



2014 ANNUAL GROUNDWATER MONITORING REPORT

FOR

**CAMP RIPLEY
DEMOLITION LANDFILL
SW-359
Little Falls, Minnesota**

Prepared for:

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

January 16, 2015

WSN No. 0283B0009.014

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January 15, 2015

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

RE: Camp Ripley Demolition Landfill, SW-359
2014 Annual Groundwater Monitoring Report
WSN No. 0283B0009.014

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 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 (DDLDF-1, DDLDF-2, DDLDF-3, DDLDF-4, and DDLDF-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 November 12, 2014, Widseth Smith Nolting’s (WSN) environmental technician, Mike Bogart, collected samples from the two down gradient monitoring wells, DDLDF-4 and DDLDF-5. Depth to groundwater measurements were collected from all five monitoring wells. The groundwater samples were analyzed for the list of inorganic and organic analytes in the attached Table 1. The required quality assurance samples were collected and analyzed as part of the 2014 sampling event.

The analytical results for the 2014 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 similar results in the water quality when compared to the previous year. Copies of the 2014 analytical reports are included in Appendix A.

The organic or volatile organic compound (VOC) groundwater quality results for the 2014 sampling event are summarized in Table 4 and Table 5. As shown in both tables, no VOC's were detected at or above their respective reporting limit in the 2014 samples.

The fall groundwater elevations are listed in Table 6 and the associated groundwater flow map is attached as Figure 2. Figure 2 indicates the groundwater flow direction is consistent with the historical flow direction, which is 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.

By permit, an annual volume survey is required every other year at the demolition landfill. In 2014, the annual survey was completed by WSN staff in October. The annual survey indicates 4,167 cubic yards of demolition debris and cover material were placed in the landfill for years 2013 and 2014.

In 2015, the analysis schedule specifies sample collection and analyses identical to 2014. No dissolved metals were detected in the two groundwater samples above their respective intervention limit (IL). Furthermore, as summarized in Table 4 and Table 5 no VOCs were found in the monitoring well samples above the laboratory's reporting limits. Based on the analytical results for 2014 and past analytical results, we do not believe it is necessary to make any changes in 2015 to the landfill's groundwater monitoring network or the published analytical schedule. Evaluation/inspection reports relative to the 2014 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, P.G.

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

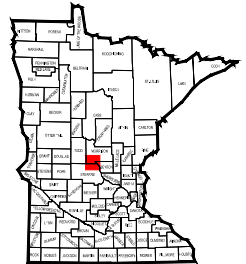
FIGURES



IMAGE: UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY

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AREA LOCATION



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

DEMOLITION LANDFILL - 2014 G.W. MONITORING

CAMP RIPLEY MILITARY RESERVATION

LITTLE FALLS, MN

DATE:

JANUARY 2015

JOB No.

FIGURE

0283B0009.014

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**Engineering
 Architecture
 Surveying
 Environmental**

SITE LOCATION MAP

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 (ortho)
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	DDLDF-4 11/5/2008*	DDLDF-4 11/11/2009*	DDLDF-4 11/8/2010*	DDLDF-4 11/8/2011*	DDLDF-4 11/1/2012*	DDLDF-4 10/25/2013	DDLDF-4 11/12/2014
Alkalinity	mg/L	--	51	72	62	64	76.1	72.4	<100
Ammonia Nitrogen	mg/L	--	<0.01	<0.01	<0.01	<0.1	<0.1	0.1	<0.1
Arsenic (dissolved)	ug/L	2.5	<1.0	<1.0	<1.6	<1.6	<0.5	<20	<2.0
Barium (dissolved)	mg/L	0.5	0.006	0.008	NA	NA	0.012	0.01	<0.01
Boron (dissolved)	ug/L	250	<40	<40	NA	NA	NA	<150	<100
Cadmium (dissolved)	ug/L	1	1	<0.2	0.2	NA	NA	<3.0	<0.8
Calcium (dissolved)	mg/L	--	14	20	NA	NA	22.4	NA	NA
Cation/Anion Balance	%	--	NA	NA	NA	NA	2.1	NA	NA
Chloride	mg/L	--	1	1.1	NA	NA	<0.5	<2.0	NA
Chromium (Total)	ug/L	25	<5	7.9	NA	NA	5	<10	<5
Chromium, Trivalent	ug/L	--	NA	NA	NA	NA	<10	NA	NA
Chromium, Hexavalent	ug/L	--	<3	<3	NA	NA	<10	NA	NA
Conductance (Field)	umhos/cm	--	NA	NA	NA	NA	96.3	149	110
Conductance (Lab)	umhos/cm	--	120	150	130	120	160	160	129
Copper (dissolved)	ug/L	250	<10	10	NA	NA	<5	<10	<5
Dissolved Oxygen (Field)	mg/L	--	NA	NA	NA	NA	8.72	NA	10.13
Eh (Lab)	mV	--	130	140	140	440	202	NA	NA
Eh (Field)	mV	--	NA	NA	NA	NA	502.7	NA	284
Iron (dissolved)	mg/L	--	<0.01	0.1	0.14	<0.01	0.099	0.217	<0.05
Lead (dissolved)	ug/L	1.25	<0.4	0.4	<0.4	<0.4	<0.5	<10	<2
Magnesium (dissolved)	mg/L	--	4	5.6	4.5	4.6	6.1	NA	NA
Manganese (dissolved)	mg/L	0.025	0.059	0.01	NA	NA	<0.01	<0.005	<0.01
Mercury (dissolved)	ug/L	0.5	<0.1	0.1	<0.1	<0.1	<0.2	<0.2	<0.2
Nitrate + Nitrite as N	mg/L	2.5	0.8	1.1	NA	NA	NA	0.45	0.43
Nitrate as N	mg/L	--	NA	NA	0.68	0.56	0.37	0.45	NA
Nitrite as N	mg/L	--	NA	NA	<0.05	<0.05	<0.1	<0.1	NA
pH (Field)	Standard Units	--	NA	NA	NA	NA	7.9	8.2	6.6
pH (Lab)	Standard Units	--	6.9	7.6	7	7.3	7	6.6	7
Potassium (dissolved)	mg/L	--	6	0.4	0.6	<0.3	0.57	NA	NA
Sodium (dissolved)	mg/L	--	2.1	2.3	2.4	2.4	NA	2.6	2.1
Sulfate	mg/L	--	6.2	6.3	3.1	1.9	2.1	3.4	2.5
Temp (Field)	Degrees C	--	NA	NA	NA	NA	8.8	8.8	8.6
Total Dissolved Solids (TDS)	mg/L	--	88	100	98	92	120	NA	NA
Total Suspended Solids (TSS)	mg/L	--	4	150	12	14	98.7	12.8	27.6
Turbidity (Field)	NTU	--	5	53	12	16	38	56	25
Zinc (dissolved)	ug/L	500	<5	<5	NA	NA	<10	NA	NA

