BAE SYSTEMS

ORDNANCE SYSTEMS INC.
Radford Army Ammunition Plant
4050 Pepper's Ferry Road
Radford Virginia 24141

April 2, 2015

Ms. Jutta Schneider, Program Manager
Office of Remediation Programs
Virginia Department of Environmental Quality
629 East Main Street
Richmond, Virginia 23219

**Subject: Annual Soil Monitoring Report – Rev 1**
**Final Permit for Treatment of Hazardous Waste at the Open Burning Ground**
**Radford Army Ammunition Plant, Radford, Virginia**
**EPA ID#: VA1210020730**

Dear Ms. Schneider:

Please find the attached revised Tables 2A and 2B, *Summary of Analytical Results for the Open Burning Ground (OBG)*, associated with the RFAAP OBG 2014 Annual Soil Monitoring Report. The tables were revised to reflect five target analytes inadvertently omitted on the previously submitted tables in the 2014 Annual Soil Monitoring Report for the unit. This revision does not change the conclusions in the 2014 report.

If you have any questions or concerns, please contact me at 540/639-7785 (jay.stewart@baesystems.com).

Sincerely,

Jay Stewart
Environmental Manager
BAE Systems, Ordnance Systems Inc.

Enclosure

c: Aziz Farahmand, VDEQ-BRRO
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15-0900-061

Concerning the following:

*CY 2014 Annual Soil Monitoring Report*
*Open Burning Ground*
*Radford Army Ammunition Plant, Radford, Virginia*
*EPA ID#: VA1210020730*

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

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SIGNATURE: _____

PRINTED NAME: William M. Barnett
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# Table 2A - Summary of Analytical Results
# Open Burning Ground - Soil Monitoring Program

**All Results Reported on a Dry Weight Basis**

| Event Date | PAD-1 | Q | PAD-2 | Q | PAD-3 | Q | PAD-4 | Q | PAD-5 | Q | PAD-6 | Q | PAD-7 | Q | PAD-8 | Q | POND-1 | Q | SB-1 | Q | SB-2 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1,1-Dichloroethene** | | | | | *CAS #: 75-35-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 1100 | 8260C | mg/kg |
| **1,2-Dichloroethane** | | | | | *CAS #: 107-06-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 2.2 | 8260C | mg/kg |
| **1,3,5-Trinitrobenzene** | | | | | *CAS #: 99-35-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 27000 | 8330B | mg/kg |
| **1,3-Dinitrobenzene** | | | | | *CAS #: 99-65-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 62 | 8330B | mg/kg |
| **2,4,6-Trinitrotoluene** | | | | | *CAS #: 118-96-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | 0.327 | J | U | | 0.527 | J | 0.25 | 79 | 8330B | mg/kg |
| **2,4-Dichlorophenol** | | | | | *CAS #: 120-83-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 1800 | 8270D | mg/kg |
| **2,4-Dinitrotoluene** | | | | | *CAS #: 121-14-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | 3.18 | | 0.433 | | U | | U | | U | | 2.28 | | U | | U | | 0.25 | 5.5 | 8330B | mg/kg |
| **2,6-Dinitrotoluene** | | | | | *CAS #: 606-20-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.418 | J | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 1.2 | 8330B | mg/kg |
| **2-Amino-4,6-Dinitrotoluene** | | | | | *CAS #: 35572-78-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | 0.25 | 2000 | 8330B | mg/kg |
| **2-Chlorophenol** | | | | | *CAS #: 95-57-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 5100 | 8270D | mg/kg |
| **2-Nitrotoluene** | | | | | *CAS #: 88-72-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 13 | 8330B | mg/kg |
| **3,3'-Dimethylbenzidine** | | | | | *CAS #: 119-93-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | AJ | U | AJ | U | AJ | U | AJ | U | AJ | U | AJ | U | AJ | U | AJ | - | | - | | - | | 1.6 | 0.16 | 8270D | mg/kg |
| **3-Methylphenol** | | | | | *CAS #: 108-39-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 31000 | 8270D | mg/kg |
| **3-Nitrotoluene** | | | | | *CAS #: 99-08-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 62 | 8330B | mg/kg |
| **4-Amino-2,6-Dinitrotoluene** | | | | | *CAS #: 19406-51-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | 0.25 | 1900 | 8330B | mg/kg |
| **4-Methylphenol** | | | | | *CAS #: 106-44-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 62000 | 8270D | mg/kg |
| **4-Nitrophenol** | | | | | *CAS #: 100-02-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 1.6 | 7 | 8270D | mg/kg |
| **4-Nitrotoluene** | | | | | *CAS #: 99-99-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 110 | 8330B | mg/kg |

