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WIDSETH SMITH NOLTING

2013 ANNUAL GROUNDWATER MONITORING REPORT

FOR

CAMP RIPLEY DEMOLITION LANDFILL Little Falls, Minnesota

Prepared for:

Mr. Mark Erickson
Minnesota Department of Military Affairs
Minnesota Army National Guard Facilities Management Office
Little Falls, MN 56345

February 18, 2014

WSN No. 0283B0009.000

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February 18, 2014

Mr. Neal Wilson, P.G.
MPCA
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

RE: Camp Ripley Demolition Landfill, SW-359
2013 Annual Groundwater Monitoring Report
WSN No. 0283B0009.000

Dear Mr. Wilson:

This report has been prepared in accordance with Minnesota Rule 7035.2585, item H and Minnesota Rule part 7035.2815, subpart 14, item Q. Item Q requires this report identify recent and long term trends in water elevations and concentrations of monitored constituents. Furthermore, the report should include discuss the effect, if any, the Camp Ripley Demolition Landfill (landfill) is having on groundwater and surface water quality, and any recommendations for changes to the system. By permit, the annual volume survey at the landfill is only required in even numbered years.

The landfill is a private landfill within the boundaries of the Camp Ripley Military Reservation. The landfill occupies approximately 17 acres in the North 1/2 of the Northwest ¼ of Section 2, Township 130 North, Range 30 West, Darling Township, Morrison County, Minnesota. The location of the demolition landfill is shown on Figure 1.

The landfill operates under solid waste permit number SW-359, which was originally issued by the MPCA in July 1990. The landfill was re-permitted in August 1995, February 2002, August 2006, and again in 2012. The landfill is currently permitted to accept 75,000 cubic yards of waste and has an ultimate design capacity of 288,000 cubic yards of demolition debris and cover material. The ultimate life of the landfill is approximately 125 years. The landfill only accepts demolition debris generated at Camp Ripley.

The site is located within the central glacial drift region of Minnesota. The topography of the area consists of rolling hills and lowlands generally ranging in elevation from 1,140 ft mean sea level (MSL) to 1,275 ft MSL. Native ground elevation across the landfill site ranges from approximately 1,220 ft MSL to 1,200 ft MSL from west to east.

A paper published by J.J. Quinn of the Environmental Science Division of the Argonne National Laboratory in December 2006, titled Delineation of a Wellhead Protection Zone and Determination of Flow Paths from Potential Groundwater Contaminant Source Areas at Camp Ripley, Little Falls, Minnesota. The following glacial geological summary for the region is an excerpt from this paper:

> "The geology and topography of the Camp Ripley property and its vicinity are the result of a complex glacial depositional history involving three ice lobes that deposited drifts of various characters and colors. These lobes were thought to have been concurrently active in central

> Minnesota; however, a detailed geologic characterization of the site by UMD (2002) suggests new, previously unrecognized possibilities for the juxtapositioning of the ice lobes and for the nature of the St. Croix moraine at Camp Ripley. The lobes appear to have been present in the Camp Ripley vicinity concurrently, depositing well-sorted sands into an ice-bounded lacustrine basin. Occasional ice advances deposited discontinuous till units in the basin at various elevations."

On site geological information has been collected during various site investigations and monitoring well installations. The boring logs indicate the soil profile typically consists of silty loam topsoil, underlain by two feet of loamy sand, underlain by approximately 40 feet of fine sand. Clay was found below the fine sand at approximately 42- 51 feet below the surface. Wet saturated soils were noted at a depth below 28 feet.

The site is located within the Mississippi River watershed. Surrounding area waterways include the Mississippi River located approximately three miles east of the landfill, the Crow Wing River located approximately 13 miles north of the landfill and the Little Elk River approximately two miles south-southwest of the landfill. Kraft Lake and the Kraft Lake wetland are less than one-quarter mile to the west and Ferrell Lake lies approximately one-quarter mile northeast of the landfill.

A regional groundwater model (Quinn, 2006) describes the regional groundwater flow direction as southeast at an elevation of approximately 1,170 ft MSL. Groundwater elevation measurements from the current monitoring well system indicate a groundwater flow direction at the site from north to south at an elevation ranging from approximately 1,209 ft MSL to 1,203 ft MSL. Boring logs from past investigations at the site indicate a low permeability clay layer below the landfill monitoring wells. It has been interpreted that the monitoring wells are screened in a perched aquifer with a local groundwater flow direction independent of the regional flow direction (Quinn, 2006).

Regional groundwater geochemistry is influenced by the glacial sediments and bedrock through which the groundwater flows. Land uses such as agriculture and irrigation have also been shown to contribute to the chemical makeup of groundwater in the area. These and other sources have the potential to influence the quality of groundwater monitored by the landfill environmental monitoring system. Water samples collected from upgradient monitoring wells at the site help to determine any influence upgradient groundwater chemistry may have on downgradient sample results.

The groundwater monitoring system at the landfill consists of five monitoring wells (DDLF-1, DDLF-2, DDLF-3, DDLF-4, and DDLF-5). The locations of the five monitoring wells are shown on Figure 2. Groundwater samples and depth to water levels are collected from the monitoring wells in the fall of each year as directed in the SW-359 permit. On October 25, 2013, Widseth Smith Nolting environmental technician, Mike Bogart, collected samples from monitoring wells DDLF-4 and DDLF-5 and depth to water groundwater elevations were collected from all five monitoring wells. Groundwater samples were analyzed for the list of inorganics and organics in Table 1. The required field blanks, trip blanks, and duplicates were performed as part of the 2013 monitoring event.

The analytical results for the 2013 fall sampling event are summarized in Table 2, Table 3, Table 4, and Table 5. The inorganic and general chemistry parameters are summarized in Table 2 and Table 3. The results in Table 2 indicate minimal change in the water quality when compared to the results for previous years. Generally, the results in Table 3 demonstrate a slight improvement in the water quality when compared to previous years. In 2012, the concentrations for lead and manganese were above their respective intervention limits (IL). The analytical results for 2013 indicate both metals were below their respective IL. Copies of the 2013 analytical reports are included in Appendix A.

The organic or volatile organic compound (VOC) groundwater quality results for the 2013 sampling event are summarized in Table 4 and Table 5. As shown in both tables there were no VOC detections in the 2013 samples.

The fall groundwater elevations are listed in Table 6 and the associated groundwater flow map is attached as Figure 2. As shown, the groundwater flow direction is consistent with the historical flow direction, which is from north to south across the site.

Well stabilization parameters were measured and recorded prior to sample collection. A HydroLab Data Sonde 4A water quality multi-probe and a flow through cell were used to measure the stabilization parameters. The well stabilization forms are attached as Appendix B.

In 2014, the analysis schedule specifies sample collection and analyses identical to 2013. Based on the analytical results for 2013, and past analytical results, we do not believe it is necessary to make any changes to the landfill's groundwater monitoring network or the published analytical schedule for 2014. Various evaluation reports relative to landfill activities are attached as Appendix C.

Please let me know if there is any other information that you might need. My direct telephone number is 218.316.3623 or you can send an email to Greg.Smith@wsn.us.com.

Sincerely,

WIDSETH SMITH NOLTING

Gregory W. Smith

Gregory W. Smith, P.G.

Cc: Mr. Mark Erickson, Facilities Management Office, Minnesota Army National Guard

FIGURES

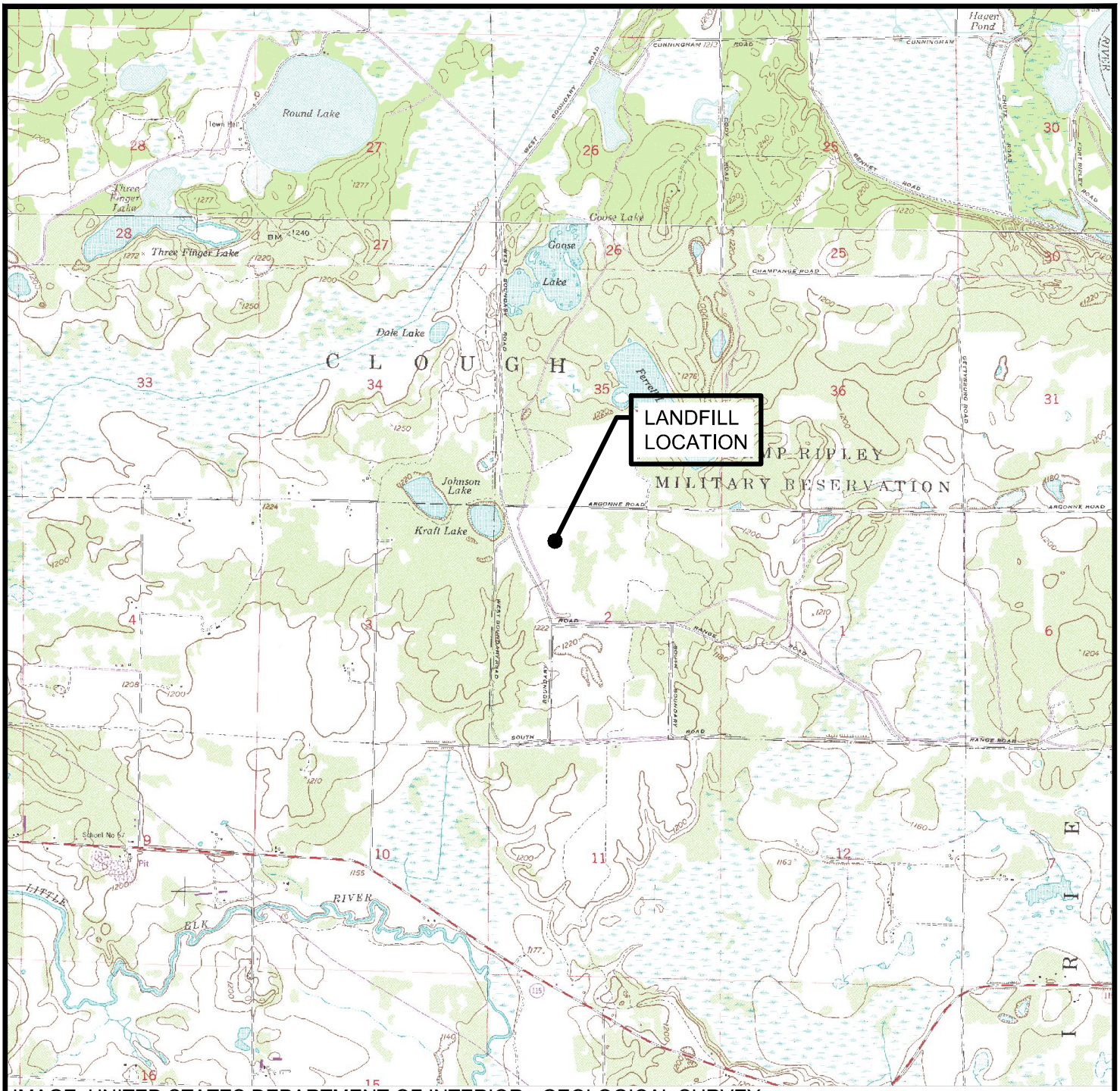

IMAGE: UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

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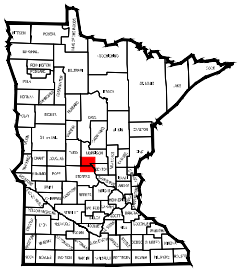
AREA LOCATION



NORTH

0 1000m 2000m

SCALE (IN METERS)

U.S.G.S. QUADRANGLE MAPS:
BELLE PRAIRIE, BELL PRAIRIE NW, FORT RIPLEY, RANDALL EAST
PUBLISHED: 1956, 1956, 1956, 1956
PHOTOREVISED: 1979, 1979, NA, 1979

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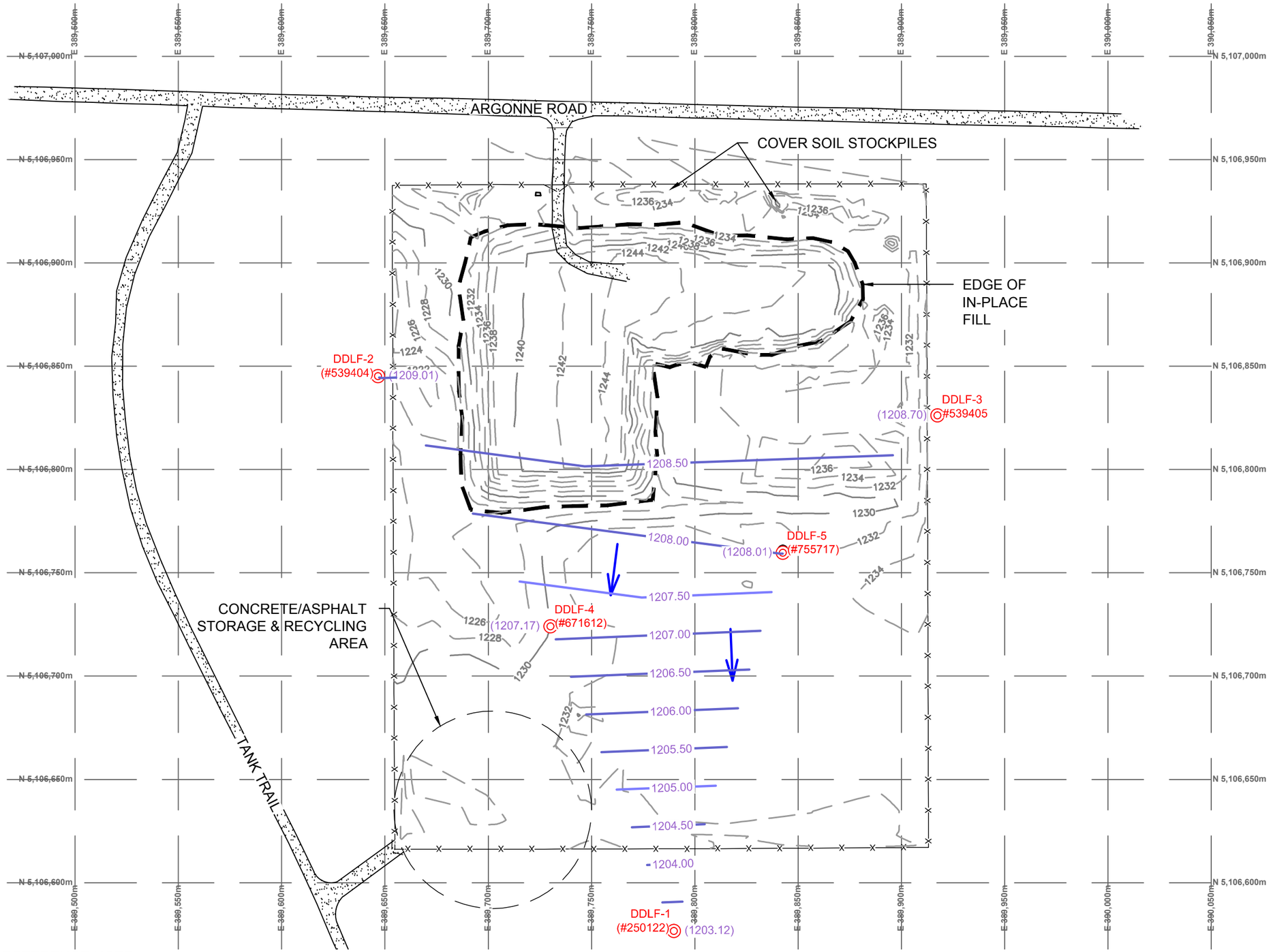
DEMOLITION LANDFILL - 2013 G.W. MONITORING
CAMP RIPLEY MILITARY RESERVATION
LITTLE FALLS, MN

SITE LOCATION MAP

DATE: FEBRUARY 2014

JOB No.	FIGURE
0283B0009.000	01



LEGEND

- DDFL ◎#539405 — DENOTES MONITORING WELL & UNIQUE WELL NUMBER
- 1208.00 — DENOTES GROUNDWATER SURFACE CONTOUR LINE
- (1207.17) — DENOTES GROUNDWATER ELEVATION AT LOCATION
- DENOTES GROUNDWATER FLOW DIRECTION
- DENOTES FENCE
- DENOTES GRAVEL ROAD SURFACE

0 50m 100m

SCALE (IN METERS)

REFERENCE NOTE:

HORIZONTAL COORDINATES ARE SHOWN IN GRID METERS BASED ON UTM COORDINATES, ZONE 15 NORTH, NAD83 DATUM. VERTICAL CONTOURS AND ELEVATIONS ARE SHOWN IN FEET BASED ON NAVD.

