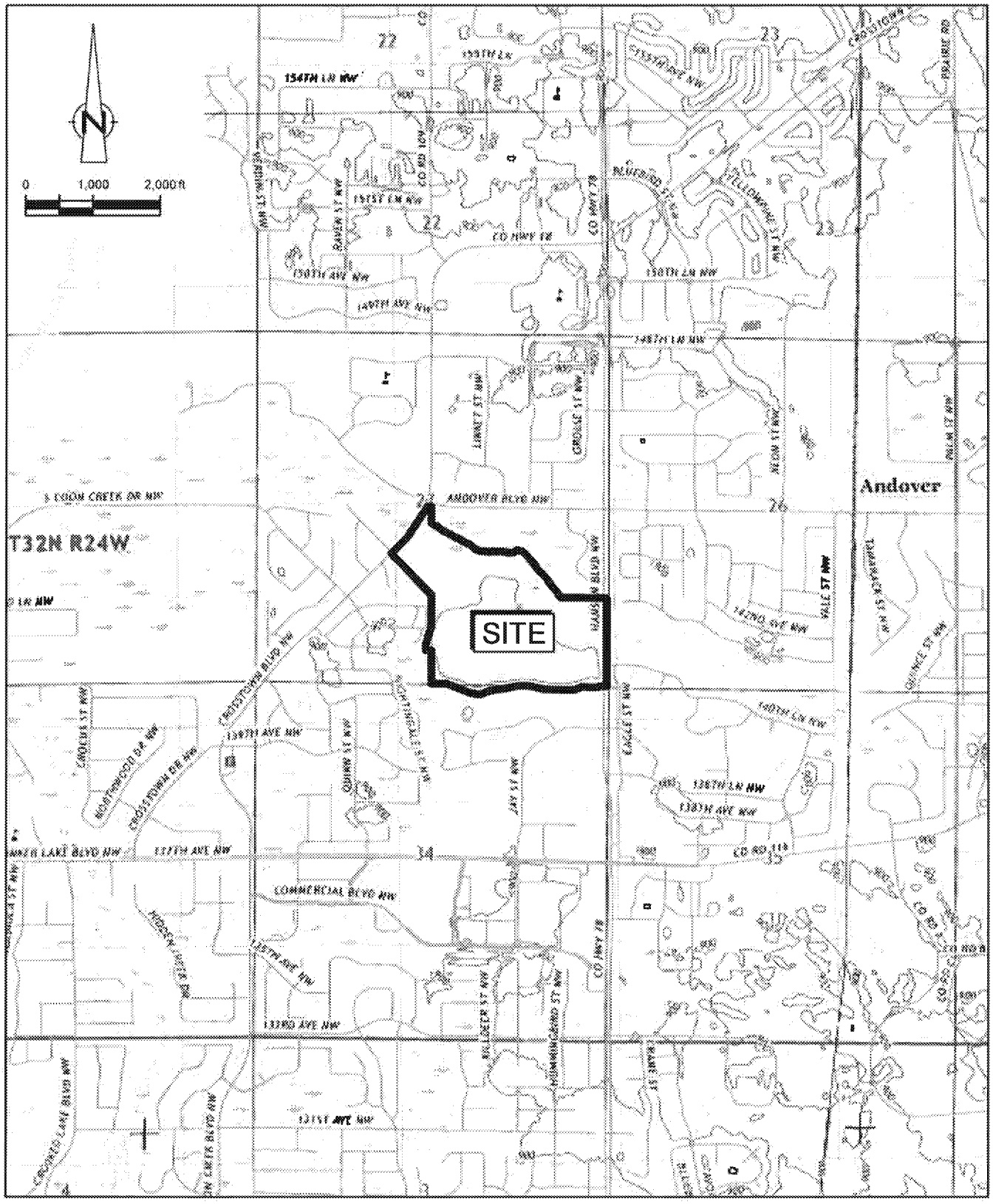
# APPENDIX B:

# FIGURES AND ADDITIONAL TABLES




Source: USGS US Topo 7.5-Minute Series - Coon Rapids 2016; Cedar 2016

WASTE DISPOSAL ENGINEERING INC. CLOSED LANDFILL
ANDOVER, MINNESOTA
INDUSTRIAL WASTE PIT

11129194-17
May 8, 2017

SITE LOCATION

SHEET NO. 1

GIS File: I:\GIS\Projects\8-chars\11——\1112——\111291–\11129194\11129194-REPORTS\11129194-17(004)\11129194-17(004)GIS-SP001.mxd

FIGURE 1

# CLP GW Area of Concern: Waste Disposal Engineering Landfill

DISCLAIMER: The State of Minnesota makes no representations or warranties to the user as to the accuracy, currency, suitability or reliability of this data for any purpose. This map depicts a reasonable approximation of impacts from the landfill only and makes no inference about impacts from other potential sources.

1:12,820

Meters 0 175 350 525

Feet 0 440 880 1,320

MINNESOTA POLLUTION CONTROL AGENCY

## Site Contacts

Land Manager: Shawn Ruotsinoja
Engineer: Ben Klismith
Hydrogeologist: Lauren Larkin

Date Updated:12/5/2017

## Site Features

**Waste Footprint**

**Groundwater Plume**

**Groundwater Area of Concern**
*An area where the groundwater may be affected by landfill contamination.*

**Land Management Area**
*Designates the property that is under the responsibility and control of the MPCA for the purpose of taking environmental response actions.*

**Monitoring Well**

- **Sealed (4)**
- **Active (72)**
- Pumping Wells (8)