*See last page of this report for definitions.*



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# *Table 2A - Summary of Analytical Results*
# *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| Event Date | PAD-1 | Q | PAD-2 | Q | PAD-3 | Q | PAD-4 | Q | PAD-5 | Q | PAD-6 | Q | PAD-7 | Q | PAD-8 | Q | POND-1 | Q | SB-1 | Q | SB-2 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Acetophenone** | | | | | *CAS #: 98-86-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 100000 | 8270D | mg/kg |
| **Arsenic** | | | | | *CAS #: 7440-38-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 1.4 | J | 2.2 | J | 1.2 | J | 2 | J | 1.6 | J | 0.88 | J | 1.9 | J | 1.4 | J | 1.7 | J | 2.1 | J | 2.2 | J | 1 | 15.8 | 6010C | mg/kg |
| **Barium** | | | | | *CAS #: 7440-39-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 89 | J | 120 | J | 92 | J | 140 | J | 140 | J | 92 | J | 100 | J | 80 | J | 92 | J | 100 | J | 120 | J | 20 | 190000 | 6010C | mg/kg |
| **Benzene** | | | | | *CAS #: 71-43-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 5.4 | 8260C | mg/kg |
| **Benzo(a)anthracene** | | | | | *CAS #: 56-55-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | 0.005 | J | U | | 0.027 | J | U | | U | | U | | U | | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzo(a)pyrene** | | | | | *CAS #: 50-32-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.02 | 0.21 | 8270D | mg/kg |
| **Benzo(b)fluoranthene** | | | | | *CAS #: 205-99-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzo(k)fluoranthene** | | | | | *CAS #: 207-08-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzyl Chloride** | | | | | *CAS #: 100-44-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | J | U | | U | | U | | U | | - | | - | | - | | 0.005 | 4.9 | 8260C | mg/kg |
| **bis(2-Ethylhexyl) phthalate** | | | | | *CAS #: 117-81-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.31 | | U | | 7.9 | | U | | U | | U | | U | | U | | U | | U | | 0.47 | | 0.33 | 120 | 8270D | mg/kg |
| **Bromomethane** | | | | | *CAS #: 74-83-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | 0.005 | 32 | 8260C | mg/kg |
| **Butyl benzyl phthalate** | | | | | *CAS #: 85-68-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 910 | 8270D | mg/kg |
| **Cadmium** | | | | | *CAS #: 7440-43-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.12 | J | 0.23 | J | 0.1 | J | 0.27 | J | 0.11 | J | 0.16 | J | 0.11 | J | 0.059 | J | 0.14 | J | 0.23 | J | 0.39 | J | 0.5 | 800 | 6010C | mg/kg |
| **Carbon Tetrachloride** | | | | | *CAS #: 56-23-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.005 | 3 | 8260C | mg/kg |
| **Chlorobenzene** | | | | | *CAS #: 108-90-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 1400 | 8260C | mg/kg |
| **Chloroform** | | | | | *CAS #: 67-66-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 1.5 | 8260C | mg/kg |
| **Chloromethane** | | | | | *CAS #: 74-87-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 500 | 8260C | mg/kg |
| **Chromium, hexavalent** | | | | | *CAS #: 18540-29-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | 0.74 | J | 2.4 | | U | | U | | 1.6 | | U | | U | | - | | - | | - | | 1 | 5.6 | 7196A | mg/kg |