BASE CONTROL POINT COORDINATES AND ELEVATIONS PROVIDED BY MN DEPT. OF MILITARY AFFAIRS.

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NORTH

DEMOLITION LANDFILL - 2013 G.W. MONITORING
CAMP RIPLEY MILITARY RESERVATION
LITTLE FALLS, MN

GROUNDWATER ELEVATIONS ON 10-25-13

DATE: FEBRUARY 2014

JOB No. 0283B0009.000

FIGURE 02

TABLES

Table 1

Parameters for Analysis

Inorganics
Alkalinity, total as calcium carbonate
Ammonia Nitrogen
Arsenic, dissolved
Barium, dissolved
Boron, dissolved
Cadmium, dissolved
Chloride
Chromium, total dissolved
Copper, dissolved
Iron, dissolved
Lead, dissolved
Manganese, dissolved
Mercury, dissolved
Nitrate+Nitrite as Nitrogen
Sodium, dissolved
Sulfate
Suspended Solids, total
Appearance (field and lab)
Dissolved Oxygen (field)
pH (field and lab)
Specific Conductance (field and lab)
Temperature (field and lab)
Turbidity (field)
Static Water Elevation

468 List
1,1,1,2-Tetrachloroethane
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1,2-Trichlorotrifluoroethane
1,1-Dichloroethane
1,1-Dichloroethylene (Vinylidene chloride)
1,2-Dichloropropane
trans-1,2-Dichloroethylene
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Bromomethane; (Ethylene dibromide); EDB
1,2-Dichlorobenzene (orth)
1,2-Dichloroethane
1,2-Dichloroethylene (cis)
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene (meta-)
1,3-Dichloropropane
1,3-Dichloropropane (cis + trans)
1,4-Dichlorobenzene (para)
2,2-Dichloropropane
2-Chlorotoluene (ortho-)
4-Chlorotoluene (para-)
Acetone
Allyl chloride; (3-Chloropropene)
Benzene
Bromobenzene
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dichlorobromomethane)
Bromoform
Bromomethane (Methyl chloride)
Carbon tetrachloride
Chlorobenzene (monochlorobenzene)
Chlorodibromomethane; (Dibromochloromethane)
Chloroethane
Chloroform
Chloromethane; (Methyl chloride)
Cumene; (Isopropylbenzene)
Dibromochloropropane; (DBCP)
Dibromomethane; Methylene bromide)

Dichlorodifluoromethane
Dichlorofluoromethane
Dichloromethane (methylene chloride)
Ethyl benzene
Ethyl ether
Hexachlorobutadiene
Methyl ethyl ketone (MEK)
Methyl isobutyl ketone; (4-Methyl-2-pentanone)
Methyl tertiary-butyl ether (MTBE)
Naphthalene
n-Butyl benzene
n-Propyl benzene
p-Isopropyltoluene
sec-Butyl benzene
Styrene
tert-Butyl benzene
Tetrachloroethylene; (Perchloroethylene)
Tetrahydrofuran
Toluene
Trichloroethylene; (TCE)
Trichlorofluoromethane
Vinyl Chloride
Xylenes (mixture of o, m, p)

Table 2

Summary of Inorganic Groundwater Quality Data - DDLF-4
Camp Ripley Demolition Debris Landfill
State of Minnesota Department of Military Affairs

Parameter	Units	IL	DDLF-4 11/5/2008*	DDLF-4 11/11/2009*	DDLF-4 11/8/2010*	DDLF-4 11/8/2011*	DDLF-4 11/1/2012*	DDLF-4 10/25/2013
Alkalinity	mg/L	--	51	72	62	64	76.1	72.4
Ammonia Nitrogen	mg/L	--	<0.01	<0.01	<0.01	<0.1	<0.1	0.1
Arsenic (dissolved)	ug/L	2.5	<1.0	<1.0	<1.6	<1.6	<0.5	<20
Barium (dissolved)	mg/L	0.5	0.006	0.008	NA	NA	0.012	0.01
Boron (dissolved)	ug/L	250	<40	<40	NA	NA	NA	<150
Cadmium (dissolved)	ug/L	1	1	<0.2	0.2	NA	NA	<3.0
Calcium (dissolved)	mg/L	--	14	20	NA	NA	22.4	NA
Cation/Anion Balance	%	--	NA	NA	NA	NA	2.1	NA
Chloride	mg/L	--	1	1.1	NA	NA	<0.5	<2.0
Chromium (Total)	ug/L	25	<5	7.9	NA	NA	5	<10
Chromium, Trivalent	ug/L	--	NA	NA	NA	NA	<10	NA
Chromium, Hexavalent	ug/L	--	<3	<3	NA	NA	<10	NA
Conductance (Field)	umhos/cm	--	NA	NA	NA	NA	96.3	149
Conductance (Lab)	umhos/cm	--	120	150	130	120	160	160
Copper (dissolved)	ug/L	250	<10	10	NA	NA	<5	<10
Dissolved Oxygen (Field)	mg/L	--	NA	NA	NA	NA	8.72	NA
Eh (Lab)	mV	--	130	140	140	440	202	NA
Eh (Field)	mV	--	NA	NA	NA	NA	502.7	NA
Iron (dissolved)	mg/L	--	<0.01	0.1	0.14	<0.01	0.099	0.217
Lead (dissolved)	ug/L	1.25	<0.4	0.4	<0.4	<0.4	<0.5	<10
Magnesium (dissolved)	mg/L	--	4	5.6	4.5	4.6	6.1	NA
Manganese (dissolved)	mg/L	0.075	0.059	0.01	NA	NA	<0.01	<0.005
Mercury (dissolved)	ug/L	0.5	<0.1	0.1	<0.1	<0.1	<0.2	<0.2
Nitrate + Nitrite as N	mg/L	2.5	0.8	1.1	NA	NA	NA	0.45
Nitrate as N	mg/L	--	NA	NA	0.68	0.56	0.37	0.45
Nitrite as N	mg/L	--	NA	NA	<0.05	<0.05	<0.1	<0.1
pH (Field)	Standard Units	--	NA	NA	NA	NA	7.9	8.2
pH (Lab)	Standard Units	--	6.9	7.6	7	7.3	7	6.6
Potassium (dissolved)	mg/L	--	6	0.4	0.6	<0.3	0.57	NA
Sodium (dissolved)	mg/L	--	2.1	2.3	2.4	2.4	NA	2.6
Sulfate	mg/L	--	6.2	6.3	3.1	1.9	2.1	3.4
Temp (Field)	oC	--	NA	NA	NA	NA	8.8	8.8
Total Dissolved Solids (TDS)	mg/L	--	88	100	98	92	120	NA
Total Suspended Solids (TSS)	mg/L	--	4	150	12	14	98.7	12.8
Turbidity (Field)	NTU	--	5	53	12	16	38	56
Zinc (dissolved)	ug/L	500	<5	<5	NA	NA	<10	NA

NA = Not Analyzed
*Data obtained from previous reports
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts pre billion
IL = Intervention limit

Table 3

Summary of Inorganic Groundwater Quality Data - DDLF-5
Camp Ripley Demolition Debris Landfill
State of Minnesota Department of Military Affairs

Parameter	Units	IL	DDLF-5 11/5/2008*	DDLF-5 11/11/2009*	DDLF-5 11/8/2010*	DDLF-5 11/8/2011*	DDLF-5 11/1/2012*	DDLF-5 10/25/2013
Alkalinity	mg/L	--	34	48	45	37	38.7	29.5
Ammonia Nitrogen	mg/L	--	<0.01	<0.01	<0.01	<0.1	<0.1	0.061
Arsenic (dissolved)	ug/L	2.5	<1	<1	<1.6	<1.6	0.85	<20
Barium (dissolved)	mg/L	0.5	0.01	0.006	NA	NA	0.0437	0.01
Boron (dissolved)	ug/L	250	<40	<40	NA	NA	NA	<150
Cadmium (dissolved)	ug/L	1	<0.2	<0.2	NA	NA	<0.2	<3.0
Calcium (dissolved)	mg/L	--	8.8	10	NA	NA	17.7	NA
Cation/Anion Balance	%	--	NA	NA	NA	NA	25.1	NA
Chloride	mg/L	--	1.1	0.73	NA	NA	<0.5	<2.0
Chromium (Total)	ug/L	25	<5	8.7	NA	NA	<5	<10
Chromium, Trivalent	ug/L	--	NA	NA	NA	NA	<10	NA
Chromium, Hexavalent	ug/L	--	<3	<3	NA	NA	<10	NA
Conductance (Field)	umhos/cm	--	NA	NA	NA	NA	150.3	60
Conductance (Lab)	umhos/cm	--	77	97	93	74	110	66.4
Copper (dissolved)	ug/L	250	<10	<10	NA	NA	7.1	<10
Dissolved Oxygen (Field)	mg/L	--	NA	NA	NA	NA	8.83	NA
Eh (Lab)	mV	--	140	140	140	430	173	NA
Eh (Field)	mV	--	NA	NA	NA	NA	524	NA
Iron (dissolved)	mg/L	--	<0.01	<10	0.033	<0.01	5.03	<0.05
Lead (dissolved)	ug/L	1.25	<0.4	<0.4	<0.4	0.4	2.2	<10
Magnesium (dissolved)	mg/L	--	2.3	3	3.1	2.5	4.6	NA
Manganese (dissolved)	mg/L	0.075	0.076	<0.005	NA	NA	0.193	<0.005
Mercury (dissolved)	ug/L	0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
Nitrate + Nitrite as N	mg/L	2.5	0.6	1.2	NA	NA	NA	0.13
Nitrate as N	mg/L	--	NA	NA	0.59	<0.05	1.6	0.13
Nitrite as N	mg/L	--	NA	NA	<0.05	<0.05	<0.1	<0.1
pH (Field)	Standard Units	--	NA	NA	NA	NA	7.64	7.79
pH (Lab)	Standard Units	--	6.6	7	6.7	7.3	6.7	6.3
Potassium (dissolved)	mg/L	--	0.6	0.4	0.55	0.43	1.3	NA
Sodium (dissolved)	mg/L	--	2	2.1	2.2	1.9	NA	1.86
Sulfate	mg/L	--	2.8	2.2	2.7	1.5	3.8	<2.5
Temp (Field)	oC	--	NA	NA	NA	NA	8.83	8.4
Total Dissolved Solids (TDS)	mg/L	--	64	80	88	72	93	NA
Total Suspended Solids (TSS)	mg/L	--	<2	320	32	290	904	38.4
Turbidity (Field)	NTU	--	3.6	70	19	110	70	76
Zinc (dissolved)	ug/L	500	<5	<5	NA	NA	76.8	NA

NA = Not Analyzed
*Data obtained from previous reports
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts pre billion
IL = Intervention limit

Table 4

Summary of Organic Groundwater Quality Data - DDLF-4
Camp Ripley Demolition Debris Landfill
State of Minnesota Department of Military Affairs