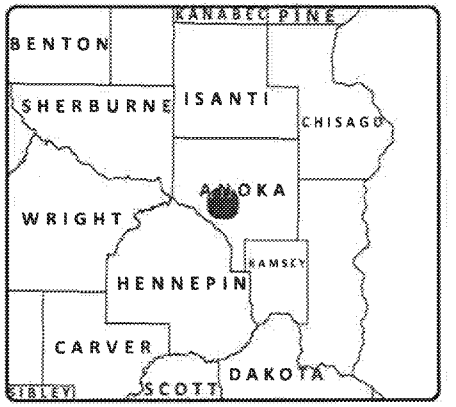



FIGURE 2

ED_014031A_00000920-00003

# CLP Methane Area of Concern: WASTE DISPOSAL ENGINEERING LF

Minnesota Pollution Control Agency

Site Contacts

Land Manager: Jean Hanson

Engineer: Peter Tiffany

Hydrogeologist: Ingrid Verhagen

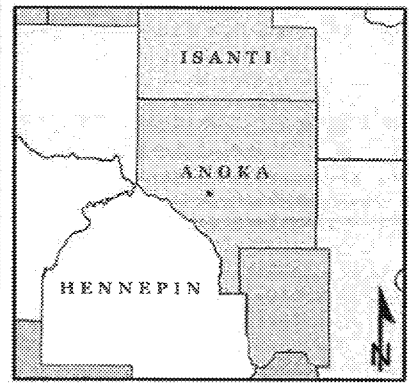
**Site Features**

**Gas Probe**

**Waste Footprint**

**Land Management Area**
*Designates the property that is under the responsibility and control of the MPCA.*

**Methane Area of Concern**
*Area surrounding the landfill that may be impacted by subsurface migration of methane gas.*

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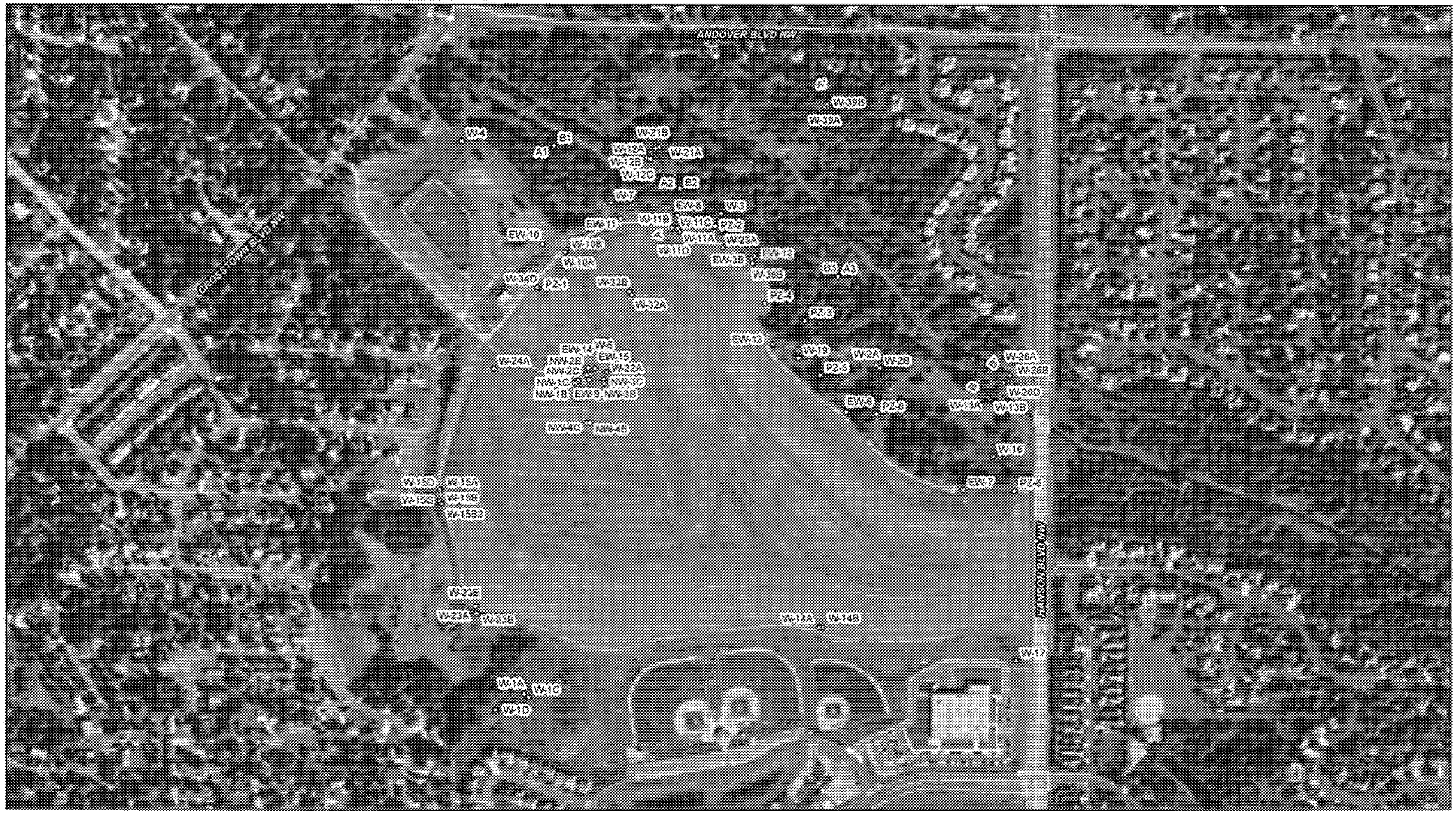
Created 10/11/2011by CLP Engineer Peter Tiffany