*See last page of this report for definitions.*

## *Table 2A - Summary of Analytical Results*
## *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| Event Date | PAD-1 | Q | PAD-2 | Q | PAD-3 | Q | PAD-4 | Q | PAD-5 | Q | PAD-6 | Q | PAD-7 | Q | PAD-8 | Q | POND-1 | Q | SB-1 | Q | SB-2 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Chromium** | | | | | *CAS #: 7440-47-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 13 | J | 35 | J | 17 | J | 16 | J | 13 | J | 30 | J | 13 | J | 13 | J | 13 | J | 19 | J | 21 | J | 1 | | 6010C | mg/kg |
| **Dibenz(a,h)anthracene** | | | | | *CAS #: 53-70-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.02 | 0.21 | 8270D | mg/kg |
| **Diethyl phthalate** | | | | | *CAS #: 84-66-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | 0.42 | J | U | | 0.78 | J | 0.17 | J | U | | 0.36 | | U | | 0.51 | | 0.33 | 490000 | 8270D | mg/kg |
| **Dimethyl phthalate** | | | | | *CAS #: 131-11-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | 0.15 | J | U | | U | | U | | 0.33 | 10000000 | 8270D | mg/kg |
| **Di-n-butyl phthalate** | | | | | *CAS #: 84-74-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.32 | | 0.12 | J | 56 | | 1.1 | | 0.19 | | 20 | | 0.48 | J | 0.43 | | 0.4 | | U | | 2.4 | | 0.33 | 62000 | 8270D | mg/kg |
| **Fluoranthene** | | | | | *CAS #: 206-44-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | 0.005 | J | U | | 0.029 | J | 0.006 | J | 0.076 | J | 0.005 | J | 0.004 | J | - | | - | | - | | 0.33 | 22000 | 8270D | mg/kg |
| **Hexachloroethane** | | | | | *CAS #: 67-72-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 43 | 8270D | mg/kg |
| **HMX** | | | | | *CAS #: 2691-41-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | 0.836 | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | 2.2 | 49000 | 8330B | mg/kg |
| **Indeno(1,2,3-cd)pyrene** | | | | | *CAS #: 193-39-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Lead** | | | | | *CAS #: 7439-92-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 38 | J | 160 | J | 280 | J | 270 | J | 150 | J | 610 | J | 81 | J | 110 | J | 86 | J | 54 | J | 120 | J | 0.3 | 800 | 6010C | mg/kg |
| **Mercury** | | | | | *CAS #: 7439-97-6* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | 0.027 | J | 0.019 | J | U | | U | | - | | - | | - | | 0.1 | 43 | 7471A | mg/kg |
| **Methylene Chloride** | | | | | *CAS #: 75-09-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 960 | 8260C | mg/kg |
| **Naphthalene** | | | | | *CAS #: 91-20-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | 0.034 | J | 0.005 | J | U | | 0.007 | J | U | | - | | - | | - | | 0.33 | 18 | 8270D | mg/kg |
| **Nitrobenzene** | | | | | *CAS #: 98-95-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 24 | 8330B | mg/kg |
| **Nitroglycerin** | | | | | *CAS #: 55-63-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 23.1 | | 9.17 | | 174 | | 17.5 | | 11.1 | | 53.1 | | 20.2 | J | 13.2 | | 8.66 | | U | | U | | 2.5 | 62 | 8330B | mg/kg |
| **Diphenylamine** | | | | | *CAS #: 122-39-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.073 | J | U | J | 3.3 | J | 0.56 | J | 0.038 | J | 1.7 | J | 0.17 | J | 0.074 | J | 0.098 | J | U | J | 0.079 | J | 1.6 | 15000 | 8270D | mg/kg |
| **Perchlorate** | | | | | *CAS #: 14797-73-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | 0.00491 | J | 0.00756 | J | 0.00621 | J | 0.00181 | J | U | J | - | | - | | - | | 0.002 | 720 | 6850 | mg/kg |
| **Phenol** | | | | | *CAS #: 108-95-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 180000 | 8270D | mg/kg |

*See last page of this report for definitions.*



Draper Aden Associates
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## *Table 2A - Summary of Analytical Results*
## *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| *Event Date* | *PAD-1* | *Q* | *PAD-2* | *Q* | *PAD-3* | *Q* | *PAD-4* | *Q* | *PAD-5* | *Q* | *PAD-6* | *Q* | *PAD-7* | *Q* | *PAD-8* | *Q* | *POND-1* | *Q* | *SB-1* | *Q* | *SB-2* | *Q* | *RL* | *Action Limit* | *Method* | *Unit* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RDX** | | | | | *CAS #: 121-82-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | 5.28 | | U | | U | | U | | U | | - | | - | | - | | 1 | 24 | 8330B | mg/kg |
| **Selenium** | | | | | *CAS #: 7782-49-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | 0.41 | J | U | | U | | U | | U | | U | | U | | 1 | 5100 | 6010C | mg/Kg |
| **Silver** | | | | | *CAS #: 7440-22-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.11 | J | 0.29 | J | 0.14 | J | 0.15 | J | 0.11 | J | U | | U | | 0.11 | J | - | | - | | - | | 1 | 5100 | 6010C | mg/kg |
| **Tetrachloroethene** | | | | | *CAS #: 127-18-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 110 | 8260C | mg/kg |
| **Tetryl** | | | | | *CAS #: 479-45-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.65 | 1200 | 8330B | mg/kg |
| **Toluene** | | | | | *CAS #: 108-88-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 45000 | 8260C | mg/kg |
| **TPH (as Diesel)** | | | | | *CAS #: Q797* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | - | | - | | 190 | J | - | | - | | 8.4 | J | - | | - | | - | | - | | 20 | 11000 | 8015C | mg/kg |
| **Trichloroethene** | | | | | *CAS #: 79-01-6* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | 0.005 | 6.4 | 8260C | mg/kg |
| **Vinyl Chloride** | | | | | *CAS #: 75-01-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 1.7 | 8260C | mg/kg |

**Definitions: RL** Denotes reporting limit (obtained from permit modification – Table 1 Attachment II.C-23-24, updated September 27, 2011, Class 3 permit modification updated June 2014). RLs are equal to or greater than actual laboratory QLs, except where noted in the data validation report. However, RLs, QLs and method detection limit (DL) are less than the AL except where noted with an "A" qualifier. See data validation for actual laboratory QL. **Q** Denotes data validation qualifie
**U** Denotes analyte not detected at or above DL. **AL** Denotes permit Action limit (obtained from permit modification – Table 1 Attachment II.C-23-24, updated September 27, 2011, Class 3 permit modification, updated June 2014).
**J** Denotes is estimated. **UJ** Denotes analyte was analyzed for but not detected at or above the DL and estimated due to data validation.
**A** Laboratory QL and laboratory DL above permit Action limit (see data validation report).
**R** Denotes result rejected. (-) Denotes not sampled.
**NOTES:**
Results for Method 8290 Dioxin/Furan submitted as a separate report.
For the April 2013 event, Method 8270D aliquots for POND-1 were recollected on September 10, 2013.