Parameter	Units	IL	DDLF-4 11/5/2008*	DDLF-4 11/11/2009*	DDLF-4 11/8/2010*	DDLF-4 11/8/2011*	DDLF-4 11/1/2012*	DDLF-4 10/25/2013
Acetone	(ug/l)	175	<4.0	<4.0	<4.0	<4.0	<25.0	<20.0
Allylchloride	(ug/l)	7.5	<0.042	<0.042	<0.16	<0.16	<4.0	<4.0
Benzene	(ug/l)	2.5	<0.069	<0.069	<0.2	<0.2	<1.0	<1.0
Bromobenzene	(ug/l)	--	<0.17	<0.17	<0.12	<0.12	<1.0	<1.0
Bromochloromethane	(ug/l)	--	<0.082	<0.082	<0.18	<0.18	<1.0	<1.0
Bromodichloromethane	(ug/l)	2	<0.086	<0.086	<0.12	<0.12	<1.0	<1.0
Bromoform	(ug/l)	10	<0.16	<0.16	<0.13	<0.13	<4.0	<4.0
Bromomethane	(ug/l)	3	<0.06	<0.06	<0.16	<0.16	<4.0	<4.0
Methyl Ethyl Ketone (MEK)	(ug/l)	1000	<0.1	<0.1	<0.18	<0.18	<4.0	<5.0
n-Butylbenzene	(ug/l)	--	<0.087	<0.087	<0.17	<0.17	<1.0	<1.0
sec-Butylbenzene	(ug/l)	--	<0.15	<0.15	<0.16	<0.16	<1.0	<1.0
tert-Butylbenzene	(ug/l)	--	<0.074	<0.074	<0.28	<0.28	<1.0	<1.0
Carbontetrachloride	(ug/l)	0.75	<0.14	<0.14	<0.2	<0.2	<1.0	<1.0
Chlorobenzene	(ug/l)	25	<0.089	<0.089	<0.24	<0.24	<1.0	<1.0
Chloroethane	(ug/l)	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0
Chloroform	(ug/l)	7.5	<0.068	<0.068	<0.2	<0.2	<1.0	<1.0
Chloromethane	(ug/l)	--	<0.08	<0.08	<0.13	<0.13	<4.0	<4.0
2-Chlorotoluene	(ug/l)	--	<0.11	<0.11	<0.13	<0.13	<1.0	<1.0
4-Chlorotoluene	(ug/l)	--	<0.12	<0.12	<0.23	<0.23	<1.0	<1.0
Dibromochloropropane	(ug/l)	0.05	<0.12	<0.12	<0.13	<0.13	<4.0	<4.0
Dibromochloromethane	(ug/l)	2.5	<0.12	<0.12	<0.11	<0.11	<1.0	<1.0
1,2-Dibromoethane (EDB)	(ug/l)	0.001	<0.15	<0.15	<0.1	<0.1	<1.0	<1.0
Dibromomethane	(ug/l)	--	<0.081	<0.081	<0.21	<0.21	<4.0	<4.0
1,2-Dichlorobenzene	(ug/l)	150	<0.1	<0.1	<0.096	<0.096	<1.0	<1.0
1,3-Dichlorobenzene	(ug/l)	150	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0
1,4-Dichlorobenzene	(ug/l)	2.5	<0.1	<0.1	<0.084	<0.084	<1.0	<1.0
Dichlorodifluoromethane	(ug/l)	200	<0.084	<0.084	<0.23	<0.23	<1.0	<1.0
1,1-Dichloroethane	(ug/l)	17.5	<0.077	<0.077	<0.2	<0.2	<1.0	<1.0
1,2-Dichloroethane	(ug/l)	1	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0
1,1-Dichloroethylene	(ug/l)	1.5	<0.12	<0.12	<0.17	<0.17	<1.0	<1.0
cis-1,2-Dichloroethylene	(ug/l)	17.5	<0.081	<0.081	<0.1	<0.1	<1.0	<1.0
trans-1,2-Dichloroethylene	(ug/l)	1.5	<0.053	<0.053	<0.23	<0.23	<1.0	<1.0
Dichlorofluoromethane	(ug/l)	--	<0.097	<0.097	<0.17	<0.17	<1.0	<1.0
1,2-Dichloropropane	(ug/l)	1.25	<0.055	<0.055	<0.19	<0.19	<4.0	<4.0
p1,3-Dichloropropane	(ug/l)	--	<0.091	<0.091	<0.14	<0.14	<1.0	<1.0
2,2-Dichloropropane	(ug/l)	--	<0.063	<0.063	<0.36	<0.36	<4.0	<4.0
1,1-Dichloropropene	(ug/l)	--	<0.089	<0.089	<0.21	<0.21	<1.0	<1.0

NA = Not Analyzed
*Data obtained from previous reports
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts pre billion
IL = Intervention limit

Table 4 (con't)

Summary of Organic Groundwater Quality Data - DDLF-4
Camp Ripley Demolition Debris Landfill
State of Minnesota Department of Military Affairs

Parameter	Units	IL	DDLF-4 11/5/2008*	DDLF-4 11/11/2009*	DDLF-4 11/8/2010*	DDLF-4 11/8/2011*	DDLF-4 11/1/2012*	DDLF-4 10/25/2013
cis-1,3-Dichloropopene	(ug/l)	0.5	<0.098	<0.098	<0.16	<0.16	<4.0	<4.0
trans-1,3-Dichloropropene	(ug/l)	0.5	<0.041	<0.041	<0.14	<0.14	<4.0	<4.0
Diethyl Ether (Ethyl Ether)	(ug/l)	250	<0.079	<0.079	<0.15	<0.15	<4.0	<4.0
Ethyl Benzene	(ug/l)	175	<0.12	<0.12	<0.2	<0.2	<1.0	<1.0
Hexachloro-1,3-butadiene	(ug/l)	0.25	<0.096	<0.096	<0.2	<0.2	<5.0	<1.0
Isopropylbenzene (Cumene)	(ug/l)	75	<0.055	<0.055	<0.17	<0.17	<1.0	<1.0
p-Isopropyltoluene	(ug/l)	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	(ug/l)	0.25	<0.13	<0.13	<0.18	<0.18	<4.0	<4.0
4-Methyl-2-Pentanone(MIBK)	(ug/l)	75	<0.044	<0.044	<0.13	<0.13	<4.0	<5.0
Methyl tertbutylether	(ug/l)	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0
Naphthalene	(ug/l)	75	<0.13	<0.13	<0.2	<0.2	<4.0	<4.0
n-Propylbenzene	(ug/l)	--	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0
Styrene	(ug/l)	25	<0.079	<0.079	<0.15	<0.15	<1.0	<1.0
1,1,1,2-Tetrachloroethane	(ug/l)	17.5	<0.099	<0.099	<0.13	<0.13	<1.0	<1.0
1,1,2,2-Tetrachloroethane	(ug/l)	0.5	<0.094	<0.094	<0.1	<0.1	<1.0	<1.0
Tetrachloroethylene	(ug/l)	7	<0.12	<0.12	<0.29	<0.29	<1.0	<1.0
Tetrahydrofuran	(ug/l)	25	<1.0	<1.0	<1.0	<1.0	<10.0	<10.0
Toluene	(ug/l)	250	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0
1,2,3-Trichlorobenzene	(ug/l)	--	<0.12	<0.12	<0.12	<0.12	<1.0	<1.0
1,2,4-Trichlorobenzene	(ug/l)	10	<0.073	<0.073	<0.15	<0.15	<1.0	<1.0
1,1,1-Trichloroethane	(ug/l)	150	<0.076	<0.076	<0.17	<0.17	<1.0	<1.0
1,1,2-Trichloroethane	(ug/l)	0.75	<0.11	<0.11	<0.11	<0.11	<1.0	<1.0
Trichloroethylene	(ug/l)	1.25	<0.16	<0.16	<0.19	<0.19	<1.0	<0.4
Trichlorofluoromethane	(ug/l)	500	<0.095	<0.095	<0.19	<0.19	<1.0	<1.0
1,2,3-Trichloropropane	(ug/l)	10	<0.092	<0.092	<0.17	<0.17	<4.0	<4.0
1,1,2-Trichlorotrifluoroethane	(ug/l)	50	<0.074	<0.074	<0.27	<0.27	<1.0	<1.0
1,2,4-Trimethylbenzene	(ug/l)	25	<0.042	<0.042	<0.18	<0.18	<1.0	<1.0
1,3,5-Trimethylbenzene	(ug/l)	25	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0
Vinyl Chloride	(ug/l)	0.05	<0.1	<0.1	<0.2	<0.2	<0.40	<0.4
m,p&o-Xylene (Xylene Total)	(ug/l)	75	<0.2	<0.2	<0.32	<0.32	<3.0	<3.0
m&p-Xylene	(ug/l)	--	NA	NA	NA	NA	<2.0	<2.0
o-Xylene	(ug/l)	--	NA	NA	NA	NA	<1.0	<1.0

NA = Not Analyzed
*Data obtained from previous reports
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts pre billion
IL = Intervention limit

Table 5

Summary of Organic Groundwater Quality Data - DDLF-5
Camp Ripley Demolition Debris Landfill
State of Minnesota Department of Military Affairs

Parameter	Units	IL	DDLF-5 11/5/2008*	DDLF-5 11/11/2009*	DDLF-5 11/8/2010*	DDLF-5 11/8/2011*	DDLF-5 11/1/2012*	DDLF-5 10/25/2013
Acetone	(ug/l)	175	<4.0	<4.0	<4.0	<4.0	<25.0	<20.0
Allyl-chloride	(ug/l)	7.5	<0.042	<0.042	<0.16	<0.16	<4.0	<4.0
Benzene	(ug/l)	2.5	<0.069	<0.069	<0.2	<0.2	<1.0	<1.0
Bromo-benzene	(ug/l)	--	<0.17	<0.17	<0.12	<0.12	<1.0	<1.0
Bromo-chloro-methane	(ug/l)	--	<0.082	<0.082	<0.18	<0.18	<1.0	<1.0
Bromo-dichloro-methane	(ug/l)	2	<0.086	<0.086	<0.12	<0.12	<1.0	<1.0
Bromoform	(ug/l)	10	<0.16	<0.16	<0.13	<0.13	<4.0	<4.0
Bromo-methane	(ug/l)	3	<0.06	<0.06	<0.16	<0.16	<4.0	<4.0
Methyl Ethyl Ketone (MEK)	(ug/l)	1000	<0.1	<0.1	<0.18	<0.18	<4.0	<5.0
n-Butyl-benzene	(ug/l)	--	<0.087	<0.087	<0.17	<0.17	<1.0	<1.0
sec-Butyl-benzene	(ug/l)	--	<0.15	<0.15	<0.16	<0.16	<1.0	<1.0
tert-Butyl-benzene	(ug/l)	--	<0.074	<0.074	<0.28	<0.28	<1.0	<1.0
Carbon-tetra-chloride	(ug/l)	0.75	<0.14	<0.14	<0.2	<0.2	<1.0	<1.0
Chloro-benzene	(ug/l)	25	<0.089	<0.089	<0.24	<0.24	<1.0	<1.0
Chloro-ethane	(ug/l)	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0
Chloroform	(ug/l)	7.5	<0.068	<0.068	<0.2	<0.2	<1.0	<1.0
Chloro-methane	(ug/l)	--	<0.08	<0.08	<0.13	<0.13	<4.0	<4.0
2-Chloro-toluene	(ug/l)	--	<0.11	<0.11	<0.13	<0.13	<1.0	<1.0
4-Chloro-toluene	(ug/l)	--	<0.12	<0.12	<0.23	<0.23	<1.0	<1.0
Dibromo-chloro-propane	(ug/l)	0.05	<0.12	<0.12	<0.13	<0.13	<4.0	<4.0
Dibromo-chloro-methane	(ug/l)	2.5	<0.12	<0.12	<0.11	<0.11	<1.0	<1.0
1,2-Dibromo-ethane (EDB)	(ug/l)	0.001	<0.15	<0.15	<0.1	<0.1	<1.0	<1.0
Dibromo-methane	(ug/l)	--	<0.081	<0.081	<0.21	<0.21	<4.0	<4.0
1,2-Dichloro-benzene	(ug/l)	150	<0.1	<0.1	<0.096	<0.096	<1.0	<1.0
1,3-Dichloro-benzene	(ug/l)	150	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0
1,4-Dichloro-benzene	(ug/l)	2.5	<0.1	<0.1	<0.084	<0.084	<1.0	<1.0
Dichloro-difluoro-methane	(ug/l)	200	<0.084	<0.084	<0.23	<0.23	<1.0	<1.0
1,1-Dichloro-ethane	(ug/l)	17.5	<0.077	<0.077	<0.2	<0.2	<1.0	<1.0
1,2-Dichloro-ethane	(ug/l)	1	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0
1,1-Dichloro-ethylene	(ug/l)	1.5	<0.12	<0.12	<0.17	<0.17	<1.0	<1.0
cis-1,2-Dichloro-ethylene	(ug/l)	17.5	<0.081	<0.081	<0.1	<0.1	<1.0	<1.0
trans-1,2-Dichloro-ethylene	(ug/l)	1.5	<0.053	<0.053	<0.23	<0.23	<1.0	<1.0
Dichloro-fluoro-methane	(ug/l)	--	<0.097	<0.097	<0.17	<0.17	<1.0	<1.0
1,2-Dichloro-propane	(ug/l)	1.25	<0.055	<0.055	<0.19	<0.19	<4.0	<4.0
p1,3-Dichloro-propane	(ug/l)	--	<0.091	<0.091	<0.14	<0.14	<1.0	<1.0
2,2-Dichloro-propane	(ug/l)	--	<0.063	<0.063	<0.36	<0.36	<4.0	<4.0
1,1-Dichloropropene	(ug/l)	--	<0.089	<0.089	<0.21	<0.21	<1.0	<1.0

NA = Not Analyzed
*Data obtained from previous reports
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts pre billion
IL = Intervention limit

Table 5 (con't)

Summary of Organic Groundwater Quality Data - DDLF-5
Camp Ripley Demolition Debris Landfill
State of Minnesota Department of Military Affairs

Parameter	Units	IL	DDLF-5 11/5/2008*	DDLF-5 11/11/2009*	DDLF-5 11/8/2010*	DDLF-5 11/8/2011*	DDLF-5 11/1/2012*	DDLF-4 10/25/2013
cis-1,3-Dichloro-popene	(ug/l)	0.5	<0.098	<0.098	<0.16	<0.16	<4.0	<4.0
trans-1,3-Dichloro-propene	(ug/l)	0.5	<0.041	<0.041	<0.14	<0.14	<4.0	<4.0
Diethyl Ether (Ethyl Ether)	(ug/l)	250	<0.079	<0.079	<0.15	<0.15	<4.0	<4.0
Ethyl Benzene	(ug/l)	175	<0.12	<0.12	<0.2	<0.2	<1.0	<1.0
Hexachloro-1,3-butadiene	(ug/l)	0.25	<0.096	<0.096	<0.2	<0.2	<5.0	<1.0
Isopropyl-benzene (Cumene)	(ug/l)	75	<0.055	<0.055	<0.17	<0.17	<1.0	<1.0
p-Isopropyl-toluene	(ug/l)	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	(ug/l)	0.25	<0.13	<0.13	<0.18	<0.18	<4.0	<4.0
4-Methyl-2-Pentanone(MIBK)	(ug/l)	75	<0.044	<0.044	<0.13	<0.13	<4.0	<5.0
Methyl tert-butyl-ether	(ug/l)	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0
Naphthalene	(ug/l)	75	<0.13	<0.13	<0.2	<0.2	<4.0	<4.0
n-Propyl-benzene	(ug/l)	--	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0
Styrene	(ug/l)	25	<0.079	<0.079	<0.15	<0.15	<1.0	<1.0
1,1,1,2-Tetra-chloro-ethane	(ug/l)	17.5	<0.099	<0.099	<0.13	<0.13	<1.0	<1.0
1,1,2,2-Tetra chloro-ethane	(ug/l)	0.5	<0.094	<0.094	<0.1	<0.1	<1.0	<1.0
Tetra-chloro-ethylene	(ug/l)	7	<0.12	<0.12	<0.29	<0.29	<1.0	<1.0
Tetra-hydrofuran	(ug/l)	25	<1.0	<1.0	<1.0	<1.0	<10.0	<10.0
Toluene	(ug/l)	250	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0
1,2,3-Trichloro-benzene	(ug/l)	--	<0.12	<0.12	<0.12	<0.12	<1.0	<1.0
1,2,4-Trichloro-benzene	(ug/l)	10	<0.073	<0.073	<0.15	<0.15	<1.0	<1.0
1,1,1-Trichloro-ethane	(ug/l)	150	<0.076	<0.076	<0.17	<0.17	<1.0	<1.0
1,1,2-Trichloro-ethane	(ug/l)	0.75	<0.11	<0.11	<0.11	<0.11	<1.0	<1.0
Trichloro-ethylene	(ug/l)	1.25	<0.16	<0.16	<0.19	<0.19	<1.0	<0.4
Trichloro-fluoro-methane	(ug/l)	500	<0.095	<0.095	<0.19	<0.19	<1.0	<1.0
1,2,3-Trichloro-propane	(ug/l)	10	<0.092	<0.092	<0.17	<0.17	<4.0	<4.0
1,1,2-Trichloro-trifluoro-ethane	(ug/l)	50	<0.074	<0.074	<0.27	<0.27	<1.0	<1.0
1,2,4-Trimethyl-benzene	(ug/l)	25	<0.042	<0.042	<0.18	<0.18	<1.0	<1.0
1,3,5-Trimethyl-benzene	(ug/l)	25	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0
Vinyl Chloride	(ug/l)	0.05	<0.1	<0.1	<0.2	<0.2	<0.40	<0.4
m,p&o-Xylene (Xylene Total)	(ug/l)	75	<0.2	<0.2	<0.32	<0.32	<3.0	<3.0
m&p-Xylene	(ug/l)	--	NA	NA	NA	NA	<2.0	<2.0
o-Xylene	(ug/l)	--	NA	NA	NA	NA	<1.0	<1.0