1:6,970

Meters 0 90 180 270

Feet 0 320 640 960

FIGURE 3




0 200 400 ft

LEGEND

WELL LOCATION

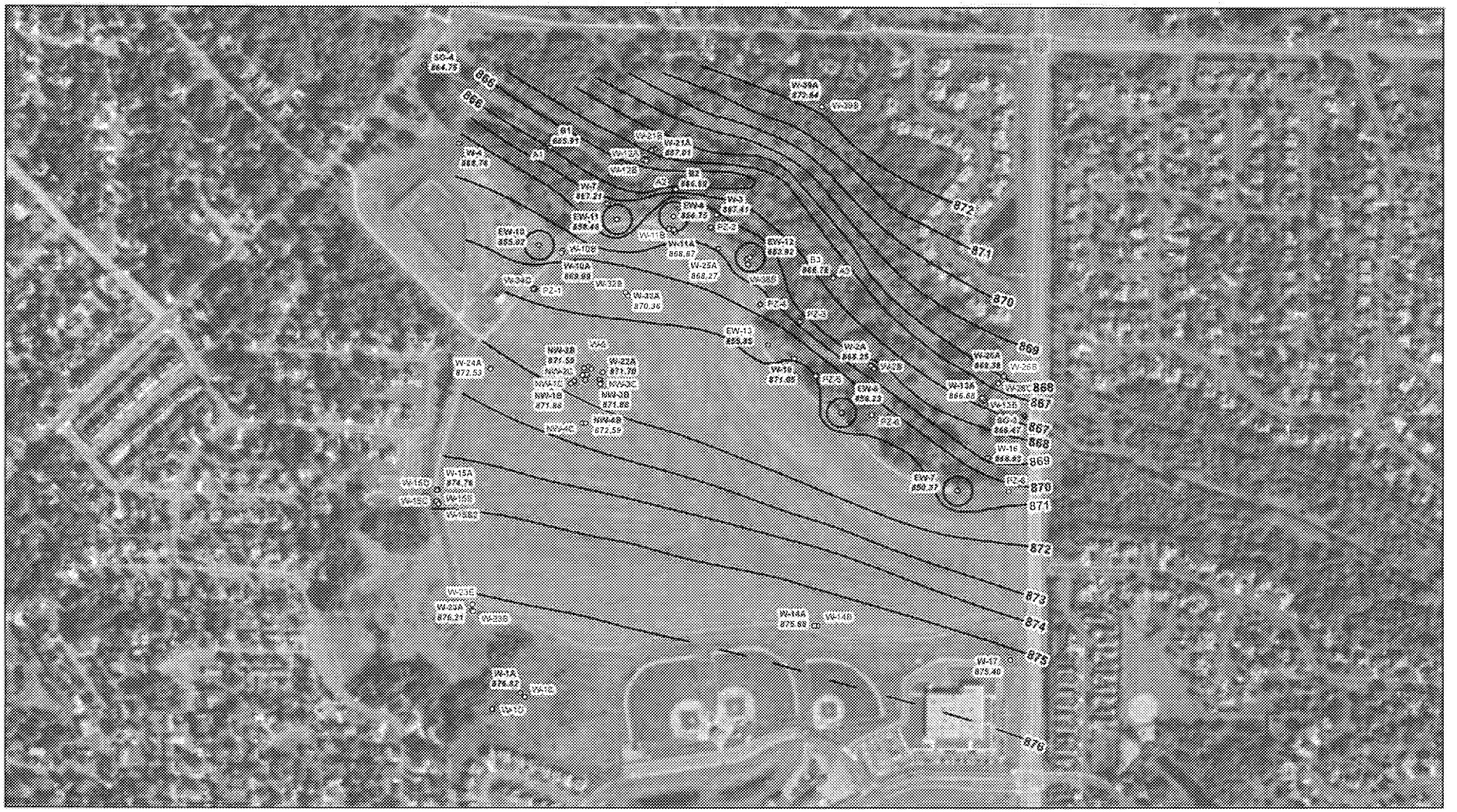
A A' CROSS-SECTION LOCATION

WASTE DISPOSAL ENGINEERING INC. CLOSED LANDFILL
ANDOVER, MINNESOTA
GROUNDWATER ASSESSMENT NORTH OF COON CREEK

ACTIVE MONITORING WELL LOCATIONS

11114941-03
Jun 24, 2016

FIGURE 4




0 200 400 ft

N

LEGEND

- WELL LOCATION
- STAFF GAUGE LOCATION
- GROUNDWATER CONTOUR
- 851.46 GROUNDWATER ELEVATION (FT AMSL)