# Table 2B - Summary of Analytical Results
# Open Burning Ground - Soil Monitoring Program

**All Results Reported on a Dry Weight Basis**

| Event Date | BG-1A | Q | BG-1B | Q | BG-1C | Q | BG-1D | Q | BG-2A | Q | BG-2B | Q | BG-2C | Q | BG-2D | Q | NB-1 | Q | NB-2 | Q | BERM-1 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1,1-Dichloroethene** | | | | | *CAS #: 75-35-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 1100 | 8260C | mg/kg |
| **1,2-Dichloroethane** | | | | | *CAS #: 107-06-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 2.2 | 8260C | mg/kg |
| **1,3,5-Trinitrobenzene** | | | | | *CAS #: 99-35-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.25 | 27000 | 8330B | mg/kg |
| **1,3-Dinitrobenzene** | | | | | *CAS #: 99-65-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.25 | 62 | 8330B | mg/kg |
| **2,4,6-Trinitrotoluene** | | | | | *CAS #: 118-96-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 0.131 | J | U | | U | | 0.25 | 79 | 8330B | mg/kg |
| **2,4-Dichlorophenol** | | | | | *CAS #: 120-83-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 1800 | 8270D | mg/kg |
| **2,4-Dinitrotoluene** | | | | | *CAS #: 121-14-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | U | | U | | U | | 0.25 | 5.5 | 8330B | mg/kg |
| **2,6-Dinitrotoluene** | | | | | *CAS #: 606-20-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.25 | 1.2 | 8330B | mg/kg |
| **2-Amino-4,6-Dinitrotoluene** | | | | | *CAS #: 35572-78-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | U | | U | | U | | 0.25 | 2000 | 8330B | mg/kg |
| **2-Chlorophenol** | | | | | *CAS #: 95-57-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 5100 | 8270D | mg/kg |
| **2-Nitrotoluene** | | | | | *CAS #: 88-72-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.25 | 13 | 8330B | mg/kg |
| **3,3'-Dimethylbenzidine** | | | | | *CAS #: 119-93-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 1.6 | 0.16 | 8270D | mg/kg |
| **3-Methylphenol** | | | | | *CAS #: 108-39-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 31000 | 8270D | mg/kg |
| **3-Nitrotoluene** | | | | | *CAS #: 99-08-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.25 | 62 | 8330B | mg/kg |
| **4-Amino-2,6-Dinitrotoluene** | | | | | *CAS #: 19406-51-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | U | J | U | J | U | J | 0.25 | 1900 | 8330B | mg/kg |
| **4-Methylphenol** | | | | | *CAS #: 106-44-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 62000 | 8270D | mg/kg |
| **4-Nitrophenol** | | | | | *CAS #: 100-02-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 1.6 | 7 | 8270D | mg/kg |
| **4-Nitrotoluene** | | | | | *CAS #: 99-99-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.25 | 110 | 8330B | mg/kg |

*See last page of this report for definitions.*



Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

## *Table 2B - Summary of Analytical Results*
## *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| Event Date | BG-1A | Q | BG-1B | Q | BG-1C | Q | BG-1D | Q | BG-2A | Q | BG-2B | Q | BG-2C | Q | BG-2D | Q | NB-1 | Q | NB-2 | Q | BERM-1 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Acetophenone** | | | | | *CAS #: 98-86-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 100000 | 8270D | mg/kg |
| **Arsenic** | | | | | *CAS #: 7440-38-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 1.6 | J | 1.3 | J | 1.8 | J | 1 | 15.8 | 6010C | mg/kg |
| **Barium** | | | | | *CAS #: 7440-39-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 110 | J | 100 | J | 81 | J | 20 | 190000 | 6010C | mg/kg |
| **Benzene** | | | | | *CAS #: 71-43-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 5.4 | 8260C | mg/kg |
| **Benzo(a)anthracene** | | | | | *CAS #: 56-55-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzo(a)pyrene** | | | | | *CAS #: 50-32-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.02 | 0.21 | 8270D | mg/kg |
| **Benzo(b)fluoranthene** | | | | | *CAS #: 205-99-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzo(k)fluoranthene** | | | | | *CAS #: 207-08-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzyl Chloride** | | | | | *CAS #: 100-44-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 4.9 | 8260C | mg/kg |
| **bis(2-Ethylhexyl) phthalate** | | | | | *CAS #: 117-81-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 0.7 | | 0.34 | | 0.082 | J | 0.33 | 120 | 8270D | mg/kg |
| **Bromomethane** | | | | | *CAS #: 74-83-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | U | | U | | U | | 0.005 | 32 | 8260C | mg/kg |
| **Butyl benzyl phthalate** | | | | | *CAS #: 85-68-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 910 | 8270D | mg/kg |
| **Cadmium** | | | | | *CAS #: 7440-43-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 0.43 | J | 0.2 | J | 0.16 | J | 0.5 | 800 | 6010C | mg/kg |
| **Carbon Tetrachloride** | | | | | *CAS #: 56-23-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 3 | 8260C | mg/kg |
| **Chlorobenzene** | | | | | *CAS #: 108-90-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 1400 | 8260C | mg/kg |
| **Chloroform** | | | | | *CAS #: 67-66-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 1.5 | 8260C | mg/kg |
| **Chloromethane** | | | | | *CAS #: 74-87-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 500 | 8260C | mg/kg |
| **Chromium, hexavalent** | | | | | *CAS #: 18540-29-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 1 | 5.6 | 7196A | mg/kg |