NA = Not Analyzed

*Data obtained from previous reports

mg/L = Milligrams per liter = parts per million

ug/L = Micrograms per liter = parts per 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	DDLDF-5 11/5/2008*	DDLDF-5 11/11/2009*	DDLDF-5 11/8/2010*	DDLDF-5 11/8/2011*	DDLDF-5 11/1/2012*	DDLDF-5 10/25/2013	DDLDF-5 11/12/2014
Alkalinity	mg/L	--	34	48	45	37	38.7	29.5	26.7
Ammonia Nitrogen	mg/L	--	<0.01	<0.01	<0.01	<0.1	<0.1	0.061	<0.1
Arsenic (dissolved)	ug/L	2.5	<1	<1	<1.6	<1.6	0.85	<20	<2
Barium (dissolved)	mg/L	0.5	0.01	0.006	NA	NA	0.0437	0.01	<0.01
Boron (dissolved)	ug/L	250	<40	<40	NA	NA	NA	<150	<100
Cadmium (dissolved)	ug/L	1	<0.2	<0.2	NA	NA	<0.2	<3.0	<0.8
Calcium (dissolved)	mg/L	--	8.8	10	NA	NA	17.7	NA	NA
Cation/Anion Balance	%	--	NA	NA	NA	NA	25.1	NA	NA
Chloride	mg/L	--	1.1	0.73	NA	NA	<0.5	<2.0	<1.0
Chromium (Total)	ug/L	25	<5	8.7	NA	NA	<5	<10	<5
Chromium, Trivalent	ug/L	--	NA	NA	NA	NA	<10	NA	NA
Chromium, Hexavalent	ug/L	--	<3	<3	NA	NA	<10	NA	NA
Conductance (Field)	umhos/cm	--	NA	NA	NA	NA	150.3	60	57
Conductance (Lab)	umhos/cm	--	77	97	93	74	110	66.4	60
Copper (dissolved)	ug/L	250	<10	<10	NA	NA	7.1	<10	<5
Dissolved Oxygen (Field)	mg/L	--	NA	NA	NA	NA	8.83	NA	10.01
Eh (Lab)	mV	--	140	140	140	430	173	NA	NA
Eh (Field)	mV	--	NA	NA	NA	NA	524	NA	390
Iron (dissolved)	mg/L	--	<0.01	<10	0.033	<0.01	5.03	<0.05	0.052
Lead (dissolved)	ug/L	1.25	<0.4	<0.4	<0.4	0.4	2.2	<10	<2
Magnesium (dissolved)	mg/L	--	2.3	3	3.1	2.5	4.6	NA	NA
Manganese (dissolved)	mg/L	0.025	0.076	<0.005	NA	NA	0.193	<0.005	<0.01
Mercury (dissolved)	ug/L	0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2
Nitrate + Nitrite as N	mg/L	2.5	0.6	1.2	NA	NA	NA	0.13	0.11
Nitrate as N	mg/L	--	NA	NA	0.59	<0.05	1.6	0.13	NA
Nitrite as N	mg/L	--	NA	NA	<0.05	<0.05	<0.1	<0.1	NA
pH (Field)	Standard Units	--	NA	NA	NA	NA	7.64	7.79	6.11
pH (Lab)	Standard Units	--	6.6	7	6.7	7.3	6.7	6.3	6.5
Potassium (dissolved)	mg/L	--	0.6	0.4	0.55	0.43	1.3	NA	NA
Sodium (dissolved)	mg/L	--	2	2.1	2.2	1.9	NA	1.86	1.8
Sulfate	mg/L	--	2.8	2.2	2.7	1.5	3.8	<2.5	<2.0
Temp (Field)	Degrees C	--	NA	NA	NA	NA	8.83	8.4	8.5
Total Dissolved Solids (TDS)	mg/L	--	64	80	88	72	93	NA	NA
Total Suspended Solids (TSS)	mg/L	--	<2	320	32	290	904	38.4	68.8
Turbidity (Field)	NTU	--	3.6	70	19	110	70	76	65.3
Zinc (dissolved)	ug/L	500	<5	<5	NA	NA	76.8	NA	NA

