

Appendix K
RFAAP HWMU 5 GROUNDWATER CORRECTIVE ACTION ANNUAL MONITORING LIST

Concentration Unit: µg/l

| CONSTITUENTS | Cas RN# | SW-846 Method | MDL | PQL | Back- ground | EPA MCL | VA DEQ ACL^ | EPA RSL | GPS |
|---------------------------------------|-----------|------------------|-------|------|-----------------|------------|----------------|------------|-------|
| Antimony, total | 7440-36-0 | 6010/6020 | 0.4 | 2 | 3 | 6 | 6 | 15 | 6 |
| Arsenic, total | 7440-38-2 | 6010/6020 | 2 | 10 | 1 | 10 | 0.045 | 0.045 | 10 |
| Barium, total | 7440-39-3 | 6010/6020 | 1 | 10 | 172.87 | 2000 | 2900 | 7300 | 2000 |
| Beryllium, total | 7440-41-7 | 6010/6020 | 0.2 | 1 | 0.7 | 4 | 16 | 73 | 4 |
| Cadmium, total | 7440-43-9 | 6010/6020 | 0.2 | 1 | 1.45 | 5 | 6.9 | 18 | 5 |
| Chromium, total | 7440-47-3 | 6010/6020 | 1 | 5 | 5 | 100 | -- | -- | 100 |
| Cobalt, total | 7440-48-4 | 6010/6020 | 1 | 5 | 7 | | 4.7 | 11 | 7 |
| Copper, total | 7440-50-8 | 6010/6020 | 1 | 5 | 18 | 1300 | 620 | 1500 | 1300 |
| Lead, total | 7439-92-1 | 6010/6020 | 0.2 | 2 | 10 | 15 | NA | -- | 15 |
| Mercury, total | 7439-97-6 | 7470A | 0.2 | 2 | 0.9 | 2 | 0.5006 | 0.63 | 2 |
| Nickel, total | 7440-02-0 | 6010/6020 | 2 | 10 | 106 | | 300 | 730 | 300 |
| Selenium, total | 7782-49-2 | 6010/6020 | 3 | 10 | 1 | 50 | 78 | 180 | 50 |
| Silver, total | 7440-22-4 | 6010/6020 | 0.2 | 2 | 2.3 | | 71 | 180 | 71 |
| Thallium, total | 7440-28-0 | 6010/6020 | 0.2 | 1 | 2 | 2 | 0.16 | 0.37 | 2 |
| Vanadium, total | 7440-62-2 | 6010/6020 | 1 | 10 | 17 | | 63 | 180 | 63 |
| Zinc, total | 7440-66-6 | 6010/6020 | 573 | 1030 | 75 | | 4700 | 11000 | 4700 |
| Acetone | 67-64-1 | 8260B | 3 | 10 | 89 | | 12000 | 22000 | 12000 |
| Bis (2-ethylhexyl) phthalate (DEHP) | 117-81-7 | 8270C | 1.5 | 6 | 10 | 6 | 4.8 | 4.8 | 10 |
| 2-Butanone (Methyl ethyl ketone; MEK) | 78-93-3 | 8260B | 1 | 10 | 21.3 | | 4900 | 7100 | 4900 |
| Chloroform | 67-66-3 | 8260B | 0.1 | 1 | 0.5 | 80# | 0.19 | 0.19 | 80 |
| Dichlorodifluoromethane | 75-71-8 | 8260B | 0.28 | 1 | 1 | | 190 | 200 | 190 |
| 1,2-Dichloroethane | 107-06-2 | 8260B | 0.147 | 1 | 0.1 | 5 | 0.15 | 0.15 | 5 |
| Diethyl ether | 60-29-7 | 8260B | 0.39 | 12 | 12 | | -- | 7300 | 7300 |
| Diethyl phthalate | 84-66-2 | 8270C | 0.5 | 10 | 0.2 | | 11000 | 29000 | 11000 |
| 2,4-Dinitrotoluene | 121-14-2 | 8270C | 0.6 | 10 | 0.18 | | 0.2 | 0.22 | 10 |

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|--------------------------------------|-----------|-------|-------|----|------|-------|-------|------|-------|
| 2,6-Dinitrotoluene | 606-20-2 | 8270€ | 0.7 | 10 | 0.08 | | 0.042 | 37 | 10 |
| Methylene chloride (Dichloromethane) | 75-09-2 | 8260B | 0.182 | 1 | 0.7 | 5 | 9.9 | 4.8 | 5 |
| <i>o</i> -Nitroaniline; 2- | 88-74-4 | 8270€ | 0.7 | 10 | 10 | | 150 | 370 | 150 |
| <i>p</i> -Nitroaniline; 4- | 100-01-6 | 8270€ | 1.3 | 20 | 20 | | 3.3 | 3.4 | 20 |
| Nitrobenzene | 98-95-3 | 8270€ | 0.8 | 10 | 10 | | 0.12 | 0.12 | 10 |
| Toluene | 108-88-3 | 8260B | 0.1 | 1 | 0.1 | 1000 | 860 | 2300 | 1000 |
| Xylenes (total) | 1330-20-7 | 8260B | 0.208 | 3 | 0.1 | 10000 | 190.0 | 200 | 10000 |

NOTE:

CAS RN: Chemical Abstracts Service registry number.

SW-846: Test Methods for Evaluating Solid Waste- Physical/Chemical Methods, SW-846 (as updated).

MDL: Method Detection Limit;

PQL: Practical Quantitation Limit;

Background Values: calculated upgradient background concentrations (Appendix F, Permit Attachment 2).

MCL: Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water.

EPA, June, 2008. Subject to change when it is updated.

ACL: the Department's Alternate Concentration Limit, Dec 2013; subject to change when it is updated.

RSL: developed by Oak Ridge National Laboratory under an Interagency Agreement with EPA (June 2011). Subject to change when it is updated.

GPS: Groundwater Protection Standard

For any monitoring event, if a GPS for a constituent in the table above is based on a background concentration derived from a PQL, the Permittee will perform verification of a detection (i.e. value greater than the Detection Limit) of such a constituent using low-level analytical methods, if such methods are standard methods that are routinely available from commercial laboratories. Furthermore, the low-level analytical method will be used only if the PQL achievable by that method is less than, or equal to, the ACL or RBC for the subject constituent. If the verification event confirms a quantifiable detection (i.e. value greater than the PQL) above the applicable ACL or RBC, a revised background concentration will be established using low-level analytical methods, if appropriate, and the GPS will be updated based on the new background concentration if warranted.

#: the MCL for total trihalomethanes, including bromodichloromethane, bromoform, dibromochloromethane, and chloroform is 80 µg/l.