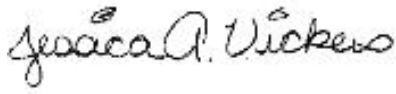




## DATA VALIDATION CHECKLIST – STAGE 2A

(Page 1 of 5)

|   |   |                                   |   |
|---|---|-----------------------------------|---|
| <b>Site Name</b>                              | Old Barwick Mill Plant Fire   | <b>Project No.</b>                | TT-01-040                                       |
| <b>Data Reviewer<br/>(signature and date)</b> | <br>November 24, 2015  | <b>Laboratory/<br/>Report No.</b> | Analytical Environmental Services, Inc./1511E55 |
| <b>Analyses</b>                               | Volatile Organic Compounds (VOCs) – SW8260B, Semivolatile Organic Compounds (SVOCs) – SW8270D, Resource Conservation Recovery Act (RCRA) Metals – EPA 200.8/245.1, Ammonia – EPA 350.1, Biological Oxygen Demand (BOD) – SM 5210B, Chemical Oxygen Demand (COD) – EPA 410.4, Cyanide – SM 4500-CN-C, Fecal Coliform – SM 9222D, Hexavalent Chromium – SW7196A, Nitrate – EPA 300.0, Oil and Grease – EPA 1664B, Phosphorus – EPA 365.1, Residual Chlorine – SM 4500-Cl-G, Surfactants – SM 5540C, Total Kjeldahl Nitrogen (TKN) – EPA 351.2, Total Recoverable Phenolics – EPA 420.1, and Total Suspended Solids (TSS) – SM 2540D |                                   |   |
| <b>Samples</b>                                | OBM-RUNOFF-01   |                                   |   |

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014) data validation guidance documents, as well as the above referenced methods.

### OVERALL EVALUATION:

Rejection of data was not required for this data package. Results were qualified due to exceedances for holding times and matrix spike/matrix spike duplicates (MS/MSD). The data can be used with the qualifications indicated in this checklist.

### Data completeness:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |



## DATA VALIDATION CHECKLIST – STAGE 2A

(Page 2 of 5)

### Sample preservation, receipt, and holding times:

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | Holding times were exceeded for residual chlorine and fecal coliform – flag “J-/UJ” |

### Method blanks:

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | Ammonia = 0.0618 mg/L, oil & grease = 1.3 mg/L, phosphorus = 0.0192 mg/L, and TKN = 0.281 mg/L – flag “J+” for ammonia, phosphorus, and TKN; and raise to the RL and flag “U” for oil & grease |

### Field blanks:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### System monitoring compounds (surrogates and labeled compounds):

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

### MS/MSD:

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | MS/MSDs performed on non-project samples were not evaluated.<br>Low %R for pentachlorophenol and residual chlorine – flag “J-/UJ” |



## DATA VALIDATION CHECKLIST – STAGE 2A

(Page 3 of 5)

### Post digestion spikes:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### Serial dilutions:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### Laboratory duplicates:

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| NA              | Duplicates performed on non-project samples were not evaluated. |

### Field duplicates:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### Total versus dissolved metals results evaluation:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



## DATA VALIDATION CHECKLIST – STAGE 2A

(Page 4 of 5)

### LCSs/LCSDs:

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | High %R for selenium – no action (associated result non-detect) |

### Toxicity equivalents (TEQs) and isomer specificity (dioxins/furans, cBaP, and PCB congeners only):

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### Sample dilutions:

| Within Criteria | Exceedance/Notes    |
|-----------------|---------------------|
| Y               | 10x: fecal coliform |

### Re-extraction and reanalysis:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### Estimated detection limit (EDL), estimated maximum possible concentration (EMPC), and target analyte identification (dioxins/furans only):

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



## DATA VALIDATION CHECKLIST – STAGE 2A

(Page 5 of 5)

### MDLs/RLs:

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| Y               | Results between the MDL and RL were flagged “J” by laboratory. |

