14 U |
| 2-Propanol | 67-63-0 | µg/m3 | -- | 9.6 U | 8.2 U | 7.9 U | 7.2 U | 8.6 U |
| 3-Chloropropene | 107-05-1 | µg/m3 | -- | 12 U | 10 U | 10 U | 9.2 U | 11 U |
| 4-Ethyltoluene | 622-96-8 | µg/m3 | -- | 4.8 U | 4.1 U | 3.9 U | 3.6 U | 4.3 U |
| 4-Methyl-2-pentanone | 108-10-1 | µg/m3 | -- | 4 U | 3.4 U | 3.3 U | 3 U | 3.6 U |
| Acetone | 67-64-1 | µg/m3 | -- | 23 U | 20 U | 19 U | 25 | 21 U |
| alpha-Chlorotoluene | 100-44-7 | µg/m3 | -- | 5 U | 4.3 U | 4.1 U | 3.8 U | 4.5 U |
| Benzene | 71-43-2 | µg/m3 | -- | 3.1 U | 2.6 U | 2.6 U | 2.3 U | 2.8 U |
| Bromodichloromethane | 75-27-4 | µg/m3 | -- | 6.5 U | 5.6 U | 5.4 U | 4.9 U | 5.9 U |
| Bromoform | 75-25-2 | µg/m3 | -- | 10 U | 8.6 U | 8.3 U | 7.6 U | 9 U |
| Bromomethane | 74-83-9 | µg/m3 | -- | 38 U | 32 U | 31 U | 28 U | 34 U |
| Carbon Disulfide | 75-15-0 | µg/m3 | -- | 12 U | 10 U | 10 U | 9.2 U | 11 U |
| Carbon Tetrachloride | 56-23-5 | µg/m3 | -- | 6.1 U | 5.2 U | 5 U | 4.6 U | 5.5 U |
| Chlorobenzene | 108-90-7 | µg/m3 | -- | 4.5 U | 3.8 U | 3.7 U | 3.4 U | 4 U |
| Chloroethane | 75-00-3 | µg/m3 | -- | 10 U | 8.8 U | 8.4 U | 7.8 U | 9.2 U |
| Chloroform | 67-66-3 | µg/m3 | -- | 4.8 U | 4 U | 3.9 U | 3.6 U | 4.3 U |
| Chloromethane | 74-87-3 | µg/m3 | -- | 20 U | 17 U | 16 U | 15 U | 18 U |
| cis-1,2-Dichloroethene | 156-59-2 | µg/m3 | -- | 3.9 U | 3.3 U | 3.2 U | 2.9 U | 3.5 U |
| cis-1,3-Dichloropropene | 10061-01-5 | µg/m3 | -- | 4.4 U | 3.8 U | 3.6 U | 3.3 U | 4 U |
| Cumene | 98-82-8 | µg/m3 | -- | 4.8 U | 4.1 U | 3.9 U | 3.6 U | 4.3 U |
| Cyclohexane | 110-82-7 | µg/m3 | -- | 3.4 U | 2.8 U | 2.8 U | 2.5 U | 3 U |
| Dibromochloromethane | 124-48-1 | µg/m3 | -- | 8.3 U | 7.1 U | 6.8 U | 6.3 U | 7.4 U |
| Ethanol | 64-17-5 | µg/m3 | -- | 7.3 U | 6.2 U | 6 U | 5.5 U | 6.6 U |
| Ethyl Benzene | 100-41-4 | µg/m3 | -- | 4.2 U | 3.6 U | 3.5 U | 3.2 U | 3.8 U |
| Freon 11 | 75-69-4 | µg/m3 | -- | 5.5 U | 4.7 U | 4.5 U | 4.1 U | 4.9 U |
| Freon 113 | 76-13-1 | µg/m3 | -- | 7.5 U | 6.4 U | 6.1 U | 5.6 U | 6.7 U |
| Freon 114 | 76-14-2 | µg/m3 | -- | 6.8 U | 5.8 U | 5.6 U | 5.1 U | 6.1 U |