*See last page of this report for definitions.*

## *Table 2B - Summary of Analytical Results*
## *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| Event Date | BG-1A | Q | BG-1B | Q | BG-1C | Q | BG-1D | Q | BG-2A | Q | BG-2B | Q | BG-2C | Q | BG-2D | Q | NB-1 | Q | NB-2 | Q | BERM-1 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Chromium** | | | | | *CAS #: 7440-47-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 15 | J | 12 | J | 14 | J | 1 | | 6010C | mg/kg |
| **Dibenz(a,h)anthracene** | | | | | *CAS #: 53-70-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.02 | 0.21 | 8270D | mg/kg |
| **Diethyl phthalate** | | | | | *CAS #: 84-66-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 1.2 | | 0.65 | | U | | 0.33 | 490000 | 8270D | mg/kg |
| **Dimethyl phthalate** | | | | | *CAS #: 131-11-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | | U | | U | | 0.33 | 10000000 | 8270D | mg/kg |
| **Di-n-butyl phthalate** | | | | | *CAS #: 84-74-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 0.99 | | 0.54 | | 2.1 | | 0.33 | 62000 | 8270D | mg/kg |
| **Fluoranthene** | | | | | *CAS #: 206-44-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 22000 | 8270D | mg/kg |
| **Hexachloroethane** | | | | | *CAS #: 67-72-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 43 | 8270D | mg/kg |
| **HMX** | | | | | *CAS #: 2691-41-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | U | J | 0.224 | J | U | J | 2.2 | 49000 | 8330B | mg/kg |
| **Indeno(1,2,3-cd)pyrene** | | | | | *CAS #: 193-39-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Lead** | | | | | *CAS #: 7439-92-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 240 | J | 210 | J | 120 | J | 0.3 | 800 | 6010C | mg/kg |
| **Mercury** | | | | | *CAS #: 7439-97-6* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.1 | 43 | 7471A | mg/kg |
| **Methylene Chloride** | | | | | *CAS #: 75-09-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 960 | 8260C | mg/kg |
| **Naphthalene** | | | | | *CAS #: 91-20-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 18 | 8270D | mg/kg |
| **Nitrobenzene** | | | | | *CAS #: 98-95-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.25 | 24 | 8330B | mg/kg |
| **Nitroglycerin** | | | | | *CAS #: 55-63-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 1.98 | | 0.741 | J | 14 | | 2.5 | 62 | 8330B | mg/kg |
| **Diphenylamine** | | | | | *CAS #: 122-39-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | 0.2 | J | 0.17 | J | 0.12 | J | 1.6 | 15000 | 8270D | mg/kg |
| **Perchlorate** | | | | | *CAS #: 14797-73-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.002 | 720 | 6850 | mg/kg |
| **Phenol** | | | | | *CAS #: 108-95-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.33 | 180000 | 8270D | mg/kg |

## *Table 2B - Summary of Analytical Results*
## *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| *Event Date* | *BG-1A* | *Q* | *BG-1B* | *Q* | *BG-1C* | *Q* | *BG-1D* | *Q* | *BG-2A* | *Q* | *BG-2B* | *Q* | *BG-2C* | *Q* | *BG-2D* | *Q* | *NB-1* | *Q* | *NB-2* | *Q* | *BERM-1* | *Q* | *RL* | *Action Limit* | *Method* | *Unit* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RDX** | | | | | *CAS #: 121-82-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 1 | 24 | 8330B | mg/kg |
| **Selenium** | | | | | *CAS #: 7782-49-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | U | | U | | U | | 1 | 5100 | 6010C | mg/Kg |
| **Silver** | | | | | *CAS #: 7440-22-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 1 | 5100 | 6010C | mg/kg |
| **Tetrachloroethene** | | | | | *CAS #: 127-18-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 110 | 8260C | mg/kg |
| **Tetryl** | | | | | *CAS #: 479-45-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.65 | 1200 | 8330B | mg/kg |
| **Toluene** | | | | | *CAS #: 108-88-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 45000 | 8260C | mg/kg |
| **TPH (as Diesel)** | | | | | *CAS #: Q797* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 20 | 11000 | 8015C | mg/kg |
| **Trichloroethene** | | | | | *CAS #: 79-01-6* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | U | | U | | U | | 0.005 | 6.4 | 8260C | mg/kg |
| **Vinyl Chloride** | | | | | *CAS #: 75-01-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | - | | 0.005 | 1.7 | 8260C | mg/kg |