WASTE DISPOSAL ENGINEERING INC. CLOSED LANDFILL
ANDOVER, MINNESOTA
GROUNDWATER ASSESSMENT NORTH OF COON CREEK

GROUNDWATER CONTOURS
UPPER SAND AQUIFER - 4/18/16

11114941-03
Jun 28, 2016

FIGURE 5

ED_014031A_00000920-00006

**Table 4. Groundwater Exceedances of Lowest Drinking Water Standard Spring 2017 (ug/L)**

| Well | Sample Date | Chemical | Result | MCL | HRL | HBV | Risk Ratio |
|---|---|---|---|---|---|---|---|
| EW-9 | 5/9/2017 | 1,1,1-Trichloroethane | 28000 | 200 | 9000 | | 3 |
| A1 | 5/8/2017 | 1,4-Dioxane | 110 | | 1 | | 110 |
| A2 | 5/8/2017 | 1,4-Dioxane | 120 | | 1 | | 120 |
| B1 | 5/8/2017 | 1,4-Dioxane | 7.9 | | 1 | | 8 |
| B2 | 5/8/2017 | 1,4-Dioxane | 81 | | 1 | | 81 |
| B3 | 5/8/2017 | 1,4-Dioxane | 36 | | 1 | | 36 |
| EW-10 | 5/9/2017 | 1,4-Dioxane | 25 | | 1 | | 25 |
| EW-13 | 5/9/2017 | 1,4-Dioxane | 85 | | 1 | | 85 |
| EW-9 | 2/7/2017 | 1,4-Dioxane | 4600 | | 1 | | 4600 |
| NW-4B | 5/9/2017 | 1,4-Dioxane | 390 | | 1 | | 390 |
| W-10A | 5/10/2017 | 1,4-Dioxane | 1.4 | | 1 | | 1 |
| W-10B | 5/10/2017 | 1,4-Dioxane | 390 | | 1 | | 390 |
| W-13B | 5/9/2017 | 1,4-Dioxane | 240 | | 1 | | 240 |
| W-4 | 5/8/2017 | 1,4-Dioxane | 5.9 | | 1 | | 6 |
| EW-9 | 5/9/2017 | Acetone | 6100 | | 4000 | | 2 |
| EW-9 | 4/5/2017 | Aroclor 1242 | 2.8 | 0.5 | 0.4 | | 7 |
| NW-2C | 5/9/2017 | Aroclor 1242 | 3.8 | 0.5 | 0.4 | | 10 |
| A2 | 5/8/2017 | Benzene | 2.6 | 5 | 2 | | 1 |
| B2 | 5/8/2017 | Benzene | 3.6 | 5 | 2 | | 2 |
| EW-11 | 3/6/2017 | Benzene | 3.5 | 5 | 2 | | 2 |
| EW-11 | 5/9/2017 | Benzene | 2.5 | 5 | 2 | | 1 |
| EW-12 | 5/9/2017 | Benzene | 9.2 | 5 | 2 | | 5 |
| EW-13 | 3/6/2017 | Benzene | 9.9 | 5 | 2 | | 5 |
| EW-8 | 5/9/2017 | Benzene | 3.9 | 5 | 2 | | 2 |
| NW-1B | 5/9/2017 | Benzene | 7.5 | 5 | 2 | | 4 |
| NW-2B | 5/9/2017 | Benzene | 17 | 5 | 2 | | 9 |
| NW-2C | 5/9/2017 | Benzene | 4.2 | 5 | 2 | | 2 |
| NW-3B | 5/9/2017 | Benzene | 8.4 | 5 | 2 | | 4 |
| NW-3C | 5/9/2017 | Benzene | 2.1 | 5 | 2 | | 1 |
| NW-4B | 5/9/2017 | Benzene | 15 | 5 | 2 | | 8 |
| NW-4C | 5/9/2017 | Benzene | 4 | 5 | 2 | | 2 |
| W-10B | 5/10/2017 | Benzene | 2.9 | 5 | 2 | | 1 |
| W-13B | 5/9/2017 | Benzene | 8.2 | 5 | 2 | | 4 |