### Tentatively identified compounds:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

## Analytical Environmental Services, Inc

Date: 24-Nov-15

Client: Tetra Tech EM Inc.  
 Project Name: Old Barnwick Mill Fire  
 Lab ID: 1511E55-001

Client Sample ID: OBM-RUNOFF-01  
 Collection Date: 11/15/2015 5:30:00 PM  
 Matrix: Surface Water

| Analyses   | Result  | Qual | MDL     | Reporting Limit | Units | BatchID | DF | Date Analyzed    | Analyst |
|--|---------|------|---------|-----------------|-------|---------|----|------------------|---------|
| <b>Trace Elements by ICP/MS E200.8 (E200.2)</b>        |         |      |         |                 |       |         |    |                  |         |
| Arsenic  | 0.921   | J    | 0.145   | 5.00            | ug/L  | 215937  | 1  | 11/16/2015 18:11 | JS      |
| Barium   | 111     |      | 0.166   | 10.0            | ug/L  | 215937  | 1  | 11/16/2015 18:11 | JS      |
| Cadmium  | 0.134   | J    | 0.0195  | 0.700           | ug/L  | 215937  | 1  | 11/16/2015 18:11 | JS      |
| Chromium   | 1.39    | J    | 0.139   | 5.00            | ug/L  | 215937  | 1  | 11/16/2015 18:11 | JS      |
| Lead   | 0.933   | J    | 0.260   | 1.00            | ug/L  | 215937  | 1  | 11/16/2015 18:11 | JS      |
| Selenium   | 1.82    | J    | 0.312   | 5.00            | ug/L  | 215937  | 1  | 11/16/2015 18:11 | JS      |
| Silver   | BRL     |      | 0.0185  | 1.00            | ug/L  | 215937  | 1  | 11/16/2015 18:11 | JS      |
| <b>Total Residual Chlorine by SM4500-Cl-G (E365.1)</b> |         |      |         |                 |       |         |    |                  |         |
| Chlorine, Total Residual                               | BRL     | H    | 0.0336  | 0.200           | mg/L  | R304426 | 1  | 11/16/2015 11:00 | CH      |
| <b>Total Phosphorus E365.1 (E365.1)</b>                |         |      |         |                 |       |         |    |                  |         |
| Phosphorus, Total (As P)                               | 0.174   | J+   | 0.010   | 0.050           | mg/L  | 215750  | 1  | 11/16/2015 17:02 | FS      |
| <b>Total Oil and Grease (HEM) E1664B (E1664)</b>       |         |      |         |                 |       |         |    |                  |         |
| Oil and Grease   | 5.0     |      | 1.0     | 5.7             | mg/L  | 215895  | 1  | 11/16/2015 08:30 | GR      |
| <b>Total Mercury E245.1 (E245.1)</b>                   |         |      |         |                 |       |         |    |                  |         |
| Mercury  | 0.00004 | J    | 0.00004 | 0.00020         | mg/L  | 215967  | 1  | 11/16/2015 15:51 | TA      |
| <b>Total Cyanide (SM4500 CN-C, E) (SM4500-CN-E)</b>    |         |      |         |                 |       |         |    |                  |         |
| Cyanide, Total   | BRL     |      | 0.001   | 0.010           | mg/L  | 215972  | 1  | 11/16/2015 15:30 | PF      |
| <b>TCL-SEMIVOLATILE ORGANICS SW8270D (SW3510C)</b>     |         |      |         |                 |       |         |    |                  |         |
| 1,1'-Biphenyl  | BRL     |      | 1.5     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2,4,5-Trichlorophenol                                  | BRL     |      | 1.7     | 25              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2,4,6-Trichlorophenol                                  | BRL     |      | 1.5     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2,4-Dichlorophenol                                     | BRL     |      | 1.5     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2,4-Dimethylphenol                                     | BRL     |      | 1.2     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2,4-Dinitrophenol                                      | BRL     |      | 0.74    | 25              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2,4-Dinitrotoluene                                     | BRL     |      | 0.88    | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2,6-Dinitrotoluene                                     | BRL     |      | 1.4     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2-Chloronaphthalene                                    | BRL     |      | 1.3     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2-Chlorophenol   | BRL     |      | 1.4     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2-Methylnaphthalene                                    | 1.5     | J    | 1.3     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2-Methylphenol   | BRL     |      | 1.2     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2-Nitroaniline   | BRL     |      | 1.3     | 25              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 2-Nitrophenol  | BRL     |      | 0.95    | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 3,3'-Dichlorobenzidine                                 | BRL     |      | 1.7     | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 3-Nitroaniline   | BRL     |      | 1.2     | 25              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed

E Estimated value above quantitation range  
 S Spike Recovery outside limits due to matrix  
 J Estimated value detected below Reporting Limit  
 > Greater than Result value  
 < Less than Result value  
 Narr See case narrative

## Analytical Environmental Services, Inc

Date: 24-Nov-15

Client: Tetra Tech EM Inc.  
 Project Name: Old Barnwick Mill Fire  
 Lab ID: 1511E55-001

Client Sample ID: OBM-RUNOFF-01  
 Collection Date: 11/15/2015 5:30:00 PM  
 Matrix: Surface Water

| Analyses                          | Result | Qual | MDL       | Reporting Limit | Units | BatchID | DF | Date Analyzed    | Analyst |
|-----------------------------------|--------|------|-----------|-----------------|-------|---------|----|------------------|---------|
| TCL-SEMIVOLATILE ORGANICS SW8270D |        |      | (SW3510C) |                 |       |         |    |                  |         |
| 4,6-Dinitro-2-methylphenol        | BRL    |      | 0.89      | 25              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 4-Bromophenyl phenyl ether        | BRL    |      | 1.5       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 4-Chloro-3-methylphenol           | BRL    |      | 1.1       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 4-Chloroaniline                   | BRL    |      | 1.5       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 4-Chlorophenyl phenyl ether       | BRL    |      | 1.2       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 4-Methylphenol                    | BRL    |      | 2.1       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 4-Nitroaniline                    | BRL    |      | 0.76      | 25              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| 4-Nitrophenol                     | BRL    |      | 0.75      | 25              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Acenaphthene                      | BRL    |      | 1.1       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Acenaphthylene                    | BRL    |      | 1.4       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Acetophenone                      | BRL    |      | 0.84      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Anthracene                        | BRL    |      | 1.1       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Atrazine                          | BRL    |      | 1.3       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Benz(a)anthracene                 | BRL    |      | 1.2       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Benzaldehyde                      | BRL    |      | 2.3       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Benzo(a)pyrene                    | BRL    |      | 0.64      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Benzo(b)fluoranthene              | BRL    |      | 1.0       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Benzo(g,h,i)perylene              | BRL    |      | 0.83      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Benzo(k)fluoranthene              | BRL    |      | 1.0       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Bis(2-chloroethoxy)methane        | BRL    |      | 1.1       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Bis(2-chloroethyl)ether           | BRL    |      | 2.0       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Bis(2-chloroisopropyl)ether       | BRL    |      | 0.98      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Bis(2-ethylhexyl)phthalate        | BRL    |      | 1.1       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Butyl benzyl phthalate            | BRL    |      | 1.0       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Caprolactam                       | BRL    |      | 0.92      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Carbazole                         | BRL    |      | 0.99      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Chrysene                          | BRL    |      | 1.2       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Di-n-butyl phthalate              | BRL    |      | 1.1       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Di-n-octyl phthalate              | BRL    |      | 1.2       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Dibenz(a,h)anthracene             | BRL    |      | 0.80      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Dibenzofuran                      | BRL    |      | 1.2       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Diethyl phthalate                 | BRL    |      | 0.88      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Dimethyl phthalate                | BRL    |      | 1.1       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Fluoranthene                      | BRL    |      | 0.94      | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Fluorene                          | BRL    |      | 1.2       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Hexachlorobenzene                 | BRL    |      | 1.6       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Hexachlorobutadiene               | BRL    |      | 1.3       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Hexachlorocyclopentadiene         | BRL    |      | 1.2       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Hexachloroethane                  | BRL    |      | 1.4       | 10              | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |

Qualifiers:

- \* Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed

E Estimated value above quantitation range  
 S Spike Recovery outside limits due to matrix  
 J Estimated value detected below Reporting Limit  
 > Greater than Result value  
 < Less than Result value  
 Narr See case narrative

*gpw*  
 11/24/15



## Analytical Environmental Services, Inc

Date: 24-Nov-15

Client: Tetra Tech EM Inc.  
 Project Name: Old Barnwick Mill Fire  
 Lab ID: 1511E55-001

Client Sample ID: OBM-RUNOFF-01  
 Collection Date: 11/15/2015 5:30:00 PM  
 Matrix: Surface Water

| Analyses                                 | Result | Qual | MDL  | Reporting Limit  | Units | BatchID | DF | Date Analyzed    | Analyst |
|--|--------|------|------|------------------|-------|---------|----|------------------|---------|
| <b>TCL-SEMIVOLATILE ORGANICS SW8270D</b> |        |      |      | <b>(SW3510C)</b> |       |         |    |                  |         |
| Indeno(1,2,3-cd)pyrene                   | BRL    |      | 1.3  | 10 U             | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Isophorone                               | BRL    |      | 1.5  | 10               | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| N-Nitrosodi-n-propylamine                | BRL    |      | 1.2  | 10               | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| N-Nitrosodiphenylamine                   | BRL    |      | 1.2  | 10               | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Naphthalene                              | 2.3    | J    | 1.2  | 10               | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Nitrobenzene                             | BRL    |      | 1.2  | 10 U             | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Pentachlorophenol                        | BRL    |      | 0.93 | 25 UJ            | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Phenanthrene                             | 2.6    | J    | 1.0  | 10               | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Phenol                                   | 12     |      | 1.1  | 10               | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Pyrene                                   | BRL    |      | 1.1  | 10 U             | ug/L  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Surr: 2,4,6-Tribromophenol               | 72.5   |      | 0    | 51.5-141         | %REC  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Surr: 2-Fluorobiphenyl                   | 75.9   |      | 0    | 50.8-122         | %REC  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Surr: 2-Fluorophenol                     | 67     |      | 0    | 28.1-120         | %REC  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Surr: 4-Terphenyl-d14                    | 80.4   |      | 0    | 47.2-131         | %REC  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Surr: Nitrobenzene-d5                    | 82.4   |      | 0    | 42.1-124         | %REC  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| Surr: Phenol-d5                          | 58.4   |      | 0    | 16-120           | %REC  | 215950  | 1  | 11/16/2015 16:04 | YH      |
| <b>TCL VOLATILE ORGANICS SW8260B</b>     |        |      |      | <b>(SW5030B)</b> |       |         |    |                  |         |
| 1,1,1-Trichloroethane                    | BRL    |      | 0.67 | 5.0 U            | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,1,2,2-Tetrachloroethane                | BRL    |      | 0.93 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,1,2-Trichloroethane                    | BRL    |      | 1.3  | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,1-Dichloroethane                       | BRL    |      | 0.91 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,1-Dichloroethene                       | BRL    |      | 1.5  | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,2,4-Trichlorobenzene                   | BRL    |      | 0.79 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,2-Dibromo-3-chloropropane              | BRL    |      | 0.25 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,2-Dibromoethane                        | BRL    |      | 0.52 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,2-Dichlorobenzene                      | BRL    |      | 0.68 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,2-Dichloroethane                       | BRL    |      | 0.79 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,2-Dichloropropane                      | BRL    |      | 0.84 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,3-Dichlorobenzene                      | BRL    |      | 0.61 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 1,4-Dichlorobenzene                      | BRL    |      | 0.83 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 2-Butanone                               | BRL    |      | 8.1  | 50               | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 2-Hexanone                               | BRL    |      | 3.5  | 10               | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| 4-Methyl-2-pentanone                     | BRL    |      | 1.9  | 10               | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Acetone                                  | 16     | J    | 3.2  | 50               | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Benzene                                  | 1.1    | J    | 0.61 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Bromodichloromethane                     | BRL    |      | 0.78 | 5.0 U            | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Bromoform                                | BRL    |      | 0.66 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Bromomethane                             | BRL    |      | 1.1  | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |

Qualifiers:

- \* Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed

E Estimated value above quantitation range  
 S Spike Recovery outside limits due to matrix  
 J Estimated value detected below Reporting Limit  
 > Greater than Result value  
 < Less than Result value  
 Narr See case narrative

*[Signature]*  
 11/24/15



## Analytical Environmental Services, Inc

Date: 24-Nov-15

Client: Tetra Tech EM Inc.  
 Project Name: Old Barnwick Mill Fire  
 Lab ID: 1511E55-001

Client Sample ID: OBM-RUNOFF-01  
 Collection Date: 11/15/2015 5:30:00 PM  
 Matrix: Surface Water

| Analyses                             | Result | Qual | MDL  | Reporting Limit  | Units | BatchID | DF | Date Analyzed    | Analyst |
|--------------------------------------|--------|------|------|------------------|-------|---------|----|------------------|---------|
| <b>TCL VOLATILE ORGANICS SW8260B</b> |        |      |      | <b>(SW5030B)</b> |       |         |    |                  |         |
| Carbon disulfide                     | BRL    |      | 1.9  | 5.0 U            | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Carbon tetrachloride                 | BRL    |      | 0.42 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Chlorobenzene                        | BRL    |      | 0.35 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Chloroethane                         | BRL    |      | 0.91 | 10               | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Chloroform                           | BRL    |      | 0.79 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Chloromethane                        | BRL    |      | 1.3  | 10               | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| cis-1,2-Dichloroethene               | BRL    |      | 0.80 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| cis-1,3-Dichloropropene              | BRL    |      | 1.1  | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Cyclohexane                          | BRL    |      | 1.2  | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Dibromochloromethane                 | BRL    |      | 0.68 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Dichlorodifluoromethane              | BRL    |      | 0.71 | 10               | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Ethylbenzene                         | BRL    |      | 0.29 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Freon-113                            | BRL    |      | 1.0  | 10               | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Isopropylbenzene                     | BRL    |      | 0.72 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| m,p-Xylene                           | 0.73   | J    | 0.42 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Methyl acetate                       | BRL    |      | 0.60 | 5.0 U            | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Methyl tert-butyl ether              | BRL    |      | 0.62 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Methylcyclohexane                    | BRL    |      | 0.70 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Methylene chloride                   | BRL    |      | 0.94 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| o-Xylene                             | BRL    |      | 0.24 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Styrene                              | 47     |      | 0.57 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Tetrachloroethene                    | 2.8    | J    | 0.93 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Toluene                              | 0.57   | J    | 0.49 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| trans-1,2-Dichloroethene             | BRL    |      | 0.89 | 5.0 U            | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| trans-1,3-Dichloropropene            | BRL    |      | 1.0  | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Trichloroethene                      | BRL    |      | 0.80 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Trichlorofluoromethane               | BRL    |      | 0.98 | 5.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Vinyl chloride                       | BRL    |      | 0.74 | 2.0              | ug/L  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Surr: 4-Bromofluorobenzene           | 84.7   |      | 0    | 70.7-125         | %REC  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Surr: Dibromofluoromethane           | 105    |      | 0    | 82.2-120         | %REC  | 215970  | 1  | 11/16/2015 12:20 | MD      |
| Surr: Toluene-d8                     | 95.1   |      | 0    | 81.8-120         | %REC  | 215970  | 1  | 11/16/2015 12:20 | MD      |

## Surfactants (MBAS) by SM5540C

|      |       |        |       |          |        |   |                  |    |
|------|-------|--------|-------|----------|--------|---|------------------|----|
| MBAS | 0.284 | 0.0217 | 0.100 | mg/L-LAS | 215991 | 1 | 11/16/2015 17:00 | JS |
|------|-------|--------|-------|----------|--------|---|------------------|----|