NA = Not Analyzed
*Data obtained from previous reports
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts pre billion
IL = Intervention limit

Table 6

Groundwater Elevation
Camp Ripley Demolition Debris Landfill
State of Minnesota Department of Military Affairs

	DDLF-1	DDLF-2	DDLF-3	DDLF-4	DDLF-5
Unique Well Number	250122	539404	539405	671612	755717
Top of Casing Elevation (ft MSL)*	1233.65	1228.26	1236	1231.95	1235.85
Top of Casing Elevation (ft MSL)**	1232.98	1229.64	1236.71	1232.38	1236.02
Screened Interval (ft MSL)*	1206.45-1196.45	1212.26-1197.26	1214.95-1197.95	1206.95-1196.95	1208.55-1193.55

Date	DDLF-1	DDLF-2	DDLF-3	DDLF-4	DDLF-5
11/5/2008*	1202.28	1206.11	1206.49	1205.19	1206.65
11/11/2009*	1202.13	1206.12	1206.49	1204.96	1206.11
11/8/2010*	1201.8	1207.88	1207.21	1205.93	1206.63
11/8/2011	1203.38	1209.2	1209.02	1207.29	1208.22
11/1/2012	1201.23	1207.09	1206.69	1204.88	1205.92
10/25/2013	1203.12	1209.01	1207.99	1207.17	1208.01

*According to survey prior to 2011

** According to 2011 survey

APPENDIX A

ANALYTICAL REPORTS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

November 13, 2013

Mr. Greg Smith
Widseth Smith Nolting
7804 Industrial Park Rd.
Baxter, MN 56425

RE: Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Dear Mr. Smith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 29, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kabor Xiong

Kabor Xiong

kabor.xiong@pacelabs.com
Project Manager

Enclosures

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

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Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10247489001	**DDLF-4**	Water	10/25/13 13:18	10/29/13 13:55
10247489002	**DDLF-5**	Water	10/25/13 14:00	10/29/13 13:55
10247489003	**FLDDUP**	Water	10/25/13 00:00	10/29/13 13:55
10247489004	**Equip Blank**	Water	10/25/13 15:00	10/29/13 13:55
10247489005	**Trip Blank**	Water	10/25/13 00:00	10/29/13 13:55

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SAMPLE ANALYTE COUNT

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10247489001	**DDLF-4**	EPA 6010	IP	10
		EPA 7470	WBS	1
		EPA 8260	LPM	72
		EPA 120.1	AAD	1
		SM 2320B	PH1	1
		SM 2540D	AAD	1
		SM 4500-H+B	AAD	1
		EPA 350.1	PH1	1
		SM 4500-NO3 H	PH1	2
		ASTM D516	KEO	1
		SM 4500-Cl E	KEO	1
		SM 4500-NO2 B	KEO	1
10247489002	**DDLF-5**	EPA 6010	IP	10
		EPA 7470	WBS	1
		EPA 8260	LPM	72
		EPA 120.1	AAD	1
		SM 2320B	PH1	1
		SM 2540D	AAD	1
		SM 4500-H+B	AAD	1
		EPA 350.1	PH1	1
		SM 4500-NO3 H	PH1	2
		ASTM D516	KEO	1
		SM 4500-Cl E	KEO	1
		SM 4500-NO2 B	KEO	1
10247489003	**FLDDUP**	EPA 8260	LPM	72
10247489004	**Equip Blank**	EPA 8260	LPM	72
10247489005	**Trip Blank**	EPA 8260	LPM	72

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: DDLF-4 **Lab ID: 10247489001** Collected: 10/25/13 13:18 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	20.0	1	11/03/13 10:16	11/12/13 17:58	7440-38-2	
Barium, Dissolved	**10.2**	ug/L	10.0	1	11/03/13 10:16	11/12/13 17:58	7440-39-3	
Boron, Dissolved	ND	ug/L	150	1	11/03/13 10:16	11/12/13 17:58	7440-42-8	
Cadmium, Dissolved	ND	ug/L	3.0	1	11/03/13 10:16	11/12/13 17:58	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	11/03/13 10:16	11/12/13 17:58	7440-47-3	
Copper, Dissolved	ND	ug/L	10.0	1	11/03/13 10:16	11/12/13 17:58	7440-50-8	
Iron, Dissolved	**217**	ug/L	50.0	1	11/03/13 10:16	11/12/13 17:58	7439-89-6	
Lead, Dissolved	ND	ug/L	10.0	1	11/03/13 10:16	11/12/13 17:58	7439-92-1	
Manganese, Dissolved	ND	ug/L	5.0	1	11/03/13 10:16	11/12/13 17:58	7439-96-5	
Sodium, Dissolved	**2640**	ug/L	1000	1	11/03/13 10:16	11/12/13 17:58	7440-23-5	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/03/13 10:06	11/04/13 12:06	7439-97-6	
8260 VOC	Analytical Method: EPA 8260							
Acetone	ND	ug/L	20.0	1		11/01/13 09:08	67-64-1	
Allyl chloride	ND	ug/L	4.0	1		11/01/13 09:08	107-05-1	
Benzene	ND	ug/L	1.0	1		11/01/13 09:08	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/01/13 09:08	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/01/13 09:08	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/13 09:08	75-27-4	
Bromoform	ND	ug/L	4.0	1		11/01/13 09:08	75-25-2	
Bromomethane	ND	ug/L	4.0	1		11/01/13 09:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/01/13 09:08	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:08	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:08	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:08	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/13 09:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/13 09:08	108-90-7	
Chloroethane	ND	ug/L	4.0	1		11/01/13 09:08	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/13 09:08	67-66-3	
Chloromethane	ND	ug/L	4.0	1		11/01/13 09:08	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 09:08	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 09:08	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1		11/01/13 09:08	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/13 09:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/01/13 09:08	106-93-4	
Dibromomethane	ND	ug/L	4.0	1		11/01/13 09:08	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:08	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:08	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:08	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/01/13 09:08	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/13 09:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/13 09:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/01/13 09:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 09:08	156-59-2	

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: DDLF-4 **Lab ID: 10247489001** Collected: 10/25/13 13:18 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC	Analytical Method: EPA 8260							
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 09:08	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 09:08	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 09:08	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/01/13 09:08	142-28-9	
2,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 09:08	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/01/13 09:08	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 09:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 09:08	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		11/01/13 09:08	60-29-7	
Ethylbenzene	ND	ug/L	1.0	1		11/01/13 09:08	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/01/13 09:08	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/01/13 09:08	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/01/13 09:08	99-87-6	
Methylene Chloride	ND	ug/L	4.0	1		11/01/13 09:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/01/13 09:08	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/01/13 09:08	1634-04-4	
Naphthalene	ND	ug/L	4.0	1		11/01/13 09:08	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/01/13 09:08	103-65-1	
Styrene	ND	ug/L	1.0	1		11/01/13 09:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 09:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 09:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/13 09:08	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		11/01/13 09:08	109-99-9	
Toluene	ND	ug/L	1.0	1		11/01/13 09:08	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:08	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:08	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/13 09:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/13 09:08	79-00-5	
Trichloroethene	ND	ug/L	0.40	1		11/01/13 09:08	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 09:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1		11/01/13 09:08	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/01/13 09:08	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 09:08	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 09:08	108-67-8	
Vinyl chloride	ND	ug/L	0.40	1		11/01/13 09:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/01/13 09:08	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/01/13 09:08	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/01/13 09:08	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	75-125	1		11/01/13 09:08	17060-07-0	
Toluene-d8 (S)	100	%	75-125	1		11/01/13 09:08	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125	1		11/01/13 09:08	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1							
Specific Conductance	**160**	umhos/cm	1.0	1		11/05/13 16:15		

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: DDLF-4 **Lab ID: 10247489001** Collected: 10/25/13 13:18 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**72.4**	mg/L	5.0	1		11/08/13 13:19		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**12.8**	mg/L	10.0	1		10/31/13 10:59		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.6**	Std. Units	0.10	1		11/05/13 12:06		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**0.10**	mg/L	0.040	1		11/06/13 11:59	7664-41-7	
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H							
Nitrate as N	**0.45**	mg/L	0.10	1		11/07/13 13:39	14797-55-8	
Nitrogen, NO2 plus NO3	**0.45**	mg/L	0.10	1		11/07/13 13:39		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516							
Sulfate	**3.4**	mg/L	2.5	1		10/31/13 11:01	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E							
Chloride	ND	mg/L	2.0	1		10/30/13 11:02	16887-00-6	
SM4500NO2-B, Nitrite, unpres	Analytical Method: SM 4500-NO2 B							
Nitrite as N	ND	mg/L	0.10	1		10/31/13 09:31	14797-65-0	H3

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: DDLF-5 **Lab ID: 10247489002** Collected: 10/25/13 14:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	20.0	1	11/03/13 10:16	11/12/13 18:15	7440-38-2	
Barium, Dissolved	ND	ug/L	10.0	1	11/03/13 10:16	11/12/13 18:15	7440-39-3	
Boron, Dissolved	ND	ug/L	150	1	11/03/13 10:16	11/12/13 18:15	7440-42-8	
Cadmium, Dissolved	ND	ug/L	3.0	1	11/03/13 10:16	11/12/13 18:15	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	11/03/13 10:16	11/12/13 18:15	7440-47-3	
Copper, Dissolved	ND	ug/L	10.0	1	11/03/13 10:16	11/12/13 18:15	7440-50-8	
Iron, Dissolved	ND	ug/L	50.0	1	11/03/13 10:16	11/12/13 18:15	7439-89-6	
Lead, Dissolved	ND	ug/L	10.0	1	11/03/13 10:16	11/12/13 18:15	7439-92-1	
Manganese, Dissolved	ND	ug/L	5.0	1	11/03/13 10:16	11/12/13 18:15	7439-96-5	
Sodium, Dissolved	**1860**	ug/L	1000	1	11/03/13 10:16	11/13/13 08:31	7440-23-5	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/03/13 10:06	11/04/13 12:09	7439-97-6	M1
8260 VOC	Analytical Method: EPA 8260							
Acetone	ND	ug/L	20.0	1		11/01/13 09:23	67-64-1	
Allyl chloride	ND	ug/L	4.0	1		11/01/13 09:23	107-05-1	
Benzene	ND	ug/L	1.0	1		11/01/13 09:23	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/01/13 09:23	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/01/13 09:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/13 09:23	75-27-4	
Bromoform	ND	ug/L	4.0	1		11/01/13 09:23	75-25-2	
Bromomethane	ND	ug/L	4.0	1		11/01/13 09:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/01/13 09:23	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:23	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:23	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:23	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/13 09:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/13 09:23	108-90-7	
Chloroethane	ND	ug/L	4.0	1		11/01/13 09:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/13 09:23	67-66-3	
Chloromethane	ND	ug/L	4.0	1		11/01/13 09:23	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 09:23	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 09:23	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1		11/01/13 09:23	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/13 09:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/01/13 09:23	106-93-4	
Dibromomethane	ND	ug/L	4.0	1		11/01/13 09:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:23	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/01/13 09:23	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/13 09:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/13 09:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/01/13 09:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 09:23	156-59-2	

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: DDLF-5 **Lab ID: 10247489002** Collected: 10/25/13 14:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC	Analytical Method: EPA 8260							
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 09:23	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 09:23	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 09:23	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/01/13 09:23	142-28-9	
2,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 09:23	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/01/13 09:23	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 09:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 09:23	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		11/01/13 09:23	60-29-7	
Ethylbenzene	ND	ug/L	1.0	1		11/01/13 09:23	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/01/13 09:23	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/01/13 09:23	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/01/13 09:23	99-87-6	
Methylene Chloride	ND	ug/L	4.0	1		11/01/13 09:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/01/13 09:23	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/01/13 09:23	1634-04-4	
Naphthalene	ND	ug/L	4.0	1		11/01/13 09:23	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/01/13 09:23	103-65-1	
Styrene	ND	ug/L	1.0	1		11/01/13 09:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 09:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 09:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/13 09:23	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		11/01/13 09:23	109-99-9	
Toluene	ND	ug/L	1.0	1		11/01/13 09:23	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:23	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/13 09:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/13 09:23	79-00-5	
Trichloroethene	ND	ug/L	0.40	1		11/01/13 09:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 09:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1		11/01/13 09:23	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/01/13 09:23	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 09:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 09:23	108-67-8	
Vinyl chloride	ND	ug/L	0.40	1		11/01/13 09:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/01/13 09:23	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/01/13 09:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/01/13 09:23	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	75-125	1		11/01/13 09:23	17060-07-0	
Toluene-d8 (S)	100	%	75-125	1		11/01/13 09:23	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125	1		11/01/13 09:23	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1							
Specific Conductance	**66.4**	umhos/cm	1.0	1		11/05/13 16:16		