Table 5
Air Analytical Results - VOCs
Camp Minden
Camp Minden - Explo Baseline

| | | | | Station | | Camp Minden Central / S-Line | | | |
|---------------------------|-------------------|-------|----|-------------------|-----------|------------------------------|----------|----------|----------|
| | | | | Camp Minden North | | | | | |
| | | | | Date | 5/8/2015 | 5/9/2015 | 5/7/2015 | 5/7/2015 | 5/8/2015 |
| | | | | Type | FS | FS | FS | DUP | FS |
| Analyte | CAS.NO | Units | -- | -- | -- | -- | -- | -- | -- |
| Freon 12 | 75-71-8 | µg/m3 | -- | 4.8 U | 4.1 U | 4 U | 3.6 U | 4.3 U | |
| Heptane | 142-82-5 | µg/m3 | -- | 4 U | 3.4 U | 3.3 U | 3 U | 3.6 U | |
| Hexachlorobutadiene | 87-68-3 | µg/m3 | -- | 42 U | 35 U | 34 U | 31 U | 37 U | |
| Hexane | 110-54-3 | µg/m3 | -- | 3.4 U | 26 | 2.8 U | 2.6 U | 3.1 U | |
| m,p-Xylene | 108-38-3/106-42-3 | µg/m3 | -- | 4.2 U | 3.6 U | 3.5 U | 3.2 U | 3.8 U | |
| Methyl tert-butyl ether | 1634-04-4 | µg/m3 | -- | 3.5 U | 3 U | 2.9 U | 2.6 U | 3.2 U | |
| Methylene Chloride | 75-09-2 | µg/m3 | -- | 34 U | 29 U | 28 U | 26 U | 30 U | |
| o-Xylene | 95-47-6 | µg/m3 | -- | 4.2 U | 3.6 U | 3.5 U | 3.2 U | 3.8 U | |
| Propylbenzene | 103-65-1 | µg/m3 | -- | 4.8 U | 4.1 U | 3.9 U | 3.6 U | 4.3 U | |
| Styrene | 100-42-5 | µg/m3 | -- | 4.2 U | 3.5 U | 3.4 U | 3.1 U | 3.7 U | |
| Tetrachloroethene | 127-18-4 | µg/m3 | -- | 6.6 U | 5.6 U | 5.4 U | 5 U | 5.9 U | |
| Tetrahydrofuran | 109-99-9 | µg/m3 | -- | 2.9 U | 2.4 U | 2.4 U | 2.2 U | 2.6 U | |
| Toluene | 108-88-3 | µg/m3 | -- | 3.7 U | 3.1 U | 3 U | 2.8 U | 3.3 U | |
| trans-1,2-Dichloroethene | 156-60-5 | µg/m3 | -- | 3.9 U | 3.3 U | 3.2 U | 2.9 U | 3.5 U | |
| trans-1,3-Dichloropropene | 10061-02-6 | µg/m3 | -- | 4.4 U | 3.8 U | 3.6 U | 3.3 U | 4 U | |
| Trichloroethene | 79-01-6 | µg/m3 | -- | 5.2 U | 4.5 U | 4.3 U | 4 U | 4.7 U | |
| Vinyl Chloride | 75-01-4 | µg/m3 | -- | 2.5 U | 2.1 U | 2 U | 1.9 U | 2.2 U | |

Notes:

µg/m3 - micrograms per cubic meter

Bolded values denote detections

DUP - Field Duplicate Sample

FS - Field Sample

U - Not detected above the indicated detection limit.



Toxicology Summary – Camp Minden

Soil Results

The EPA collected soil samples collected from three locations located on Camp Minden. The soil samples were analyzed for the presence of volatile organic chemicals (VOCs), semivolatile organic chemicals (SVOCs) and dioxin/furans. Analytical results were compared to the Regional Screening Level (RSL) and the Preliminary Remediation Goal (PRG) for residential and industrial soils. The results indicated that VOCs did not exceed the comparison levels.

The results indicated that dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) Toxicity Equivalence (TEQ)) did not exceed the noncarcinogenic screening level for residential and industrial soil, but did exceed the carcinogenic screening level for both residential and industrial soils at one location Camp Minden Central S- Line [both field sample and duplicate SL 5/13 & 14/2015 FS/ SL 5/14/2015 DUP. The noncancer RSL for 2,3,7,8-TCDD is a concentration of 50 ng/kg or parts per trillion (PPT) for residential land use and 720 ng/kg for industrial land use, and the carcinogenic RSL for 2,3,7,8-TCDD RSL is 4.9 ng/kg for residential land use and 22 ng/kg for industrial land use. The noncancer RSL for dioxin in soil typically is used as the preliminary remediation goal (PRG) for Superfund site decisions.

| | | |
|--------------------|--------------------|-------------------------|
| SL 5/13&14/2015 FS | Camp Minden S-Line | 42.3 ng/kg (TEQ ND=0.5) |
|--------------------|--------------------|-------------------------|

| | | |
|------------------|--------------------|------------------------|
| SL 5/14/2015 DUP | Camp Minden S-Line | 109 ng/kg (TEQ ND=0.5) |
|------------------|--------------------|------------------------|

In addition, some dioxin levels may be reflective of background values in the Camp Minden area. A comprehensive evaluation identified 18 studies with data on dioxin background levels in both rural and urban areas. The data from this evaluation found that TEQ concentrations in background rural soils ranged from 0.1 to 22.9 ng/kg, while mean rural TEQ concentrations ranged from 1.1 to 7.1 ng/kg and that the concentration in urban and suburban soils were substantially higher and more variable than those in rural soils, with TEQ concentrations ranging from 0.1 to 186.2 ng/kg. The range of the mean TEQ concentrations in urban/suburban soils was also substantially higher and range from 2.2 to 56.6 ng/kg” (Urban et al, 2013).

One soil sample that exceeded the residential screening value for the benzo(b)fluoranthene but it did not exceed the industrial screening value. The RSL for benzo(b)fluoranthene is 150 µg/kg for residential land use and 2,900 µg/kg for industrial land use. Benzo(b)fluoranthene was only detected in the duplicate sample at the Camp Minden S-Line location. This area is an industrial area and did not exceed the industrial screening value. There were no other chemicals detected in soil that exceeded the RSLs.

| | | |
|------------------|--------------------|-----------|
| SL 5/14/2015 DUP | Camp Minden S-Line | 389 µg/kg |
|------------------|--------------------|-----------|

Air Monitoring/Sampling Data

The EPA did air monitoring and sampling at eight locations located on or near Camp Minden. Analytical results were compared to the National Ambient Air Quality Standards (NAAQS) air quality standards as well as the Regional Screening Level (RSL). The air monitoring and analytical data did not exceed the comparison values.

Reference

Urban, J.D, Wikoff, D.S, Bunch, A.T, Harris, M.A., Haws, L.C. 2013. A review of background dioxin concentrations in urban/suburban and rural soils across the United States: Implications for site assessment and the establishment of soil cleanup levels. *Science of the Total Environment*, 466-467.