NA = Not Analyzed

*Data obtained from previous reports

mg/L = Milligrams per liter = parts per million

ug/L = Micrograms per liter = parts per 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	DDLF-4 11/12/2014
Acetone	ug/L	175	<4.0	<4.0	<4.0	<4.0	<25.0	<20.0	<20.0
Allylchloride	ug/L	7.5	<0.042	<0.042	<0.16	<0.16	<4.0	<4.0	<4.0
Benzene	ug/L	0.5	<0.069	<0.069	<0.2	<0.2	<1.0	<1.0	<1.0
Bromobenzene	ug/L	--	<0.17	<0.17	<0.12	<0.12	<1.0	<1.0	<1.0
Bromochloromethane	ug/L	--	<0.082	<0.082	<0.18	<0.18	<1.0	<1.0	<1.0
Bromodichloromethane	ug/L	1.5	<0.086	<0.086	<0.12	<0.12	<1.0	<1.0	<1.0
Bromoform	ug/L	10	<0.16	<0.16	<0.13	<0.13	<4.0	<4.0	<4.0
Bromomethane	ug/L	2.5	<0.06	<0.06	<0.16	<0.16	<4.0	<4.0	<4.0
Methyl Ethyl Ketone (MEK)	ug/L	1000	<0.1	<0.1	<0.18	<0.18	<4.0	<5.0	<5.0
n-Butylbenzene	ug/L	--	<0.087	<0.087	<0.17	<0.17	<1.0	<1.0	<1.0
sec-Butylbenzene	ug/L	--	<0.15	<0.15	<0.16	<0.16	<1.0	<1.0	<1.0
tert-Butylbenzene	ug/L	--	<0.074	<0.074	<0.28	<0.28	<1.0	<1.0	<1.0
Carbon tetrachloride	ug/L	0.75	<0.14	<0.14	<0.2	<0.2	<1.0	<1.0	<1.0
Chlorobenzene	ug/L	25	<0.089	<0.089	<0.24	<0.24	<1.0	<1.0	<1.0
Chloroethane	ug/L	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0
Chloroform	ug/L	7.5	<0.068	<0.068	<0.2	<0.2	<1.0	<1.0	<1.0
Chloromethane	ug/L	--	<0.08	<0.08	<0.13	<0.13	<4.0	<4.0	<4.0
2-Chlorotoluene	ug/L	--	<0.11	<0.11	<0.13	<0.13	<1.0	<1.0	<1.0
4-Chlorotoluene	ug/L	--	<0.12	<0.12	<0.23	<0.23	<1.0	<1.0	<1.0
Dibromochloropropane	ug/L	0.05	<0.12	<0.12	<0.13	<0.13	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	2.5	<0.12	<0.12	<0.11	<0.11	<1.0	<1.0	<1.0
1,2-Dibromoethane (EDB)	ug/L	0.001	<0.15	<0.15	<0.1	<0.1	<1.0	<1.0	<1.0
Dibromomethane	ug/L	--	<0.081	<0.081	<0.21	<0.21	<4.0	<4.0	<4.0
1,2-Dichlorobenzene	ug/L	150	<0.1	<0.1	<0.096	<0.096	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	ug/L	150	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	2.5	<0.1	<0.1	<0.084	<0.084	<1.0	<1.0	<1.0
Dichlorodifluoromethane	ug/L	175	<0.084	<0.084	<0.23	<0.23	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	25	<0.077	<0.077	<0.2	<0.2	<1.0	<1.0	<1.0
1,2-Dichloroethane	ug/L	1	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0	<1.0
1,1-Dichloroethylene	ug/L	50	<0.12	<0.12	<0.17	<0.17	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene	ug/L	12.5	<0.081	<0.081	<0.1	<0.1	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	ug/L	25	<0.053	<0.053	<0.23	<0.23	<1.0	<1.0	<1.0
Dichlorofluoromethane	ug/L	--	<0.097	<0.097	<0.17	<0.17	<1.0	<1.0	<1.0
1,2-Dichloropropane	ug/L	1.25	<0.055	<0.055	<0.19	<0.19	<4.0	<4.0	<4.0
p1,3-Dichloropropane	ug/L	--	<0.091	<0.091	<0.14	<0.14	<1.0	<1.0	<1.0
2,2-Dichloropropane	ug/L	--	<0.063	<0.063	<0.36	<0.36	<4.0	<4.0	<4.0
1,1-Dichloropropene	ug/L	--	<0.089	<0.089	<0.21	<0.21	<1.0	<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 (cont)