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: DDLF-5 **Lab ID: 10247489002** Collected: 10/25/13 14:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**29.5**	mg/L	5.0	1		11/08/13 13:22		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**38.4**	mg/L	10.0	1		10/31/13 10:59		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.3**	Std. Units	0.10	1		11/05/13 12:11		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**0.061**	mg/L	0.040	1		11/06/13 12:00	7664-41-7	
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H							
Nitrate as N	**0.13**	mg/L	0.10	1		11/07/13 13:39	14797-55-8	
Nitrogen, NO2 plus NO3	**0.13**	mg/L	0.10	1		11/07/13 13:39		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1		10/31/13 11:01	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E							
Chloride	ND	mg/L	2.0	1		10/30/13 11:02	16887-00-6	
SM4500NO2-B, Nitrite, unpres	Analytical Method: SM 4500-NO2 B							
Nitrite as N	ND	mg/L	0.10	1		10/31/13 09:31	14797-65-0	H3

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: FLDDUP **Lab ID: 10247489003** Collected: 10/25/13 00:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC	Analytical Method: EPA 8260							
Acetone	ND	ug/L	20.0	1		11/01/13 09:39	67-64-1	
Allyl chloride	ND	ug/L	4.0	1		11/01/13 09:39	107-05-1	
Benzene	ND	ug/L	1.0	1		11/01/13 09:39	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/01/13 09:39	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/01/13 09:39	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/13 09:39	75-27-4	
Bromoform	ND	ug/L	4.0	1		11/01/13 09:39	75-25-2	
Bromomethane	ND	ug/L	4.0	1		11/01/13 09:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/01/13 09:39	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:39	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:39	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/01/13 09:39	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/13 09:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/13 09:39	108-90-7	
Chloroethane	ND	ug/L	4.0	1		11/01/13 09:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/13 09:39	67-66-3	
Chloromethane	ND	ug/L	4.0	1		11/01/13 09:39	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 09:39	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 09:39	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1		11/01/13 09:39	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/13 09:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/01/13 09:39	106-93-4	
Dibromomethane	ND	ug/L	4.0	1		11/01/13 09:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:39	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/01/13 09:39	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/13 09:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/13 09:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/01/13 09:39	75-35-4	
cis-1,2-Dichloroethene	**8.4**	ug/L	1.0	1		11/01/13 09:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 09:39	156-60-5	
Dichlorofluoromethane	**2.0**	ug/L	1.0	1		11/01/13 09:39	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 09:39	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/01/13 09:39	142-28-9	
2,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 09:39	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/01/13 09:39	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 09:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 09:39	10061-02-6	
Diethyl ether (Ethyl ether)	**17.6**	ug/L	4.0	1		11/01/13 09:39	60-29-7	
Ethylbenzene	ND	ug/L	1.0	1		11/01/13 09:39	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/01/13 09:39	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/01/13 09:39	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/01/13 09:39	99-87-6	
Methylene Chloride	ND	ug/L	4.0	1		11/01/13 09:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/01/13 09:39	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/01/13 09:39	1634-04-4	

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: FLDDUP **Lab ID: 10247489003** Collected: 10/25/13 00:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC	Analytical Method: EPA 8260							
Naphthalene	ND	ug/L	4.0	1		11/01/13 09:39	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/01/13 09:39	103-65-1	
Styrene	ND	ug/L	1.0	1		11/01/13 09:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 09:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 09:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/13 09:39	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		11/01/13 09:39	109-99-9	
Toluene	ND	ug/L	1.0	1		11/01/13 09:39	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:39	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 09:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/13 09:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/13 09:39	79-00-5	
Trichloroethene	ND	ug/L	0.40	1		11/01/13 09:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 09:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1		11/01/13 09:39	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/01/13 09:39	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 09:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 09:39	108-67-8	
Vinyl chloride	ND	ug/L	0.40	1		11/01/13 09:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/01/13 09:39	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/01/13 09:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/01/13 09:39	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	75-125	1		11/01/13 09:39	17060-07-0	
Toluene-d8 (S)	100	%	75-125	1		11/01/13 09:39	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125	1		11/01/13 09:39	460-00-4	

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: Equip Blank **Lab ID: 10247489004** Collected: 10/25/13 15:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC	Analytical Method: EPA 8260							
Acetone	ND	ug/L	20.0	1		11/01/13 07:34	67-64-1	
Allyl chloride	ND	ug/L	4.0	1		11/01/13 07:34	107-05-1	
Benzene	ND	ug/L	1.0	1		11/01/13 07:34	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/01/13 07:34	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/01/13 07:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/13 07:34	75-27-4	
Bromoform	ND	ug/L	4.0	1		11/01/13 07:34	75-25-2	
Bromomethane	ND	ug/L	4.0	1		11/01/13 07:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/01/13 07:34	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/01/13 07:34	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/01/13 07:34	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/01/13 07:34	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/13 07:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/13 07:34	108-90-7	
Chloroethane	ND	ug/L	4.0	1		11/01/13 07:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/13 07:34	67-66-3	
Chloromethane	ND	ug/L	4.0	1		11/01/13 07:34	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 07:34	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 07:34	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1		11/01/13 07:34	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/13 07:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/01/13 07:34	106-93-4	
Dibromomethane	ND	ug/L	4.0	1		11/01/13 07:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:34	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:34	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:34	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/01/13 07:34	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/13 07:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/13 07:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/01/13 07:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 07:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 07:34	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 07:34	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 07:34	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/01/13 07:34	142-28-9	
2,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 07:34	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/01/13 07:34	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 07:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 07:34	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		11/01/13 07:34	60-29-7	
Ethylbenzene	ND	ug/L	1.0	1		11/01/13 07:34	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/01/13 07:34	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/01/13 07:34	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/01/13 07:34	99-87-6	
Methylene Chloride	ND	ug/L	4.0	1		11/01/13 07:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/01/13 07:34	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/01/13 07:34	1634-04-4	

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: Equip Blank **Lab ID: 10247489004** Collected: 10/25/13 15:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC	Analytical Method: EPA 8260							
Naphthalene	ND	ug/L	4.0	1		11/01/13 07:34	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/01/13 07:34	103-65-1	
Styrene	ND	ug/L	1.0	1		11/01/13 07:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 07:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 07:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/13 07:34	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		11/01/13 07:34	109-99-9	
Toluene	ND	ug/L	1.0	1		11/01/13 07:34	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:34	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:34	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/13 07:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/13 07:34	79-00-5	
Trichloroethene	ND	ug/L	0.40	1		11/01/13 07:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 07:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1		11/01/13 07:34	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/01/13 07:34	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 07:34	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 07:34	108-67-8	
Vinyl chloride	ND	ug/L	0.40	1		11/01/13 07:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/01/13 07:34	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/01/13 07:34	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/01/13 07:34	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	75-125	1		11/01/13 07:34	17060-07-0	
Toluene-d8 (S)	99	%	75-125	1		11/01/13 07:34	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125	1		11/01/13 07:34	460-00-4	

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: Trip Blank **Lab ID: 10247489005** Collected: 10/25/13 00:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC	Analytical Method: EPA 8260							
Acetone	ND	ug/L	20.0	1		11/01/13 07:49	67-64-1	
Allyl chloride	ND	ug/L	4.0	1		11/01/13 07:49	107-05-1	
Benzene	ND	ug/L	1.0	1		11/01/13 07:49	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/01/13 07:49	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/01/13 07:49	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/13 07:49	75-27-4	
Bromoform	ND	ug/L	4.0	1		11/01/13 07:49	75-25-2	
Bromomethane	ND	ug/L	4.0	1		11/01/13 07:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/01/13 07:49	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/01/13 07:49	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/01/13 07:49	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/01/13 07:49	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/13 07:49	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/13 07:49	108-90-7	
Chloroethane	ND	ug/L	4.0	1		11/01/13 07:49	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/13 07:49	67-66-3	
Chloromethane	ND	ug/L	4.0	1		11/01/13 07:49	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 07:49	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 07:49	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1		11/01/13 07:49	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/13 07:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/01/13 07:49	106-93-4	
Dibromomethane	ND	ug/L	4.0	1		11/01/13 07:49	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:49	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:49	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:49	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/01/13 07:49	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/13 07:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/13 07:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/01/13 07:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 07:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 07:49	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 07:49	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 07:49	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/01/13 07:49	142-28-9	
2,2-Dichloropropane	ND	ug/L	4.0	1		11/01/13 07:49	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/01/13 07:49	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 07:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	1		11/01/13 07:49	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		11/01/13 07:49	60-29-7	
Ethylbenzene	ND	ug/L	1.0	1		11/01/13 07:49	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/01/13 07:49	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/01/13 07:49	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/01/13 07:49	99-87-6	
Methylene Chloride	ND	ug/L	4.0	1		11/01/13 07:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/01/13 07:49	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/01/13 07:49	1634-04-4	

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ANALYTICAL RESULTS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Sample: Trip Blank **Lab ID: 10247489005** Collected: 10/25/13 00:00 Received: 10/29/13 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC	Analytical Method: EPA 8260							
Naphthalene	ND	ug/L	4.0	1		11/01/13 07:49	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/01/13 07:49	103-65-1	
Styrene	ND	ug/L	1.0	1		11/01/13 07:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 07:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 07:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/13 07:49	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		11/01/13 07:49	109-99-9	
Toluene	ND	ug/L	1.0	1		11/01/13 07:49	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:49	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 07:49	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/13 07:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/13 07:49	79-00-5	
Trichloroethene	ND	ug/L	0.40	1		11/01/13 07:49	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 07:49	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1		11/01/13 07:49	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/01/13 07:49	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 07:49	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 07:49	108-67-8	
Vinyl chloride	ND	ug/L	0.40	1		11/01/13 07:49	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/01/13 07:49	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/01/13 07:49	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/01/13 07:49	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	75-125	1		11/01/13 07:49	17060-07-0	
Toluene-d8 (S)	100	%	75-125	1		11/01/13 07:49	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125	1		11/01/13 07:49	460-00-4	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: MERP/9655 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1568036 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/04/13 11:59	

LABORATORY CONTROL SAMPLE: 1568037

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1568038 1568039

Parameter	Units	10247489002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.9	4.6	78	92	80-120	17	20	M1

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: MPRP/43082 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1568058 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	20.0	11/12/13 17:49	
Barium, Dissolved	ug/L	ND	10.0	11/12/13 17:49	
Boron, Dissolved	ug/L	ND	150	11/12/13 17:49	
Cadmium, Dissolved	ug/L	ND	3.0	11/12/13 17:49	
Chromium, Dissolved	ug/L	ND	10.0	11/12/13 17:49	
Copper, Dissolved	ug/L	ND	10.0	11/12/13 17:49	
Iron, Dissolved	ug/L	ND	50.0	11/12/13 17:49	
Lead, Dissolved	ug/L	ND	10.0	11/12/13 17:49	
Manganese, Dissolved	ug/L	ND	5.0	11/12/13 17:49	
Sodium, Dissolved	ug/L	ND	1000	11/12/13 17:49	

LABORATORY CONTROL SAMPLE: 1568059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	1000	954	95	80-120	
Barium, Dissolved	ug/L	1000	999	100	80-120	
Boron, Dissolved	ug/L	1000	994	99	80-120	
Cadmium, Dissolved	ug/L	1000	974	97	80-120	
Chromium, Dissolved	ug/L	1000	999	100	80-120	
Copper, Dissolved	ug/L	1000	977	98	80-120	
Iron, Dissolved	ug/L	10000	10200	102	80-120	
Lead, Dissolved	ug/L	1000	978	98	80-120	
Manganese, Dissolved	ug/L	1000	999	100	80-120	
Sodium, Dissolved	ug/L	10000	10400	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1568060 1568061

Parameter	Units	10247489001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	1000	1000	941	974	94	97	75-125	3	20	
Barium, Dissolved	ug/L	10.2	1000	1000	998	1030	99	102	75-125	3	20	
Boron, Dissolved	ug/L	ND	1000	1000	1000	1030	97	100	75-125	2	20	
Cadmium, Dissolved	ug/L	ND	1000	1000	967	998	97	100	75-125	3	20	
Chromium, Dissolved	ug/L	ND	1000	1000	987	1020	98	102	75-125	3	20	
Copper, Dissolved	ug/L	ND	1000	1000	971	1000	97	100	75-125	3	20	
Iron, Dissolved	ug/L	217	10000	10000	10200	10400	100	102	75-125	2	20	
Lead, Dissolved	ug/L	ND	1000	1000	963	991	96	99	75-125	3	20	
Manganese, Dissolved	ug/L	ND	1000	1000	986	1020	98	102	75-125	3	20	
Sodium, Dissolved	ug/L	2640	10000	10000	12300	12800	97	102	75-125	4	20	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: MSV/25470 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 465 W
Associated Lab Samples: 10247489001, 10247489002, 10247489003, 10247489004, 10247489005

METHOD BLANK: 1565670 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002, 10247489003, 10247489004, 10247489005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/01/13 07:18	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/01/13 07:18	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/01/13 07:18	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/01/13 07:18	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	11/01/13 07:18	
1,1-Dichloroethane	ug/L	ND	1.0	11/01/13 07:18	
1,1-Dichloroethene	ug/L	ND	1.0	11/01/13 07:18	
1,1-Dichloropropene	ug/L	ND	1.0	11/01/13 07:18	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/01/13 07:18	
1,2,3-Trichloropropane	ug/L	ND	4.0	11/01/13 07:18	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/01/13 07:18	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	11/01/13 07:18	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	11/01/13 07:18	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/01/13 07:18	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/01/13 07:18	
1,2-Dichloroethane	ug/L	ND	1.0	11/01/13 07:18	
1,2-Dichloropropane	ug/L	ND	4.0	11/01/13 07:18	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	11/01/13 07:18	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/01/13 07:18	
1,3-Dichloropropane	ug/L	ND	1.0	11/01/13 07:18	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/01/13 07:18	
2,2-Dichloropropane	ug/L	ND	4.0	11/01/13 07:18	
2-Butanone (MEK)	ug/L	ND	5.0	11/01/13 07:18	
2-Chlorotoluene	ug/L	ND	1.0	11/01/13 07:18	
4-Chlorotoluene	ug/L	ND	1.0	11/01/13 07:18	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/01/13 07:18	
Acetone	ug/L	ND	20.0	11/01/13 07:18	
Allyl chloride	ug/L	ND	4.0	11/01/13 07:18	
Benzene	ug/L	ND	1.0	11/01/13 07:18	
Bromobenzene	ug/L	ND	1.0	11/01/13 07:18	
Bromochloromethane	ug/L	ND	1.0	11/01/13 07:18	
Bromodichloromethane	ug/L	ND	1.0	11/01/13 07:18	
Bromoform	ug/L	ND	4.0	11/01/13 07:18	
Bromomethane	ug/L	ND	4.0	11/01/13 07:18	
Carbon tetrachloride	ug/L	ND	1.0	11/01/13 07:18	
Chlorobenzene	ug/L	ND	1.0	11/01/13 07:18	
Chloroethane	ug/L	ND	4.0	11/01/13 07:18	
Chloroform	ug/L	ND	1.0	11/01/13 07:18	
Chloromethane	ug/L	ND	4.0	11/01/13 07:18	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/01/13 07:18	
cis-1,3-Dichloropropene	ug/L	ND	4.0	11/01/13 07:18	
Dibromochloromethane	ug/L	ND	1.0	11/01/13 07:18	
Dibromomethane	ug/L	ND	4.0	11/01/13 07:18	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