**Definitions: RL** Denotes reporting limit. **Q** Denotes data validation qualifier. **U** Denotes analyte not detected at or above DL. AL Denotes permit Action limit.
**J** Denotes result is estimated. **UJ** Denotes analyte was analyzed for but not detected at or above the DL and estimated due to data validation.
**A** Denotes laboratory QL and laboratory DL above permit Action limit (see data validation report).
**R** Denotes result rejected. (-) Denotes not sampled. **AL and RL** obtained from permit modification – Table 1 Attachment II.C-23-24, updated June 2014, Class I Permit Mod

**NOTES:**
Results for Method 8290 Dioxin/Furan submitted as a separate report.
Laboratory QL at or below the RL and AL unless noted (see data validation report). In these cases, the result is evaluated to the method detection limit (MDL/DL). MDL is less than the RL and AL unless noted.

# Table 2A - Summary of Analytical Results
# Open Burning Ground - Soil Monitoring Program

**All Results Reported on a Dry Weight Basis**

| Event Date | PAD-1 | Q | PAD-2 | Q | PAD-3 | Q | PAD-4 | Q | PAD-5 | Q | PAD-6 | Q | PAD-7 | Q | PAD-8 | Q | POND-1 | Q | SB-1 | Q | SB-2 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1,1-Dichloroethene** | | | | | *CAS #: 75-35-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 1100 | 8260C | mg/kg |
| **1,2-Dichloroethane** | | | | | *CAS #: 107-06-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 2.2 | 8260C | mg/kg |
| **1,3,5-Trinitrobenzene** | | | | | *CAS #: 99-35-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 27000 | 8330B | mg/kg |
| **1,3-Dinitrobenzene** | | | | | *CAS #: 99-65-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 62 | 8330B | mg/kg |
| **2,4,6-Trinitrotoluene** | | | | | *CAS #: 118-96-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | 0.327 | J | U | | 0.527 | J | 0.25 | 79 | 8330B | mg/kg |
| **2,4-Dichlorophenol** | | | | | *CAS #: 120-83-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 1800 | 8270D | mg/kg |
| **2,4-Dinitrotoluene** | | | | | *CAS #: 121-14-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | 3.18 | | 0.433 | | U | | U | | U | | 2.28 | | U | | U | | 0.25 | 5.5 | 8330B | mg/kg |
| **2,6-Dinitrotoluene** | | | | | *CAS #: 606-20-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.418 | J | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 1.2 | 8330B | mg/kg |
| **2-Amino-4,6-Dinitrotoluene** | | | | | *CAS #: 35572-78-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | 0.25 | 2000 | 8330B | mg/kg |
| **2-Chlorophenol** | | | | | *CAS #: 95-57-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 5100 | 8270D | mg/kg |
| **2-Nitrotoluene** | | | | | *CAS #: 88-72-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 13 | 8330B | mg/kg |
| **3,3'-Dimethylbenzidine** | | | | | *CAS #: 119-93-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | AJ | U | AJ | U | AJ | U | AJ | U | AJ | U | AJ | U | AJ | U | AJ | - | | - | | - | | 1.6 | 0.16 | 8270D | mg/kg |
| **3-Methylphenol** | | | | | *CAS #: 108-39-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 31000 | 8270D | mg/kg |
| **3-Nitrotoluene** | | | | | *CAS #: 99-08-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 62 | 8330B | mg/kg |
| **4-Amino-2,6-Dinitrotoluene** | | | | | *CAS #: 19406-51-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | 0.25 | 1900 | 8330B | mg/kg |
| **4-Methylphenol** | | | | | *CAS #: 106-44-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 62000 | 8270D | mg/kg |
| **4-Nitrophenol** | | | | | *CAS #: 100-02-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 1.6 | 7 | 8270D | mg/kg |
| **4-Nitrotoluene** | | | | | *CAS #: 99-99-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 110 | 8330B | mg/kg |