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

Parameter	Units	IL	DDLDF-4 11/5/2008*	DDLDF-4 11/11/2009*	DDLDF-4 11/8/2010*	DDLDF-4 11/8/2011*	DDLDF-4 11/1/2012*	DDLDF-4 10/25/2013	DDLDF-4 11/12/2014
cis-1,3-Dichloropropene	ug/L	0.5	<0.098	<0.098	<0.16	<0.16	<4.0	<4.0	<4.0
trans-1,3-Dichloropropene	ug/L	0.5	<0.041	<0.041	<0.14	<0.14	<4.0	<4.0	<4.0
Diethyl Ether (Ethyl Ether)	ug/L	50	<0.079	<0.079	<0.15	<0.15	<4.0	<4.0	<4.0
Ethyl Benzene	ug/L	12.5	<0.12	<0.12	<0.2	<0.2	<1.0	<1.0	<1.0
Hexachloro-1,3-butadiene	ug/L	0.25	<0.096	<0.096	<0.2	<0.2	<5.0	<1.0	<1.0
Isopropylbenzene (Cumene)	ug/L	75	<0.055	<0.055	<0.17	<0.17	<1.0	<1.0	<1.0
p-Isopropyltoluene	ug/L	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	ug/L	1.25	<0.13	<0.13	<0.18	<0.18	<4.0	<4.0	<4.0
4-Methyl-2-Pentanone(MIBK)	ug/L	75	<0.044	<0.044	<0.13	<0.13	<4.0	<5.0	<5.0
Methyl tertbutylether	ug/L	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0
Naphthalene	ug/L	75	<0.13	<0.13	<0.2	<0.2	<4.0	<4.0	<4.0
n-Propylbenzene	ug/L	--	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0	<1.0
Styrene	ug/L	25	<0.079	<0.079	<0.15	<0.15	<1.0	<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	<1.0
1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.094	<0.094	<0.1	<0.1	<1.0	<1.0	<1.0
Tetrachloroethylene	ug/L	1.25	<0.12	<0.12	<0.29	<0.29	<1.0	<1.0	<1.0
Tetrahydrofuran	ug/L	25	<1.0	<1.0	<1.0	<1.0	<10.0	<10.0	<10.0
Toluene	ug/L	50	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	ug/L	--	<0.12	<0.12	<0.12	<0.12	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	ug/L	25	<0.073	<0.073	<0.15	<0.15	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	ug/L	150	<0.076	<0.076	<0.17	<0.17	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	ug/L	0.75	<0.11	<0.11	<0.11	<0.11	<1.0	<1.0	<1.0
Trichloroethylene	ug/L	1.25	<0.16	<0.16	<0.19	<0.19	<1.0	<0.4	<0.4
Trichlorofluoromethane	ug/L	500	<0.095	<0.095	<0.19	<0.19	<1.0	<1.0	<1.0
1,2,3-Trichloropropane	ug/L	10	<0.092	<0.092	<0.17	<0.17	<4.0	<4.0	<4.0
1,1,2-Trichlorotrifluoroethane	ug/L	50,000	<0.074	<0.074	<0.27	<0.27	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	ug/L	25	<0.042	<0.042	<0.18	<0.18	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	ug/L	25	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0	<1.0
Vinyl Chloride	ug/L	0.05	<0.1	<0.1	<0.2	<0.2	<0.40	<0.4	<0.40
m,p&o-Xylene (Xylene Total)	ug/L	75	<0.2	<0.2	<0.32	<0.32	<3.0	<3.0	<3.0
m&p-Xylene	ug/L	--	NA	NA	NA	NA	<2.0	<2.0	NA
o-Xylene	ug/L	--	NA	NA	NA	NA	<1.0	<1.0	NA