METHOD BLANK: 1565670 Matrix: Water

Associated Lab Samples: 10247489001, 10247489002, 10247489003, 10247489004, 10247489005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	ND	1.0	11/01/13 07:18	
Dichlorofluoromethane	ug/L	ND	1.0	11/01/13 07:18	
Diethyl ether (Ethyl ether)	ug/L	ND	4.0	11/01/13 07:18	
Ethylbenzene	ug/L	ND	1.0	11/01/13 07:18	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/01/13 07:18	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	11/01/13 07:18	
m&p-Xylene	ug/L	ND	2.0	11/01/13 07:18	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/01/13 07:18	
Methylene Chloride	ug/L	ND	4.0	11/01/13 07:18	
n-Butylbenzene	ug/L	ND	1.0	11/01/13 07:18	
n-Propylbenzene	ug/L	ND	1.0	11/01/13 07:18	
Naphthalene	ug/L	ND	4.0	11/01/13 07:18	
o-Xylene	ug/L	ND	1.0	11/01/13 07:18	
p-Isopropyltoluene	ug/L	ND	1.0	11/01/13 07:18	
sec-Butylbenzene	ug/L	ND	1.0	11/01/13 07:18	
Styrene	ug/L	ND	1.0	11/01/13 07:18	
tert-Butylbenzene	ug/L	ND	1.0	11/01/13 07:18	
Tetrachloroethene	ug/L	ND	1.0	11/01/13 07:18	
Tetrahydrofuran	ug/L	ND	10.0	11/01/13 07:18	
Toluene	ug/L	ND	1.0	11/01/13 07:18	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/01/13 07:18	
trans-1,3-Dichloropropene	ug/L	ND	4.0	11/01/13 07:18	
Trichloroethene	ug/L	ND	0.40	11/01/13 07:18	
Trichlorofluoromethane	ug/L	ND	1.0	11/01/13 07:18	
Vinyl chloride	ug/L	ND	0.40	11/01/13 07:18	
Xylene (Total)	ug/L	ND	3.0	11/01/13 07:18	
1,2-Dichloroethane-d4 (S)	%	105	75-125	11/01/13 07:18	
4-Bromofluorobenzene (S)	%	101	75-125	11/01/13 07:18	
Toluene-d8 (S)	%	100	75-125	11/01/13 07:18	

LABORATORY CONTROL SAMPLE: 1565671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.8	99	75-125	
1,1,1-Trichloroethane	ug/L	20	20.0	100	75-126	
1,1,2,2-Tetrachloroethane	ug/L	20	18.9	94	75-125	
1,1,2-Trichloroethane	ug/L	20	20.3	102	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.6	98	51-139	
1,1-Dichloroethane	ug/L	20	21.4	107	75-125	
1,1-Dichloroethene	ug/L	20	22.1	110	71-126	
1,1-Dichloropropene	ug/L	20	21.5	108	74-125	
1,2,3-Trichlorobenzene	ug/L	20	20.3	101	75-125	
1,2,3-Trichloropropane	ug/L	20	18.9	95	75-125	
1,2,4-Trichlorobenzene	ug/L	20	20.8	104	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.5	98	75-125	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

LABORATORY CONTROL SAMPLE: 1565671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	50	46.1	92	73-125	
1,2-Dibromoethane (EDB)	ug/L	20	20.3	101	75-125	
1,2-Dichlorobenzene	ug/L	20	19.0	95	75-125	
1,2-Dichloroethane	ug/L	20	21.8	109	74-125	
1,2-Dichloropropane	ug/L	20	20.1	101	75-125	
1,3,5-Trimethylbenzene	ug/L	20	19.9	100	75-125	
1,3-Dichlorobenzene	ug/L	20	19.1	96	75-125	
1,3-Dichloropropane	ug/L	20	19.5	98	75-125	
1,4-Dichlorobenzene	ug/L	20	18.9	94	75-125	
2,2-Dichloropropane	ug/L	20	15.2	76	67-132	
2-Butanone (MEK)	ug/L	100	101	101	68-126	
2-Chlorotoluene	ug/L	20	18.5	92	74-125	
4-Chlorotoluene	ug/L	20	18.4	92	74-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	72-125	
Acetone	ug/L	100	103	103	69-132	
Allyl chloride	ug/L	20	20.3	102	74-125	
Benzene	ug/L	20	20.3	101	75-125	
Bromobenzene	ug/L	20	19.5	98	75-125	
Bromochloromethane	ug/L	20	20.1	101	75-125	
Bromodichloromethane	ug/L	20	20.2	101	75-125	
Bromoform	ug/L	20	18.1	90	75-126	
Bromomethane	ug/L	20	20.1	101	30-150	
Carbon tetrachloride	ug/L	20	20.0	100	74-127	
Chlorobenzene	ug/L	20	19.1	95	75-125	
Chloroethane	ug/L	20	20.4	102	68-132	
Chloroform	ug/L	20	20.7	103	75-125	
Chloromethane	ug/L	20	22.4	112	61-129	
cis-1,2-Dichloroethene	ug/L	20	20.5	102	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.9	99	75-125	
Dibromochloromethane	ug/L	20	19.2	96	75-125	
Dibromomethane	ug/L	20	20.6	103	75-125	
Dichlorodifluoromethane	ug/L	20	24.8	124	49-137	
Dichlorofluoromethane	ug/L	20	20.4	102	66-133	
Diethyl ether (Ethyl ether)	ug/L	20	19.1	95	75-125	
Ethylbenzene	ug/L	20	19.9	99	75-125	
Hexachloro-1,3-butadiene	ug/L	20	20.2	101	69-127	
Isopropylbenzene (Cumene)	ug/L	20	18.9	94	75-125	
m&p-Xylene	ug/L	40	37.6	94	75-125	
Methyl-tert-butyl ether	ug/L	20	20.6	103	74-126	
Methylene Chloride	ug/L	20	20.3	102	75-125	
n-Butylbenzene	ug/L	20	20.2	101	72-126	
n-Propylbenzene	ug/L	20	19.0	95	73-125	
Naphthalene	ug/L	20	20.6	103	75-125	
o-Xylene	ug/L	20	19.0	95	75-125	
p-Isopropyltoluene	ug/L	20	19.0	95	74-125	
sec-Butylbenzene	ug/L	20	19.3	96	73-125	
Styrene	ug/L	20	20.0	100	75-125	
tert-Butylbenzene	ug/L	20	19.2	96	73-125	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

LABORATORY CONTROL SAMPLE: 1565671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	20	19.0	95	75-125	
Tetrahydrofuran	ug/L	200	207	104	71-125	
Toluene	ug/L	20	19.6	98	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.6	103	74-125	
trans-1,3-Dichloropropene	ug/L	20	17.1	86	75-125	
Trichloroethene	ug/L	20	21.7	109	75-125	
Trichlorofluoromethane	ug/L	20	20.4	102	69-129	
Vinyl chloride	ug/L	20	22.1	110	70-128	
Xylene (Total)	ug/L	60	56.6	94	75-125	
1,2-Dichloroethane-d4 (S)	%			106	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			99	75-125	

MATRIX SPIKE SAMPLE: 1567430

Parameter	Units	10247486001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	22.4	112	75-125	
1,1,1-Trichloroethane	ug/L	ND	20	23.7	118	75-136	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.3	111	66-131	
1,1,2-Trichloroethane	ug/L	ND	20	23.0	115	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	30.0	150	75-150	
1,1-Dichloroethane	ug/L	ND	20	24.7	124	75-131	
1,1-Dichloroethene	ug/L	ND	20	25.3	127	75-138	
1,1-Dichloropropene	ug/L	ND	20	25.3	126	75-136	
1,2,3-Trichlorobenzene	ug/L	ND	20	21.4	107	75-125	
1,2,3-Trichloropropane	ug/L	ND	20	21.1	105	71-126	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.6	108	75-125	
1,2,4-Trimethylbenzene	ug/L	ND	20	20.8	104	70-126	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	49.2	98	69-127	
1,2-Dibromoethane (EDB)	ug/L	ND	20	23.0	115	75-125	
1,2-Dichlorobenzene	ug/L	ND	20	20.5	102	75-125	
1,2-Dichloroethane	ug/L	ND	20	24.5	123	74-128	
1,2-Dichloropropane	ug/L	ND	20	23.5	117	75-125	
1,3,5-Trimethylbenzene	ug/L	ND	20	21.3	107	72-126	
1,3-Dichlorobenzene	ug/L	ND	20	20.6	103	75-125	
1,3-Dichloropropane	ug/L	ND	20	22.0	110	75-125	
1,4-Dichlorobenzene	ug/L	ND	20	20.3	101	75-125	
2,2-Dichloropropane	ug/L	ND	20	17.6	88	71-143	
2-Butanone (MEK)	ug/L	ND	100	105	105	64-125	
2-Chlorotoluene	ug/L	ND	20	20.1	101	74-125	
4-Chlorotoluene	ug/L	ND	20	20.1	101	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	113	113	69-125	
Acetone	ug/L	ND	100	121	116	57-135	
Allyl chloride	ug/L	ND	20	24.4	122	73-134	
Benzene	ug/L	ND	20	23.4	117	70-135	
Bromobenzene	ug/L	ND	20	21.7	109	75-125	
Bromochloromethane	ug/L	ND	20	23.2	116	75-125	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

MATRIX SPIKE SAMPLE: 1567430

Parameter	Units	10247486001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	ND	20	22.9	115	75-125	
Bromoform	ug/L	ND	20	20.5	103	68-133	
Bromomethane	ug/L	ND	20	23.1	116	56-150	
Carbon tetrachloride	ug/L	ND	20	23.0	115	75-137	
Chlorobenzene	ug/L	ND	20	21.5	108	75-125	
Chloroethane	ug/L	ND	20	22.0	110	64-150	
Chloroform	ug/L	ND	20	23.9	119	75-127	
Chloromethane	ug/L	ND	20	24.7	124	65-140	
cis-1,2-Dichloroethene	ug/L	ND	20	23.8	119	75-129	
cis-1,3-Dichloropropene	ug/L	ND	20	22.9	114	75-125	
Dibromochloromethane	ug/L	ND	20	21.7	108	75-125	
Dibromomethane	ug/L	ND	20	23.2	116	75-125	
Dichlorodifluoromethane	ug/L	ND	20	36.2	181	70-150	M1
Dichlorofluoromethane	ug/L	ND	20	22.2	111	69-142	
Diethyl ether (Ethyl ether)	ug/L	ND	20	21.5	108	75-125	
Ethylbenzene	ug/L	ND	20	21.8	109	75-125	
Hexachloro-1,3-butadiene	ug/L	ND	20	20.2	101	75-135	
Isopropylbenzene (Cumene)	ug/L	ND	20	20.6	103	75-125	
m&p-Xylene	ug/L	ND	40	41.4	103	75-125	
Methyl-tert-butyl ether	ug/L	ND	20	23.2	116	70-132	
Methylene Chloride	ug/L	ND	20	23.1	115	73-125	
n-Butylbenzene	ug/L	ND	20	20.8	104	75-130	
n-Propylbenzene	ug/L	ND	20	20.4	102	75-128	
Naphthalene	ug/L	ND	20	21.6	108	73-126	
o-Xylene	ug/L	ND	20	21.1	105	75-125	
p-Isopropyltoluene	ug/L	ND	20	20.0	100	75-125	
sec-Butylbenzene	ug/L	ND	20	20.5	102	75-126	
Styrene	ug/L	ND	20	22.0	110	52-137	
tert-Butylbenzene	ug/L	ND	20	20.6	103	75-125	
Tetrachloroethene	ug/L	ND	20	21.0	105	75-130	
Tetrahydrofuran	ug/L	ND	200	244	122	69-125	
Toluene	ug/L	ND	20	22.4	112	75-125	
trans-1,2-Dichloroethene	ug/L	ND	20	25.7	128	75-135	
trans-1,3-Dichloropropene	ug/L	ND	20	19.5	98	75-125	
Trichloroethene	ug/L	ND	20	23.6	118	75-129	
Trichlorofluoromethane	ug/L	ND	20	24.3	122	75-150	
Vinyl chloride	ug/L	ND	20	24.7	123	75-147	
Xylene (Total)	ug/L	ND	60	62.5	104	75-125	
1,2-Dichloroethane-d4 (S)	%				107	75-125	
4-Bromofluorobenzene (S)	%				100	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 1567431

Parameter	Units	10247486002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

SAMPLE DUPLICATE: 1567431

Parameter	Units	10247486002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	.53J		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,1-Dichloropropene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2,4-Trimethylbenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3,5-Trimethylbenzene	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,3-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	.67J		30	
2,2-Dichloropropane	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Chlorotoluene	ug/L	ND	ND		30	
4-Chlorotoluene	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Allyl chloride	ug/L	ND	ND		30	
Benzene	ug/L	ND	.36J		30	
Bromobenzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	8.7	8.3	4	30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Dichlorofluoromethane	ug/L	2.0	2.0	.6	30	
Diethyl ether (Ethyl ether)	ug/L	14.8	15.6	5	30	
Ethylbenzene	ug/L	ND	ND		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

SAMPLE DUPLICATE: 1567431

Parameter	Units	10247486002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
n-Butylbenzene	ug/L	ND	ND		30	
n-Propylbenzene	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
sec-Butylbenzene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
tert-Butylbenzene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Tetrahydrofuran	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	114	108	5		
4-Bromofluorobenzene (S)	%	105	100	5		
Toluene-d8 (S)	%	101	100	.4		

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WET/33180 Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1 Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1569341 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	11/05/13 15:38	

LABORATORY CONTROL SAMPLE: 1569342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	982	98	90-110	

SAMPLE DUPLICATE: 1569343

Parameter	Units	10247081001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1780	1750	2	20	

SAMPLE DUPLICATE: 1569344

Parameter	Units	10247267003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	5410	5340	1	20	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WET/33191 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1570811 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	11/08/13 10:29	

LABORATORY CONTROL SAMPLE & LCSD: 1570812 1570813

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	40.2	40.0	101	100	90-110	.4	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1570814 1570815