*See last page of this report for definitions.*



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# *Table 2A - Summary of Analytical Results*
# *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| Event Date | PAD-1 | Q | PAD-2 | Q | PAD-3 | Q | PAD-4 | Q | PAD-5 | Q | PAD-6 | Q | PAD-7 | Q | PAD-8 | Q | POND-1 | Q | SB-1 | Q | SB-2 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Acetophenone** | | | | | *CAS #: 98-86-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 100000 | 8270D | mg/kg |
| **Arsenic** | | | | | *CAS #: 7440-38-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 1.4 | J | 2.2 | J | 1.2 | J | 2 | J | 1.6 | J | 0.88 | J | 1.9 | J | 1.4 | J | 1.7 | J | 2.1 | J | 2.2 | J | 1 | 15.8 | 6010C | mg/kg |
| **Barium** | | | | | *CAS #: 7440-39-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 89 | J | 120 | J | 92 | J | 140 | J | 140 | J | 92 | J | 100 | J | 80 | J | 92 | J | 100 | J | 120 | J | 20 | 190000 | 6010C | mg/kg |
| **Benzene** | | | | | *CAS #: 71-43-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 5.4 | 8260C | mg/kg |
| **Benzo(a)anthracene** | | | | | *CAS #: 56-55-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | 0.005 | J | U | | 0.027 | J | U | | U | | U | | U | | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzo(a)pyrene** | | | | | *CAS #: 50-32-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.02 | 0.21 | 8270D | mg/kg |
| **Benzo(b)fluoranthene** | | | | | *CAS #: 205-99-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzo(k)fluoranthene** | | | | | *CAS #: 207-08-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Benzyl Chloride** | | | | | *CAS #: 100-44-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | J | U | | U | | U | | U | | - | | - | | - | | 0.005 | 4.9 | 8260C | mg/kg |
| **bis(2-Ethylhexyl) phthalate** | | | | | *CAS #: 117-81-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.31 | | U | | 7.9 | | U | | U | | U | | U | | U | | U | | U | | 0.47 | | 0.33 | 120 | 8270D | mg/kg |
| **Bromomethane** | | | | | *CAS #: 74-83-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | 0.005 | 32 | 8260C | mg/kg |
| **Butyl benzyl phthalate** | | | | | *CAS #: 85-68-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 910 | 8270D | mg/kg |
| **Cadmium** | | | | | *CAS #: 7440-43-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.12 | J | 0.23 | J | 0.1 | J | 0.27 | J | 0.11 | J | 0.16 | J | 0.11 | J | 0.059 | J | 0.14 | J | 0.23 | J | 0.39 | J | 0.5 | 800 | 6010C | mg/kg |
| **Carbon Tetrachloride** | | | | | *CAS #: 56-23-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.005 | 3 | 8260C | mg/kg |
| **Chlorobenzene** | | | | | *CAS #: 108-90-7* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 1400 | 8260C | mg/kg |
| **Chloroform** | | | | | *CAS #: 67-66-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 1.5 | 8260C | mg/kg |
| **Chloromethane** | | | | | *CAS #: 74-87-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 500 | 8260C | mg/kg |
| **Chromium, hexavalent** | | | | | *CAS #: 18540-29-9* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | 0.74 | J | 2.4 | | U | | U | | 1.6 | | U | | U | | - | | - | | - | | 1 | 5.6 | 7196A | mg/kg |

*See last page of this report for definitions.*

## *Table 2A - Summary of Analytical Results*
## *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| Event Date | PAD-1 | Q | PAD-2 | Q | PAD-3 | Q | PAD-4 | Q | PAD-5 | Q | PAD-6 | Q | PAD-7 | Q | PAD-8 | Q | POND-1 | Q | SB-1 | Q | SB-2 | Q | RL | Action Limit | Method | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Chromium** | | | | | *CAS #: 7440-47-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 13 | J | 35 | J | 17 | J | 16 | J | 13 | J | 30 | J | 13 | J | 13 | J | 13 | J | 19 | J | 21 | J | 1 | | 6010C | mg/kg |
| **Dibenz(a,h)anthracene** | | | | | *CAS #: 53-70-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.02 | 0.21 | 8270D | mg/kg |
| **Diethyl phthalate** | | | | | *CAS #: 84-66-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | 0.42 | J | U | | 0.78 | J | 0.17 | J | U | | 0.36 | | U | | 0.51 | | 0.33 | 490000 | 8270D | mg/kg |
| **Dimethyl phthalate** | | | | | *CAS #: 131-11-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | 0.15 | J | U | | U | | U | | 0.33 | 10000000 | 8270D | mg/kg |
| **Di-n-butyl phthalate** | | | | | *CAS #: 84-74-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.32 | | 0.12 | J | 56 | | 1.1 | | 0.19 | | 20 | | 0.48 | J | 0.43 | | 0.4 | | U | | 2.4 | | 0.33 | 62000 | 8270D | mg/kg |
| **Fluoranthene** | | | | | *CAS #: 206-44-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | 0.005 | J | U | | 0.029 | J | 0.006 | J | 0.076 | J | 0.005 | J | 0.004 | J | - | | - | | - | | 0.33 | 22000 | 8270D | mg/kg |
| **Hexachloroethane** | | | | | *CAS #: 67-72-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 43 | 8270D | mg/kg |
| **HMX** | | | | | *CAS #: 2691-41-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | 0.836 | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | 2.2 | 49000 | 8330B | mg/kg |
| **Indeno(1,2,3-cd)pyrene** | | | | | *CAS #: 193-39-5* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.33 | 2.1 | 8270D | mg/kg |
| **Lead** | | | | | *CAS #: 7439-92-1* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 38 | J | 160 | J | 280 | J | 270 | J | 150 | J | 610 | J | 81 | J | 110 | J | 86 | J | 54 | J | 120 | J | 0.3 | 800 | 6010C | mg/kg |
| **Mercury** | | | | | *CAS #: 7439-97-6* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | 0.027 | J | 0.019 | J | U | | U | | - | | - | | - | | 0.1 | 43 | 7471A | mg/kg |
| **Methylene Chloride** | | | | | *CAS #: 75-09-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 960 | 8260C | mg/kg |
| **Naphthalene** | | | | | *CAS #: 91-20-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | 0.034 | J | 0.005 | J | U | | 0.007 | J | U | | - | | - | | - | | 0.33 | 18 | 8270D | mg/kg |
| **Nitrobenzene** | | | | | *CAS #: 98-95-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.25 | 24 | 8330B | mg/kg |
| **Nitroglycerin** | | | | | *CAS #: 55-63-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 23.1 | | 9.17 | | 174 | | 17.5 | | 11.1 | | 53.1 | | 20.2 | J | 13.2 | | 8.66 | | U | | U | | 2.5 | 62 | 8330B | mg/kg |
| **Diphenylamine** | | | | | *CAS #: 122-39-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.073 | J | U | J | 3.3 | J | 0.56 | J | 0.038 | J | 1.7 | J | 0.17 | J | 0.074 | J | 0.098 | J | U | J | 0.079 | J | 1.6 | 15000 | 8270D | mg/kg |
| **Perchlorate** | | | | | *CAS #: 14797-73-0* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | 0.00491 | J | 0.00756 | J | 0.00621 | J | 0.00181 | J | U | J | - | | - | | - | | 0.002 | 720 | 6850 | mg/kg |
| **Phenol** | | | | | *CAS #: 108-95-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.33 | 180000 | 8270D | mg/kg |