NA = Not Analyzed

*Data obtained from previous reports

mg/L = Milligrams per liter = parts per million

ug/L = Micrograms per liter = parts per 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	DDLF-5 11/12/2014
Acetone	ug/L	175	<4.0	<4.0	<4.0	<4.0	<25.0	<20.0	<20.0
Allyl-chloride	ug/L	7.5	<0.042	<0.042	<0.16	<0.16	<4.0	<4.0	<4.0
Benzene	ug/L	0.5	<0.069	<0.069	<0.2	<0.2	<1.0	<1.0	<1.0
Bromobenzene	ug/L	--	<0.17	<0.17	<0.12	<0.12	<1.0	<1.0	<1.0
Bromochloromethane	ug/L	--	<0.082	<0.082	<0.18	<0.18	<1.0	<1.0	<1.0
Bromodichloromethane	ug/L	1.5	<0.086	<0.086	<0.12	<0.12	<1.0	<1.0	<1.0
Bromoform	ug/L	10	<0.16	<0.16	<0.13	<0.13	<4.0	<4.0	<4.0
Bromomethane	ug/L	2.5	<0.06	<0.06	<0.16	<0.16	<4.0	<4.0	<4.0
Methyl Ethyl Ketone (MEK)	ug/L	1000	<0.1	<0.1	<0.18	<0.18	<4.0	<5.0	<5.0
n-Butylbenzene	ug/L	--	<0.087	<0.087	<0.17	<0.17	<1.0	<1.0	<1.0
sec-Butylbenzene	ug/L	--	<0.15	<0.15	<0.16	<0.16	<1.0	<1.0	<1.0
tert-Butylbenzene	ug/L	--	<0.074	<0.074	<0.28	<0.28	<1.0	<1.0	<1.0
Carbon tetrachloride	ug/L	0.75	<0.14	<0.14	<0.2	<0.2	<1.0	<1.0	<1.0
Chlorobenzene	ug/L	25	<0.089	<0.089	<0.24	<0.24	<1.0	<1.0	<1.0
Chloroethane	ug/L	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0
Chloroform	ug/L	7.5	<0.068	<0.068	<0.2	<0.2	<1.0	<1.0	<1.0
Chloromethane	ug/L	--	<0.08	<0.08	<0.13	<0.13	<4.0	<4.0	<4.0
2-Chlorotoluene	ug/L	--	<0.11	<0.11	<0.13	<0.13	<1.0	<1.0	<1.0
4-Chlorotoluene	ug/L	--	<0.12	<0.12	<0.23	<0.23	<1.0	<1.0	<1.0
Dibromochloropropane	ug/L	0.05	<0.12	<0.12	<0.13	<0.13	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	2.5	<0.12	<0.12	<0.11	<0.11	<1.0	<1.0	<1.0
1,2-Dibromoethane (EDB)	ug/L	0.001	<0.15	<0.15	<0.1	<0.1	<1.0	<1.0	<1.0
Dibromomethane	ug/L	--	<0.081	<0.081	<0.21	<0.21	<4.0	<4.0	<4.0
1,2-Dichlorobenzene	ug/L	150	<0.1	<0.1	<0.096	<0.096	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	ug/L	150	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	2.5	<0.1	<0.1	<0.084	<0.084	<1.0	<1.0	<1.0
Dichlorodifluoromethane	ug/L	175	<0.084	<0.084	<0.23	<0.23	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	25	<0.077	<0.077	<0.2	<0.2	<1.0	<1.0	<1.0
1,2-Dichloroethane	ug/L	1	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0	<1.0
1,1-Dichloroethylene	ug/L	50	<0.12	<0.12	<0.17	<0.17	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene	ug/L	12.5	<0.081	<0.081	<0.1	<0.1	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	ug/L	25	<0.053	<0.053	<0.23	<0.23	<1.0	<1.0	<1.0
Dichlorofluoromethane	ug/L	--	<0.097	<0.097	<0.17	<0.17	<1.0	<1.0	<1.0
1,2-Dichloropropane	ug/L	1.25	<0.055	<0.055	<0.19	<0.19	<4.0	<4.0	<4.0
1,3-Dichloropropane	ug/L	--	<0.091	<0.091	<0.14	<0.14	<1.0	<1.0	<1.0
2,2-Dichloropropane	ug/L	--	<0.063	<0.063	<0.36	<0.36	<4.0	<4.0	<4.0
1,1-Dichloropropene	ug/L	--	<0.089	<0.089	<0.21	<0.21	<1.0	<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	DDLF-5 11/12/2014
cis-1,3-Dichloropropene	ug/L	0.5	<0.098	<0.098	<0.16	<0.16	<4.0	<4.0	<4.0
trans-1,3-Dichloropropene	ug/L	0.5	<0.041	<0.041	<0.14	<0.14	<4.0	<4.0	<4.0
Diethyl Ether (Ethyl Ether)	ug/L	50	<0.079	<0.079	<0.15	<0.15	<4.0	<4.0	<4.0
Ethyl Benzene	ug/L	12.5	<0.12	<0.12	<0.2	<0.2	<1.0	<1.0	<1.0
Hexachloro-1,3-butadiene	ug/L	0.25	<0.096	<0.096	<0.2	<0.2	<5.0	<1.0	<1.0
Isopropylbenzene (Cumene)	ug/L	75	<0.055	<0.055	<0.17	<0.17	<1.0	<1.0	<1.0
p-Isopropyltoluene	ug/L	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	ug/L	1.25	<0.13	<0.13	<0.18	<0.18	<4.0	<4.0	<4.0
4-Methyl-2-Pentanone(MIBK)	ug/L	75	<0.044	<0.044	<0.13	<0.13	<4.0	<5.0	<5.0
Methyl tert-butyl-ether	ug/L	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0
Naphthalene	ug/L	75	<0.13	<0.13	<0.2	<0.2	<4.0	<4.0	<4.0
n-Propylbenzene	ug/L	--	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0	<1.0
Styrene	ug/L	25	<0.079	<0.079	<0.15	<0.15	<1.0	<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	<1.0
1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.094	<0.094	<0.1	<0.1	<1.0	<1.0	<1.0
Tetrachloroethylene	ug/L	1.25	<0.12	<0.12	<0.29	<0.29	<1.0	<1.0	<1.0
Tetrahydrofuran	ug/L	25	<1.0	<1.0	<1.0	<1.0	<10.0	<10.0	<10.0
Toluene	ug/L	50	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	ug/L	--	<0.12	<0.12	<0.12	<0.12	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	ug/L	25	<0.073	<0.073	<0.15	<0.15	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	ug/L	150	<0.076	<0.076	<0.17	<0.17	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	ug/L	0.75	<0.11	<0.11	<0.11	<0.11	<1.0	<1.0	<1.0
Trichloroethylene	ug/L	1.25	<0.16	<0.16	<0.19	<0.19	<1.0	<0.4	<0.4
Trichlorofluoromethane	ug/L	500	<0.095	<0.095	<0.19	<0.19	<1.0	<1.0	<1.0
1,2,3-Trichloropropane	ug/L	10	<0.092	<0.092	<0.17	<0.17	<4.0	<4.0	<4.0
1,1,2-Trichlorotrifluoroethane	ug/L	50,000	<0.074	<0.074	<0.27	<0.27	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	ug/L	25	<0.042	<0.042	<0.18	<0.18	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	ug/L	25	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0	<1.0
Vinyl Chloride	ug/L	0.05	<0.1	<0.1	<0.2	<0.2	<0.40	<0.4	<0.4
m,p&o-Xylene (Xylene Total)	ug/L	75	<0.2	<0.2	<0.32	<0.32	<3.0	<3.0	<3.0
m&p-Xylene	ug/L	--	NA	NA	NA	NA	<2.0	<2.0	NA
o-Xylene	ug/L	--	NA	NA	NA	NA	<1.0	<1.0	NA