## Residue, Suspended (TSS) by SM2540D

|                          |      |     |     |      |        |   |                  |    |
|--------------------------|------|-----|-----|------|--------|---|------------------|----|
| Residue, Suspended (TSS) | 13.5 | 1.0 | 5.0 | mg/L | 215969 | 1 | 11/16/2015 13:05 | JS |
|--------------------------|------|-----|-----|------|--------|---|------------------|----|

## Phenolics, Total Recoverable E420.1

(E420.1)

Qualifiers:

- \* Value exceeds maximum contaminant level
- BRL Not detected at MDL
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- E Estimated value above quantitation range
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- Narr See case narrative

*gaw*  
11/24/15

## Analytical Environmental Services, Inc

Date: 24-Nov-15

|               |                        |                   |                       |
|---------------|------------------------|-------------------|-----------------------|
| Client:       | Tetra Tech EM Inc.     | Client Sample ID: | OBM-RUNOFF-01         |
| Project Name: | Old Barnwick Mill Fire | Collection Date:  | 11/15/2015 5:30:00 PM |
| Lab ID:       | 1511E55-001            | Matrix:           | Surface Water         |

| Analyses  | Result   | Qual | MDL     | Reporting Limit | Units           | BatchID | DF | Date Analyzed    | Analyst |
|---|----------|------|---------|-----------------|-----------------|---------|----|------------------|---------|
| <b>Phenolics, Total Recoverable E420.1</b>          |          |      |         |                 |                 |         |    |                  |         |
| Phenolics, Total Recoverable                        | BRL      |      | 0.01    | 0.05 U          | mg/L            | 215990  | 1  | 11/16/2015 15:00 | JS      |
| <b>Nitrogen, total Kjeldahl (TKN) E351.2</b>        |          |      |         |                 |                 |         |    |                  |         |
| Nitrogen, total Kjeldahl (TKN)                      | 1.57 J+  |      | 0.275   | 0.500           | mg/L            | 215931  | 1  | 11/16/2015 18:26 | TL      |
| <b>Nitrogen, Ammonia (as N) E350.1</b>              |          |      |         |                 |                 |         |    |                  |         |
| Nitrogen, Ammonia (As N)                            | 0.225 J+ |      | 0.040   | 0.200           | mg/L            | 215939  | 1  | 11/16/2015 16:26 | FS      |
| <b>Inorganic Anions by IC E300.0</b>                |          |      |         |                 |                 |         |    |                  |         |
| Nitrogen, Nitrate (As N)                            | 1.22     |      | 0.106   | 0.250           | mg/L            | R304465 | 1  | 11/16/2015 11:18 | JW      |
| <b>Hexavalent Chromium in Water SW7196A</b>         |          |      |         |                 |                 |         |    |                  |         |
| Chromium, Hexavalent                                | BRL      |      | 0.00130 | 0.0100 U        | mg/L            | R304490 | 1  | 11/16/2015 12:45 | JC      |
| <b>Fecal Coliform (MF) SM9222D-1997</b>             |          |      |         |                 |                 |         |    |                  |         |
| Fecal Coliform, (MF)                                | 330 J+   |      | 20      | 20              | Colonies/100 ml | R304588 | 10 | 11/16/2015 15:50 | MU      |
| <b>Chemical Oxygen Demand (COD) E410.4</b>          |          |      |         |                 |                 |         |    |                  |         |
| Chemical Oxygen Demand                              | 92.6     |      | 5.29    | 10.0            | mg/L            | R304451 | 1  | 11/16/2015 10:30 | CH      |
| <b>Biochemical Oxygen Demand (5 Day) by SM5210B</b> |          |      |         |                 |                 |         |    |                  |         |
| Biochemical Oxygen Demand                           | 15.9     |      | 5.0     | 5.0             | mg/L            | 216282  | 1  | 11/16/2015 11:00 | CH      |

gaw  
11/24/15

## Qualifiers:

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