| W-2A | 5/9/2017 | Benzene | 2.4 | 5 | 2 | | 1 |
| W-3 | 5/8/2017 | Benzene | 11 | 5 | 2 | | 6 |
| W-32A | 5/9/2017 | Benzene | 64 | 5 | 2 | | 32 |
| W-32B | 5/9/2017 | Benzene | 3.5 | 5 | 2 | | 2 |
| EW-13 | 5/9/2017 | cis-1,2-Dichloroethylene | 7 | 70 | 50 | 6 | 1 |
| EW-9 | 5/9/2017 | cis-1,2-Dichloroethylene | 19000 | 70 | 50 | 6 | 3167 |
| W-10B | 5/10/2017 | cis-1,2-Dichloroethylene | 8 | 70 | 50 | 6 | 1 |
| EW-9 | 5/9/2017 | meta & para Xylene mix | 5300 | 10,000 | 300 | | 18 |
| NW-2B | 5/9/2017 | meta & para Xylene mix | 390 | 10,000 | 300 | | 1 |
| W-32A | 5/9/2017 | meta & para Xylene mix | 1100 | 10,000 | 300 | | 4 |
| EW-9 | 5/9/2017 | Methyl ethyl ketone | 11000 | | 4000 | | 3 |
| EW-9 | 5/9/2017 | Methyl isobutyl ketone | 3900 | | 300 | | 13 |
| EW-9 | 5/9/2017 | o-Xylene | 2300 | 10,000 | 300 | | 8 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EW-9 | 5/9/2017 | Tetrachloroethylene | 5400 | 5 | 4 | | 1350 |
| EW-9 | 5/9/2017 | Tetrahydrofuran | 8600 | | 600 | | 14 |
| NW-2B | 5/9/2017 | Tetrahydrofuran | 1100 | | 600 | | 2 |
| EW-9 | 5/9/2017 | Toluene | 11000 | 1000 | 200 | | 55 |
| NW-2B | 5/9/2017 | Toluene | 410 | 1000 | 200 | | 2 |
| EW-9 | 5/9/2017 | Trichloroethylene | 6200 | 5 | 0.4 | | 15500 |
| A1 | 5/8/2017 | Vinyl chloride | 0.22 | 2 | 0.2 | | 1 |
| A2 | 5/8/2017 | Vinyl chloride | 0.5 | 2 | 0.2 | | 3 |
| EW-11 | 3/6/2017 | Vinyl chloride | 1.2 | 2 | 0.2 | | 6 |
| EW-11 | 5/9/2017 | Vinyl chloride | 0.85 | 2 | 0.2 | | 4 |
| EW-13 | 5/9/2017 | Vinyl chloride | 0.92 | 2 | 0.2 | | 5 |
| EW-9 | 5/9/2017 | Vinyl chloride | 580 | 2 | 0.2 | | 2900 |
| NW-1C | 5/9/2017 | Vinyl chloride | 5 | 2 | 0.2 | | 25 |
| NW-2B | 5/9/2017 | Vinyl chloride | 0.42 | 2 | 0.2 | | 2 |
| NW-2C | 5/9/2017 | Vinyl chloride | 0.62 | 2 | 0.2 | | 3 |
| W-10B | 5/10/2017 | Vinyl chloride | 4.7 | 2 | 0.2 | | 24 |
| W-21B | 5/8/2017 | Vinyl chloride | 10 | 2 | 0.2 | | 50 |
| W-2A | 5/9/2017 | Vinyl chloride | 0.27 | 2 | 0.2 | | 1 |
| W-3 | 5/8/2017 | Vinyl chloride | 0.34 | 2 | 0.2 | | 2 |
| W-32A | 5/9/2017 | Vinyl chloride | 0.51 | 2 | 0.2 | | 3 |
| W-4 | 5/8/2017 | Vinyl chloride | 0.62 | 2 | 0.2 | | 3 |