NA = Not Analyzed

*Data obtained from previous reports

mg/L = Milligrams per liter = parts per million

ug/L = Micrograms per liter = parts per billion

IL = Intervention limit

Table 6

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

	DDLDF-1	DDLDF-2	DDLDF-3	DDLDF-4	DDLDF-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	DDLDF-1	DDLDF-2	DDLDF-3	DDLDF-4	DDLDF-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
11/12/2014	1203.00	1210.61	1210.37	1208.82	1209.66

*According to survey prior to 2011

** According to 2011 survey

APPENDIX A
ANALYTICAL REPORTS

December 03, 2014

Greg Smith
Widseth, Smith & Nolting
7804 Industrial Park Road
PO Box 2720
Baxter, MN 56425

RE: Project: Camp Ripley DDLF
Pace Project No.: 1241151

Dear Greg Smith:

Enclosed are the analytical results for sample(s) received by the laboratory on November 13, 2014. 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,



Melisa M Woods
melisa.woods@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #: UST-078

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1241151001	DDLDF-4	Water	11/12/14 10:45	11/13/14 18:52
1241151002	DDLDF-5	Water	11/12/14 11:45	11/13/14 18:52
1241151003	Equip Blank	Water	11/12/14 13:20	11/13/14 18:52

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
1241151001	DDLDF-4	EPA 200.7	MAR	7	PASI-V		
		EPA 200.8	KAH	3	PASI-V		
		EPA 245.1	KAH	1	PASI-V		
		EPA 8260	AJC	70	PASI-M		
		SM 2320B	BEM	3	PASI-V		
		SM 2510B	JK1	1	PASI-V		
		SM 4500-H+B	JK1	1	PASI-V		
		USGS I-3765	JK1	1	PASI-V		
		EPA 300.0	DMB	2	PASI-V		
		EPA 350.1	JJH	1	PASI-V		
		EPA 353.2	JJH	1	PASI-V		
		1241151002	DDLDF-5	EPA 200.7	MAR	7	PASI-V
				EPA 200.8	KAH	3	PASI-V
				EPA 245.1	KAH	1	PASI-V
EPA 8260	AJC			70	PASI-M		
SM 2320B	BEM			1	PASI-V		
SM 2510B	JK1			1	PASI-V		
SM 4500-H+B	JK1			1	PASI-V		
USGS I-3765	JK1			1	PASI-V		
EPA 300.0	DMB			2	PASI-V		
EPA 350.1	JJH			1	PASI-V		
EPA 353.2	JJH			1	PASI-V		
1241151003	Equip Blank			EPA 200.7	MAR	7	PASI-V
				EPA 200.8	KAH	3	PASI-V
				EPA 245.1	KAH	1	PASI-V
		EPA 8260	AJC	70	PASI-M		
		SM 2320B	BEM	1	PASI-V		
		SM 2510B	JK1	1	PASI-V		
		SM 4500-H+B	JK1	1	PASI-V		
		USGS I-3765	JK1	1	PASI-V		
		EPA 300.0	DMB	2	PASI-V		
		EPA 350.1	JJH	1	PASI-V		
		EPA 353.2	JJH	1	PASI-V		

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: DDLF-4		Lab ID: 1241151001	Collected: 11/12/14 10:45	Received: 11/13/14 18:52	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7						
Barium, Dissolved	ND ug/L		10.0	1	11/18/14 10:16	11/19/14 10:52	7440-39-3	
Boron, Dissolved	ND ug/L		100	1	11/18/14 10:16	11/19/14 10:52	7440-42-8	
Chromium, Dissolved	ND ug/L		5.0	1	11/18/14 10:16	11/19/14 10:52	7440-47-3	
Copper, Dissolved	ND ug/L		5.0	1	11/18/14 10:16	11/19/14 10:52	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/18/14 10:16	11/19/14 10:52	7439-89-6	
Manganese, Dissolved	ND ug/L		10.0	1	11/18/14 10:16	11/19/14 10:52	7439-96-5	
Sodium, Dissolved	2.1 mg/L		0.50	1	11/18/14 10:16	11/19/14 10:52	7440-23-5	
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic, Dissolved	ND ug/L		2.0	4	11/18/14 10:16	11/18/14 18:11	7440-38-2	
Cadmium, Dissolved	ND ug/L		0.80	4	11/18/14 10:16	11/18/14 18:11	7440-43-9	
Lead, Dissolved	ND ug/L		2.0	4	11/18/14 10:16	11/18/14 18:11	7439-92-1	
245.1 Mercury, Dissolved		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1						
Mercury, Dissolved	ND ug/L		0.20	1	11/17/14 11:36	11/18/14 13:32	7439-97-6	
8260 VOC		Analytical Method: EPA 8260						
Acetone	ND ug/L		20.0	1		11/23/14 14:51	67-64-1	
Allyl chloride	ND ug/L		4.0	1		11/23/14 14:51	107-05-1	
Benzene	ND ug/L		1.0	1		11/23/14 14:51	71-43-2	
Bromobenzene	ND ug/L		1.0	1		11/23/14 14:51	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		11/23/14 14:51	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		11/23/14 14:51	75-27-4	
Bromoform	ND ug/L		4.0	1		11/23/14 14:51	75-25-2	
Bromomethane	ND ug/L		4.0	1		11/23/14 14:51	74-83-9	
2-Butanone (MEK)	ND ug/L		5.0	1		11/23/14 14:51	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		11/23/14 14:51	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		11/23/14 14:51	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		11/23/14 14:51	98-06-6	
Carbon tetrachloride	ND ug/L		1.0	1		11/23/14 14:51	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/23/14 14:51	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/23/14 14:51	75-00-3	
Chloroform	ND ug/L		1.0	1		11/23/14 14:51	67-66-3	
Chloromethane	ND ug/L		4.0	1		11/23/14 14:51	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		11/23/14 14:51	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		11/23/14 14:51	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		4.0	1		11/23/14 14:51	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		11/23/14 14:51	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		11/23/14 14:51	106-93-4	
Dibromomethane	ND ug/L		4.0	1		11/23/14 14:51	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 14:51	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 14:51	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 14:51	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		11/23/14 14:51	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		11/23/14 14:51	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/23/14 14:51	107-06-2	