Parameter	Units	10247267003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	707	40	40	769	771	155	160	80-120	.3	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1570816 1570817

Parameter	Units	10247677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	167	40	40	187	188	50	52	80-120	.6	30	M1

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WET/33123 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1565687 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	10.0	10/31/13 10:59	

LABORATORY CONTROL SAMPLE: 1565688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	103	103	80-120	

SAMPLE DUPLICATE: 1565689

Parameter	Units	10247552001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	D8

SAMPLE DUPLICATE: 1565690

Parameter	Units	10247516003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	D8

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WET/33177 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 10247489001, 10247489002

LABORATORY CONTROL SAMPLE: 1569268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	99	98-102	H6

SAMPLE DUPLICATE: 1569266

Parameter	Units	10247267003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.7	.3	3	H6

SAMPLE DUPLICATE: 1569267

Parameter	Units	10247378001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	3	H6

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WETA/16639 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1570783 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.040	11/06/13 11:33	

LABORATORY CONTROL SAMPLE: 1570784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1570785 1570786

Parameter	Units	10247012005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	0.050	1	1	1.0	1.0	97	96	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1570787 1570788

Parameter	Units	10247677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	0.046	1	1	1.0	1.0	98	97	90-110	1	20	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WETA/16640 Analysis Method: SM 4500-NO3 H
QC Batch Method: SM 4500-NO3 H Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1570789 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	11/07/13 11:08	

LABORATORY CONTROL SAMPLE: 1570790

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1570791 1570792

Parameter	Units	10247012005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	2.5	2.5	2.6	2.6	102	102	80-120	.5	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1570793 1570794

Parameter	Units	10247231005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	25	25	23.6	23.8	93	93	80-120	.5	30	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WETA/16596 Analysis Method: ASTM D516
QC Batch Method: ASTM D516 Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1565772 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	10/31/13 10:50	

LABORATORY CONTROL SAMPLE: 1565773

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	7.5	6.8	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1565774 1565775

Parameter	Units	10247012005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	20	20	23.5	22.8	118	114	80-120	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1565776 1565777

Parameter	Units	10247378001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	20	20	21.7	21.5	101	99	80-120	1	30	

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QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WETA/16587 Analysis Method: SM 4500-Cl E
QC Batch Method: SM 4500-Cl E Analysis Description: SM4500Cl-E Chloride
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1564859 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	2.0	10/30/13 10:59	

LABORATORY CONTROL SAMPLE: 1564860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	30	30.2	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1564861 1564862

Parameter	Units	10247394001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	38200	3000	3000	40200	40200	68	68	80-120	.03	30	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1564863 1564864

Parameter	Units	10247489002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	30	30	31.9	31.8	106	106	80-120	.4	30	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

QC Batch: WETA/16592 Analysis Method: SM 4500-NO2 B
QC Batch Method: SM 4500-NO2 B Analysis Description: SM4500NO2-B, Nitrite, unpres
Associated Lab Samples: 10247489001, 10247489002

METHOD BLANK: 1565332 Matrix: Water
Associated Lab Samples: 10247489001, 10247489002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrite as N	mg/L	ND	0.10	10/31/13 09:31	

LABORATORY CONTROL SAMPLE: 1565333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrite as N	mg/L	.3	0.31	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1565334 1565335

Parameter	Units	10247565001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrite as N	mg/L	ND	.3	.3	0.17	0.17	57	57	80-120	0	30	M1

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D8	The sample and duplicate results for this parameter are less than 5 times the reporting limit, the RPD may not be statistically valid.
H3	Sample was received or analysis requested beyond the recognized method holding time.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0283B0009.000 Camp Ripley
Pace Project No.: 10247489

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10247489001	**DDLF-4**	EPA 3010	MPRP/43082	EPA 6010	ICP/18086
10247489002	**DDLF-5**	EPA 3010	MPRP/43082	EPA 6010	ICP/18086
10247489001	**DDLF-4**	EPA 7470	MERP/9655	EPA 7470	MERC/11059
10247489002	**DDLF-5**	EPA 7470	MERP/9655	EPA 7470	MERC/11059
10247489001	**DDLF-4**	EPA 8260	MSV/25470		
10247489002	**DDLF-5**	EPA 8260	MSV/25470		
10247489003	**FLDDUP**	EPA 8260	MSV/25470		
10247489004	**Equip Blank**	EPA 8260	MSV/25470		
10247489005	**Trip Blank**	EPA 8260	MSV/25470		
10247489001	**DDLF-4**	EPA 120.1	WET/33180		
10247489002	**DDLF-5**	EPA 120.1	WET/33180		
10247489001	**DDLF-4**	SM 2320B	WET/33191		
10247489002	**DDLF-5**	SM 2320B	WET/33191		
10247489001	**DDLF-4**	SM 2540D	WET/33123		
10247489002	**DDLF-5**	SM 2540D	WET/33123		
10247489001	**DDLF-4**	SM 4500-H+B	WET/33177		
10247489002	**DDLF-5**	SM 4500-H+B	WET/33177		
10247489001	**DDLF-4**	EPA 350.1	WETA/16639		
10247489002	**DDLF-5**	EPA 350.1	WETA/16639		
10247489001	**DDLF-4**	SM 4500-NO3 H	WETA/16640		
10247489002	**DDLF-5**	SM 4500-NO3 H	WETA/16640		
10247489001	**DDLF-4**	ASTM D516	WETA/16596		
10247489002	**DDLF-5**	ASTM D516	WETA/16596		
10247489001	**DDLF-4**	SM 4500-Cl E	WETA/16587		
10247489002	**DDLF-5**	SM 4500-Cl E	WETA/16587		
10247489001	**DDLF-4**	SM 4500-NO2 B	WETA/16592		
10247489002	**DDLF-5**	SM 4500-NO2 B	WETA/16592		

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CHAIN-OF-CUSTODY RECORD

WIDSETH SMITH NOLTING

ALEXANDRIA
610 Fillmore St.
Alexandria, MN 56308-1028
TEL: 320.762.8149
FAX: 320.762.0263

BEMIDJI
315 5th St. NW
Bemidji, MN 56601
TEL: 218.444.1859
FAX: 218.444.1860

BRAINERD/BAXTER
7804 Industrial Park Rd.
Baxter, MN 56425
TEL: 218.829.5117
FAX: 218.829.2517

CROOKSTON
216 South Main
Crookston, MN 56716
TEL: 218.281.6522
FAX: 218.281.6545

GRAND FORKS
2715 S. Washington
Grand Forks, ND 58201
TEL: 701.795.1975
FAX: 701.795.1978

ENGINEERING ARCHITECTURE LAND SURVEYING ENVIRONMENTAL SERVICES

PROJECT NUMBER: 0283B0009.000 ~~0283B0001.000~~

PROJECT NAME: Camp Ripley Sampling DEMOLITION LANDFILL

LOCATION: Randall, MN

SAMPLERS: (Signature) [signature]

SAMPLERS: (Print) Michael Bayer

10247489

ANALYSES REQUEST: VOC MDH 468; See attached List for INORGANIC

SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	SAMPLE MATERIAL	NUMBER OF CONTAINERS	VOC MDH 468	See attached List for INORGANIC				REMARKS
DDLF-4	10/25/13	13:18		X	H2O	8	X	X				HNO3 are Filtered 1024748900l
DDLF-5	↓	14:00		X	↓	8	X	X				HNO3 are Filtered 002
~~MW-3~~		~~14:48~~		~~X~~		~~3~~	~~X~~					
~~MW-7~~		~~11:48~~		~~X~~		~~3~~	~~X~~					
~~MW-8~~		~~12:16~~		~~X~~		~~3~~	~~X~~					
FLDDUP		/		X		3	X					003
Equip Blank		15:00		X		3	X					004
Trip Blank	↓	/		X	↓	2	X					005

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	10/25/13 16:00				

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Report To:
		[signature] PACE	10/29/13 1355	Greg Smith

T = 0.8

Bill To: WSN

Distribution: White – Accompanies Shipment; Pink – Project File; Yellow – Laboratory

№ 6318

H:\OFFICE\FORMS\ENVIRO\Chain of Custody Record.doc

1,1,2-Trichloroethane
1,1,2-Trichlorotrifluoroethane
1,1-Dichloroethane
1,1-Dichloroethylene (Vinylidene chloride)
1,1-Dichloropropene
1,2-Dichloroethylene (trans)

Organics (con't.)

1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene (meta-)
1,3-Dichloropropane
1,3-Dichloropropene (cis + trans)
1,4-Dichlorobenzene (para-)
2,2-Dichloropropane
2-Chlorotoluene (ortho-)
4-Chlorotoluene (para-)
Acetone
Allyl chloride (3 chloropropene)
Benzene
Bromobenzene
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dichlorobromomethane)
Bromoform
Bromomethane (Methyl bromide)
Carbon tetrachloride
Chlorobenzene (monochlorobenzene)
Chlorodibromomethane (Dibromochloromethane)
Chloroethane
Chloroform
Chloromethane (Methyl chloride)
Cumene (Isopropylbenzene)
Dibromochloropropane (DBCP)
Dibromomethane (Methylene bromide)
Dichlorodifluoromethane
Dichlorofluoromethane
Dichloromethane (Methylene chloride)
Ethyl benzene
Ethyl ether
Hexachlorobutadiene
Methyl ethyl ketone (MEK)
Methyl isobutyl ketone (4-Methyl-2-pentanone)
Methyl tertiary-butyl ether (MTBE)
Naphthalene
1,2,4-Trimethylbenzene
1,2-Dibromoethane (Ethylene dibromide or EDB)
1,2-Dichlorobenzene (orth-)
1,2-Dichloroethane
1,2-Dichloroethylene (cis-)
n-Butyl benzene
n-Propyl benzene
p-Isopropyltoluene
sec-Butyl benzene
Styrene
tert-Butyl benzene
Tetrachloroethylene (Perchloroethylene)
Tetrahydrofuran
Toluene
Trichloroethylene (TCE)
Trichlorofluoromethane
Vinyl chloride (chloroethene)
Xylenes (mixture of o, m, p)

Inorganics

Alkalinity, total as calcium carbonate
Ammonia Nitrogen
Arsenic, dissolved
Barium, dissolved
Boron, dissolved
Cadmium, dissolved
Chloride
Chromium, total dissolved
Copper, dissolved
Iron, dissolved
Lead, dissolved
Manganese, dissolved
Mercury, dissolved
Nitrate + Nitrite, as N
Sodium, dissolved
Sulfate
Suspended Solids, total
Appearance (b);
Dissolved Oxygen, field
pH (a)
Specific Conductance (a)
Temperature (a)
Turbidity, field
Water Elevation

- Hydrology;
- Geology;
- Hydrogeology;
- Geochemistry.

- Description of historical and current groundwater flow directions;
- Discussion of the analysis performed (including field parameters);
- Discussion of any exceedances of performance standards;
- Discussion of trends (if any);
- Description of any problems that may have been encountered;
- Summary;
- Conclusions;
- Recommendations;
- Figures (including survey information described in Sections 2.1 through 2.4);
- Attachments:
  - Laboratory analytical results;
  - Field data sheets;
- Tables:
  - Required analytes and sampling frequency;
  - Measured field parameters;
  - Static water elevations (in MSL);
  - Summary of monitoring well information.

Additionally, the Contractor will complete and provide to DMA for submittal, the MPCA's Solid Waste Land Disposal Facility Annual Report (W-SW7-02). One MPCA Solid Waste Land Disposal Annual Report shall be completed for the MMLF and on MPCA Solid Waste Land Disposal Annual Report shall be completed for the DDLF for each reporting year; they are to be submitted to DMA no later than 15 January of the year proceeding the reporting year.

2.4 Groundwater Scope of Work

Groundwater sampling, laboratory analysis and groundwater reporting work described under Section 2 "Groundwater Sampling/Analysis and Annual Report" is to be completed in Calendar Year 2013, Calendar Year 2014, Calendar Year 2015 and Calendar Year 2016 with deliverables being submitted concurrent with survey work in the calendar year immediately proceeding the sample event.

Parameter Lists for Sampling of Ground Water Monitoring Network

MDH 468 List (Organics)

Analytes

1,1,1,2-Tetrachloroethane
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: **F-MN-L-213-rev.07**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: WSN

Project #: WO# : 10247489

10247489

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Commercial ☐ Pace ☐ Other:_____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other:_____ **Temp Blank?** ☒ Yes ☐ No

Thermom. Used: ☐ 80512447 ☐ 72337080 ☒ B88A912167504 ☐ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.4 **Cooler Temp Corrected (°C):** 0.8 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** +.4 **Date and Initials of Person Examining Contents:** 10-29-13/KT

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☒ Yes	☐ No	☐ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☒ Yes	☐ No	☐ N/A	13. ☒ HNO_3 ☒ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☒ Yes	☐ No	☐ N/A	Sample # 1-2 2 1/1
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☒ Yes	☐ No		Initial when completed: KT Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased): 071213-01				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Kalun Xiong **Date:** 10/30/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

APPENDIX B

WELL STABILIZATION FORMS

WIDSETH SMITH NOLTING

ALEXANDRIA	BEMIDJI	BRAINERD/BAXTER	CROOKSTON	GRAND FORKS	RED WING	ROCHESTER
Phone & Fax	Phone & Fax	Phone & Fax	Phone & Fax	Phone & Fax	Phone & Fax	Phone & Fax
320-762-8149	218-444-1859	218-829-5117	218-281-6522	701-795-1975	651-388-2443	507-292-8743
320-762-0263	218-444-1860	218-829-2517	218-281-6545	701-795-1978	651-388-5236	507-292-8746

ENGINEERING ARCHITECTURE LAND SURVEYING ENVIRONMENTAL SERVICES

DATE: 10/25/13

PROJECT NAME: Camp Ripley Sampling PROJECT NUMBER: 0283B00009.000

LOCATION: Rudall, MN WEATHER: Mostly Sunny

TEMP. MIN. 44°F TEMP. MAX. 54°F ENGINEER PERSONNEL: Boya

CONTRACTOR(S): -

SUBCONTRACTOR WORKING: -

WORK DONE BY ENGINEER: Sampled MW.

DAILY PROGRESS (Contractors & Subcontractors): On site @ 10:00. Held S.H.E specific trainings and signed on for range pass. Sampled MW-7, MW-8, DDLF-4, DDLF-5, MW-3 in that order. Checked SWL in DDLF-2 = 20.63
DDLF-1 = 29.86
DDLF-3 = 28.01
MW-7 was FLD DUP. Equip Blank was taken @ 15:00.
Trip Blank was also sent in.
Samples will be sent to Pace on Monday by Cleq.