*See last page of this report for definitions.*



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## *Table 2A - Summary of Analytical Results*
## *Open Burning Ground - Soil Monitoring Program*

***All Results Reported on a Dry Weight Basis***

| *Event Date* | *PAD-1* | *Q* | *PAD-2* | *Q* | *PAD-3* | *Q* | *PAD-4* | *Q* | *PAD-5* | *Q* | *PAD-6* | *Q* | *PAD-7* | *Q* | *PAD-8* | *Q* | *POND-1* | *Q* | *SB-1* | *Q* | *SB-2* | *Q* | *RL* | *Action Limit* | *Method* | *Unit* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RDX** | | | | | *CAS #: 121-82-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | 5.28 | | U | | U | | U | | U | | - | | - | | - | | 1 | 24 | 8330B | mg/kg |
| **Selenium** | | | | | *CAS #: 7782-49-2* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | 0.41 | J | U | | U | | U | | U | | U | | U | | 1 | 5100 | 6010C | mg/Kg |
| **Silver** | | | | | *CAS #: 7440-22-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | 0.11 | J | 0.29 | J | 0.14 | J | 0.15 | J | 0.11 | J | U | | U | | 0.11 | J | - | | - | | - | | 1 | 5100 | 6010C | mg/kg |
| **Tetrachloroethene** | | | | | *CAS #: 127-18-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 110 | 8260C | mg/kg |
| **Tetryl** | | | | | *CAS #: 479-45-8* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | U | J | U | J | U | J | U | J | U | J | U | J | U | J | - | | - | | - | | 0.65 | 1200 | 8330B | mg/kg |
| **Toluene** | | | | | *CAS #: 108-88-3* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 45000 | 8260C | mg/kg |
| **TPH (as Diesel)** | | | | | *CAS #: Q797* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | J | - | | - | | 190 | J | - | | - | | 8.4 | J | - | | - | | - | | - | | 20 | 11000 | 8015C | mg/kg |
| **Trichloroethene** | | | | | *CAS #: 79-01-6* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | U | | 0.005 | 6.4 | 8260C | mg/kg |
| **Vinyl Chloride** | | | | | *CAS #: 75-01-4* | | | | | | | | | | | | | | | | | | | | | |
| 7/31/2014 | U | | U | | U | | U | | U | | U | | U | | U | | - | | - | | - | | 0.005 | 1.7 | 8260C | mg/kg |

**Definitions: RL** Denotes reporting limit (obtained from permit modification – Table 1 Attachment II.C-23-24, updated September 27, 2011, Class 3 permit modification updated June 2014). RLs are equal to or greater than actual laboratory QLs, except where noted in the data validation report. However, RLs, QLs and method detection limit (DL) are less than the AL except where noted with an "A" qualifier. See data validation for actual laboratory QL. **Q** Denotes data validation qualifie
**U** Denotes analyte not detected at or above DL. **AL** Denotes permit Action limit (obtained from permit modification – Table 1 Attachment II.C-23-24, updated September 27, 2011, Class 3 permit modification, updated June 2014).
**J** Denotes is estimated. **UJ** Denotes analyte was analyzed for but not detected at or above the DL and estimated due to data validation.
**A** Laboratory QL and laboratory DL above permit Action limit (see data validation report).
**R** Denotes result rejected. (-) Denotes not sampled.
**NOTES:**
Results for Method 8290 Dioxin/Furan submitted as a separate report.
For the April 2013 event, Method 8270D aliquots for POND-1 were recollected on September 10, 2013.