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: DDLF-4		Lab ID: 1241151001	Collected: 11/12/14 10:45	Received: 11/13/14 18:52	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260						
1,1-Dichloroethene	ND ug/L		1.0	1		11/23/14 14:51	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		11/23/14 14:51	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/23/14 14:51	156-60-5	
Dichlorofluoromethane	ND ug/L		1.0	1		11/23/14 14:51	75-43-4	
1,2-Dichloropropane	ND ug/L		4.0	1		11/23/14 14:51	78-87-5	
1,3-Dichloropropane	ND ug/L		1.0	1		11/23/14 14:51	142-28-9	
2,2-Dichloropropane	ND ug/L		4.0	1		11/23/14 14:51	594-20-7	
1,1-Dichloropropene	ND ug/L		1.0	1		11/23/14 14:51	563-58-6	
cis-1,3-Dichloropropene	ND ug/L		4.0	1		11/23/14 14:51	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		4.0	1		11/23/14 14:51	10061-02-6	
Diethyl ether (Ethyl ether)	ND ug/L		4.0	1		11/23/14 14:51	60-29-7	
Ethylbenzene	ND ug/L		1.0	1		11/23/14 14:51	100-41-4	
Hexachloro-1,3-butadiene	ND ug/L		1.0	1		11/23/14 14:51	87-68-3	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/23/14 14:51	98-82-8	
p-Isopropyltoluene	ND ug/L		1.0	1		11/23/14 14:51	99-87-6	
Methylene Chloride	ND ug/L		4.0	1		11/23/14 14:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		5.0	1		11/23/14 14:51	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	1		11/23/14 14:51	1634-04-4	
Naphthalene	ND ug/L		4.0	1		11/23/14 14:51	91-20-3	
n-Propylbenzene	ND ug/L		1.0	1		11/23/14 14:51	103-65-1	
Styrene	ND ug/L		1.0	1		11/23/14 14:51	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	1		11/23/14 14:51	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/23/14 14:51	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/23/14 14:51	127-18-4	
Tetrahydrofuran	ND ug/L		10.0	1		11/23/14 14:51	109-99-9	
Toluene	ND ug/L		1.0	1		11/23/14 14:51	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	1		11/23/14 14:51	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	1		11/23/14 14:51	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/23/14 14:51	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/23/14 14:51	79-00-5	
Trichloroethene	ND ug/L		0.40	1		11/23/14 14:51	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/23/14 14:51	75-69-4	
1,2,3-Trichloropropane	ND ug/L		4.0	1		11/23/14 14:51	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND ug/L		1.0	1		11/23/14 14:51	76-13-1	
1,2,4-Trimethylbenzene	ND ug/L		1.0	1		11/23/14 14:51	95-63-6	
1,3,5-Trimethylbenzene	ND ug/L		1.0	1		11/23/14 14:51	108-67-8	
Vinyl chloride	ND ug/L		0.40	1		11/23/14 14:51	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		11/23/14 14:51	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102 %.		75-125	1		11/23/14 14:51	17060-07-0	
Toluene-d8 (S)	100 %.		75-125	1		11/23/14 14:51	2037-26-5	
4-Bromofluorobenzene (S)	100 %.		75-125	1		11/23/14 14:51	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	ND mg/L		100	10		11/25/14 11:29		
Alkalinity,Bicarbonate (CaCO3)	ND mg/L		100	10		11/25/14 11:29		
Alkalinity,Carbonate (CaCO3)	ND mg/L		100	10		11/25/14 11:29		