SCANNED

REMARKS:

SIGNED: DATE SIGNED: 10/25/13

(If more space is required, use other side)

WIDSETH SMITH NOLTING & ASSOCIATES

MONITORING/TEST WELL STABILIZATION FORM

SITE: Ripley

DATE: 10/25/13

TIME:

SAMPLE DESIGNATION: DDLF - 4

WEATHER CONDITIONS:

PERSONNEL: Beg

PUMP RATE (GPM): 1.50

WELL DEPTH: 35.00

STATIC LEVEL: 25.21

WELL VOLUME (GAL): ~~35.00~~ 1.56

LOCK: YES X NO

WELL LABEL: YES X NO

CONDITION OF WELL: Good

PURGE METHOD: Whale

SAMPLE METHOD: Whale

APPEARANCE: Clear

CALIBRATION:

YES NO Y

PARAMETERS:

Ph	COND	TURB	DO

FIELD DUPLICATE

YES

NO P

FLOW CELL USED

YES X

NO

EXCEPTIONS TO PROTOCOL: NONE

TIME	TEMP. FAHRENHEIT (+/- 0.5)	SPECIFIC CONDUCTANCE (mS/cm +/- 5%)	DISSOLVED OXYGEN (+/- 0.5 mg/l)	Ph (+/- 0.04 SU)	ORP (mv)	TURBIDITY (+/- 10 NTU)	VOL. REMOVED (gal.)
13:05	47.7	.141	15.33	7.33	-3	130	1.50
13:08	47.8	.143	10.56	8.23	40	66.0	3.00
13:11	47.8	.149	10.17	8.16	49	55.9	4.50
INITIAL							
2nd RECHARGE							
3rd RECHARGE							

COMMENTS:

TIME SAMPLED 13:18

DDEF-2 20.03

DDLF-3 28.01

DDLF-1 29.86

WIDSETH SMITH NOLTING & ASSOCIATES

MONITORING/TEST WELL STABILIZATION FORM

SITE: Compton	CALIBRATION:
DATE: 12/25/13	YES [ ] NO [Y]
TIME:	PARAMETERS:
SAMPLE DESIGNATION: MW-5	Ph [ ] COND [ ] TURB [ ] DO [ ]
WEATHER CONDITIONS:	
PERSONNEL: Regan	
PUMP RATE (GPM): 1.00	
WELL DEPTH: 42.60	
STATIC LEVEL: 28.01	FIELD DUPLICATE / FLOW CELL USED
WELL VOLUME (GAL): 2.23	YES [ ] / YES [X]
LOCK: YES [Y] NO [ ]	NO [Y] / NO [ ]
WELL LABEL: YES [Y] NO [ ]	EXCEPTIONS TO PROTOCOL: NONE [ ]
CONDITION OF WELL: Good	
PURGE METHOD: Inertia	
SAMPLE METHOD: Inertia	
APPEARANCE:	

TIME	TEMP. FAHRENHEIT (+/- 0.5)	SPECIFIC CONDUCTANCE (mS/cm +/- 5%)	DISSOLVED OXYGEN (+/- 0.5 mg/l)	Ph (+/- 0.04 SU)	ORP (mv)	TURBIDITY (+/- 10 NTU)	VOL. REMOVED (gal.)
13:46	47.3	.058	10.07	8.05	161	105	3.0
13:50	47.3	.060	9.83	7.85	178	76.0	6.0
13:53	47.2	.060	9.55	7.74	154	76.1	9.0
INITIAL							
2nd RECHARGE							
3rd RECHARGE							

COMMENTS:

TIME SAMPLED 14:00

APPENDIX C

EVALUATION REPORTS

Evaluation Reports

PERSONNEL AND TRAINING INFORMATION

Certified personnel on duty at the site during hours of operation in 2013 included Jesse Turner, Thomas Sobania, and Robert Helmerick. This list of personnel may be adjusted from time to time as staffing changes through new hires, job vacation, or staff transfers.

Demolition debris land disposal facilities are classified as Type III facilities in Chapter 7048 of the MPCA rules. Therefore, the demolition debris facility operator must be certified for a Type III facility or higher. An applicant is required to complete four hours of training through the MPCA prior to taking the certification examination and is required to complete six hours of contact training every three years for certificate renewal. All three landfill operators attended GPS Dozer training (6 hours) on April 7, 2011. Further MPCA training is planned throughout the next two years.

EMERGENCY/CORRECTIVE ACTION REPORT

No emergency or corrective actions were necessary in 2013. Landfill operating personnel monitor the landfill regularly for any potential issues. Any problems are documented and corrected promptly to prevent the need for emergency or corrective actions. However, should

action be required, Camp Ripley has emergency protocol, equipment, and personnel in place to respond to any needs.

INSPECTION REPORTS

A self- inspection of the facility was conducted monthly by Camp Ripley staff in 2013 to ensure that only permitted wastes were received at the facility and that the equipment was maintained and in good working condition. The inspections also focused on the status of drainage control structures, as well as any equipment malfunctions, deterioration, or discharges that may result in the release of pollutants. Specifically, each inspection included a review of the following items:

- Uncontrolled vegetative growth;
- Soil erosion on slopes and completed areas;
- Rodent and burrowing animals;
- Settlement of completed areas;
- Surface water control system; and
- Site security.

There were no significant problems indicated in the monthly inspections. Copies of the monthly landfill inspection forms are included in Appendix C.

CLOSURE, POST-CLOSURE, CONTINGENCY ACTION

The Camp Ripley Demolition Debris Landfill facility will be closed as specified in the "Application for Permit Reissuance, Camp Ripley Demolition Debris Land Disposal Facility" dated January 2012, and in accordance with Minn. R. 7035.2625. The facility will also comply

with post-closure care requirements in accordance with Minn. R. 7035.2645, and will implement any contingency actions necessary to comply with the requirements in accordance with Minn. R. 7035.2615. There are no changes to the current plans recommended at this time.

EVALUATION OF ISWMP

Wastes received in 2013 at the landfill were controlled as described in the Industrial Solid Waste Management Plan submitted in the January 2012 application for permit reissuance. Because the ISWMP was updated in 2012, no new changes are recommended at this time.

Lmtt

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 JAN 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 4 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
X	1/16/	1330	1430	4	Scrapwood	CSMS	KH ~~Harder~~

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 28 FEB 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 8 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

Unit

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
Fuke	19 FEB	0730	1130	4	SCRAP Wood	MATES	JT
	26 FEB	11:00	12:00	4	Scrap wood	CSMS	RH

Erickson FMO

UMH

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 MAR 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 4 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
Flahave	20MAR	0910	1000	4	Wood	J-4	JT

UMTT

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 30 APR 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 67 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
Z;/KA	2APR	0800	1500	50	Pallets	RDs+RRs	JT
CSMS	2APR	0900	1000	5	SCRAP Wood	CSMS	JT
USPFO	4APR	1300		4	Pallets	USPFO	JT
CSMS	8APR	0800	0900	4	Pallets	CSMS	JT
Virnig	9APR	1000	1100	—	CHECK Demo	—	JT
Flahave	18APR	1320	1400	4	Wood	J-4	JT

Umtt

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 MAY 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 11 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Tucker

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
JT	8MAY	0800	0900	5	Wood	Arden Hills	JT
RAY	17MAY	1300	1430	5	wood and Tin	Transfer	JT
A-207	30MAY	1300	1400	1	wood	5+5	JT

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 28 June 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 10 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

UMH

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY

PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
V	6/21/13	08:30	9:30	4	Scrap wood	CSMS	RH
Bailey	6/25	10:25	11:00	3	Pallets	USPFO	JT
MCGEEN	6/27	11:30	1500	3	Scrap Plywood	MTS	RH

Unit

Erickson FMO

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 July 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 20 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 21 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
ARNE	7-3	11:45	12:20	3	Scrap Wood	CMA	JT
Fure	7-11	7:12	0930	2	Wood Scraps	MATES	JT
	7-11			4	Scrap Wood	AHATS	JT
Viking	7-18	1430	1500	4	Pallets	Grounds	JT
	7-25			4	Plywood	ATS	JT
Fure	7-31	0730	0830	4	Scrap Wood	MATES	JT

Erickson / FMO

UMH

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 30 Aug 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 340 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 12 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
—	12Aug	—	—	340	cover dirt	AREA 10	JT
ATS	19Aug	0940	1100	2	Wood	ATS	JT
—	21Aug	—	—	10	Wood	TRANSFER	JT

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 30 Sept 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 45 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials	
Ray P.	5Sept	0730	0900	4	Tin and wood	AREA	JT	✓
JT	17Sept	1000	1200	10	wood	AHATS	JT	✓
JT	19Sept	0900	1100	20	wood	AHATS	JT	✓
Lee	23Sept	1100	1200	2	wood	Andy WAKeHouse	JT	✓
Lee	23Sept	1200	1300	2	wood	Andy Wakehouse	JT	✓
	23Sept	1200	1300	5	wood	CMA	JT	✓
Mike	25Sept	1330	1500	2	Wood	Andy Ware House	SS	✓

Ent
Gen
11-26-13

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 Oct 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 7 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2013

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
Lies	24 Oct	1000	1100	2	Wood	AREA-10	Eagle Coast. ✓
Erickson	25 Oct	1000	1300		well inspector		JT
Tieman	29 Oct	0830	1030	2	Wood	ATJ	JT ✓
Pesta	29 Oct	1430	1500	3	Wood	USPFO warehouse	CP ✓
						Ent.	
						for	
						10-26-13	

Matt

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 29 Nov 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 7 1/2 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

NOV

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
SWANK	8 NOV	0800	0900	½	wood	Housing	JJ
Young	14 Nov	1400	1500	3	wood	Rds+KB	JJ
Mogensen	22 Nov	1330	1430	4	wood	CMAS	SS

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 Dec 13

2. Area presently being filled (Phase No. from plans): 4

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 2 yd^3

(See daily operational report for type of debris, material and source)

6. Results of inspection:

- Uncontrolled vegetation removed: _____ Yes (or) X No
- Soil erosion on slopes and completed areas: _____ Yes (or) X No
- Rodents or burrowing animals: _____ Yes (or) X No
- Settlement of completed areas: _____ Yes (or) X No
- Surface water drainage problems: _____ Yes (or) X No
- Emergency or corrective actions: _____ Yes (or) X No

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

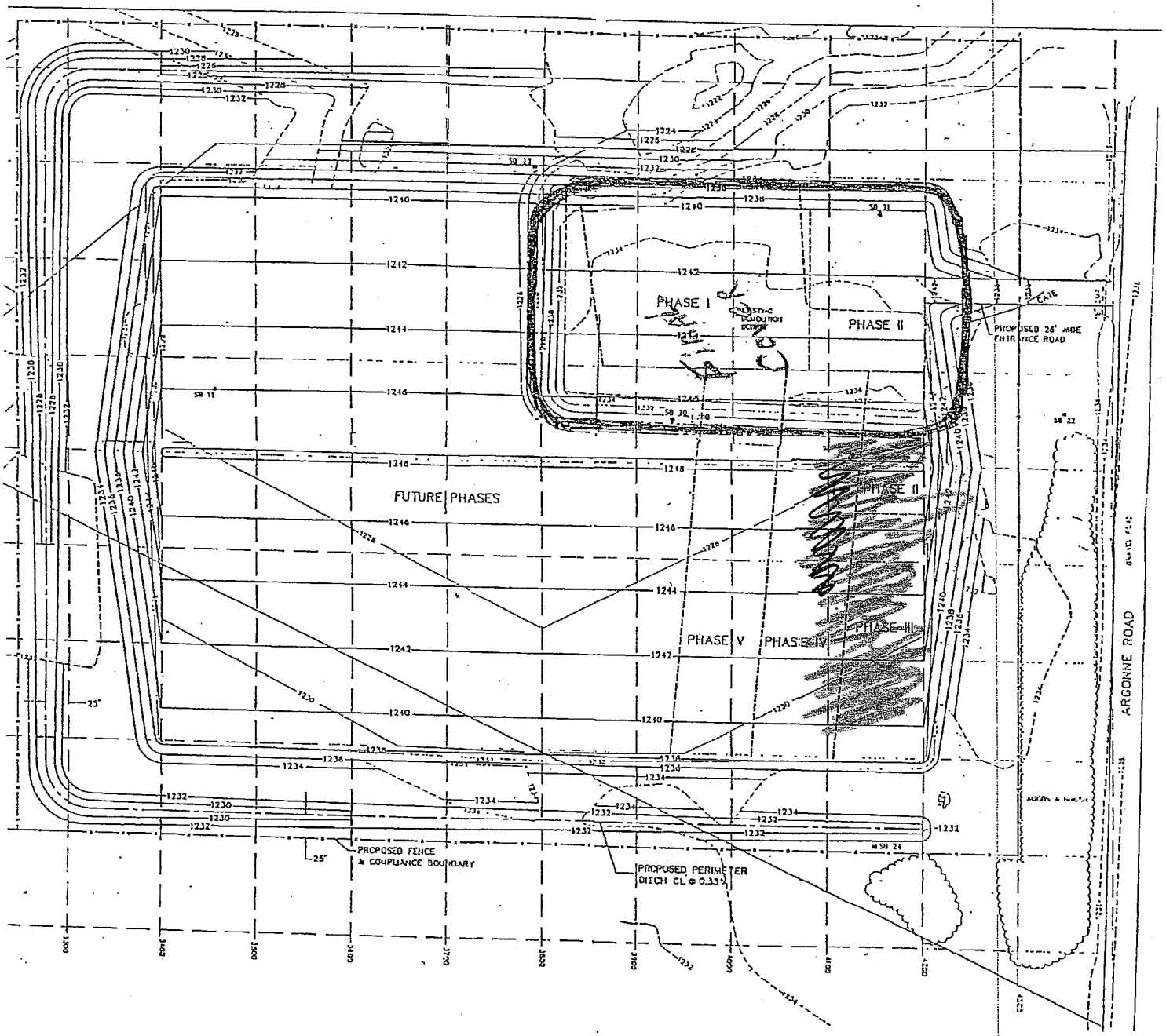
LMH

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

2013
Dec

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
RotH	18Dec	0945	1010	2	Wood	RTI	JT


PHASE I
EXISTING EXCAVATION BOTTOM
PHASE II
PROPOSED 28' WIDE ENTRANCE ROAD
GATE
FUTURE PHASES
PHASE II
PHASE V
PHASE IV
PHASE III
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
25'
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
CPID LINE
SURVEY CONTROL BOUNDARY
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MONITORING WELL
SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
PROPOSED FINAL CONTOUR
PROPOSED BASE CONTOUR