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: DDLF-4		Lab ID: 1241151001	Collected: 11/12/14 10:45	Received: 11/13/14 18:52	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2510B Specific Conductance		Analytical Method: SM 2510B						
Specific Conductance	129	umhos/cm	10.0	1		11/20/14 10:45		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B						
pH	7.0	Std. Units	0.10	1		11/14/14 15:21		H6
USGS I-3765 TSS		Analytical Method: USGS I-3765						
Total Suspended Solids	27.6	mg/L	1.0	1		11/14/14 13:31		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	ND	mg/L	1.0	1		11/20/14 22:49	16887-00-6	
Sulfate	2.5	mg/L	2.0	1		11/20/14 22:49	14808-79-8	
350.1 Ammonia, Distilled		Analytical Method: EPA 350.1 Preparation Method: EPA 350.1						
Nitrogen, Ammonia	ND	mg/L	0.10	1	11/20/14 11:38	11/21/14 14:36	7664-41-7	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2						
Nitrogen, NO2 plus NO3	0.43	mg/L	0.10	1		11/24/14 11:40		

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: DDLF-5	Lab ID: 1241151002	Collected: 11/12/14 11:45	Received: 11/13/14 18:52	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7						
Barium, Dissolved	ND ug/L		10.0	1	11/18/14 10:16	11/19/14 11:05	7440-39-3	
Boron, Dissolved	ND ug/L		100	1	11/18/14 10:16	11/19/14 11:05	7440-42-8	
Chromium, Dissolved	ND ug/L		5.0	1	11/18/14 10:16	11/19/14 11:05	7440-47-3	
Copper, Dissolved	ND ug/L		5.0	1	11/18/14 10:16	11/19/14 11:05	7440-50-8	
Iron, Dissolved	51.8 ug/L		50.0	1	11/18/14 10:16	11/19/14 11:05	7439-89-6	
Manganese, Dissolved	ND ug/L		10.0	1	11/18/14 10:16	11/19/14 11:05	7439-96-5	
Sodium, Dissolved	1.8 mg/L		0.50	1	11/18/14 10:16	11/19/14 11:05	7440-23-5	
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic, Dissolved	ND ug/L		2.0	4	11/18/14 10:16	11/18/14 18:27	7440-38-2	
Cadmium, Dissolved	ND ug/L		0.80	4	11/18/14 10:16	11/18/14 18:27	7440-43-9	
Lead, Dissolved	ND ug/L		2.0	4	11/18/14 10:16	11/18/14 18:27	7439-92-1	
245.1 Mercury, Dissolved		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1						
Mercury, Dissolved	ND ug/L		0.20	1	11/17/14 11:36	11/18/14 13:39	7439-97-6	
8260 VOC		Analytical Method: EPA 8260						
Acetone	ND ug/L		20.0	1		11/23/14 15:05	67-64-1	
Allyl chloride	ND ug/L		4.0	1		11/23/14 15:05	107-05-1	
Benzene	ND ug/L		1.0	1		11/23/14 15:05	71-43-2	
Bromobenzene	ND ug/L		1.0	1		11/23/14 15:05	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		11/23/14 15:05	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		11/23/14 15:05	75-27-4	
Bromoform	ND ug/L		4.0	1		11/23/14 15:05	75-25-2	
Bromomethane	ND ug/L		4.0	1		11/23/14 15:05	74-83-9	
2-Butanone (MEK)	ND ug/L		5.0	1		11/23/14 15:05	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		11/23/14 15:05	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		11/23/14 15:05	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		11/23/14 15:05	98-06-6	
Carbon tetrachloride	ND ug/L		1.0	1		11/23/14 15:05	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/23/14 15:05	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/23/14 15:05	75-00-3	
Chloroform	ND ug/L		1.0	1		11/23/14 15:05	67-66-3	
Chloromethane	ND ug/L		4.0	1		11/23/14 15:05	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		11/23/14 15:05	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		11/23/14 15:05	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		4.0	1		11/23/14 15:05	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		11/23/14 15:05	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		11/23/14 15:05	106-93-4	
Dibromomethane	ND ug/L		4.0	1		11/23/14 15:05	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 15:05	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 15:05	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 15:05	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		11/23/14 15:05	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		11/23/14 15:05	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/23/14 15:05	107-06-2	

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: DDLF-5		Lab ID: 1241151002	Collected: 11/12/14 11:45	Received: 11/13/14 18:52	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260						
1,1-Dichloroethene	ND	ug/L	1.0	1		11/23/14 15:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/23/14 15:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/23/14 15:05	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	1		11/23/14 15:05	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	1		11/23/14 15:05	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/23/14 15:05	142-28-9	
2,2-Dichloropropane	ND	ug/L	4.0	1		11/23/14 15:05	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/23/14 15:05	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	4.0	1		11/23/14 15:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	1		11/23/14 15:05	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		11/23/14 15:05	60-29-7	
Ethylbenzene	ND	ug/L	1.0	1		11/23/14 15:05	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/23/14 15:05	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/23/14 15:05	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/23/14 15:05	99-87-6	
Methylene Chloride	ND	ug/L	4.0	1		11/23/14 15:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/23/14 15:05	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/23/14 15:05	1634-04-4	
Naphthalene	ND	ug/L	4.0	1		11/23/14 15:05	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/23/14 15:05	103-65-1	
Styrene	ND	ug/L	1.0	1		11/23/14 15:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/23/14 15:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/23/14 15:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/23/14 15:05	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		11/23/14 15:05	109-99-9	
Toluene	ND	ug/L	1.0	1		11/23/14 15:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/23/14 15:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/23/14 15:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/23/14 15:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/23/14 15:05	79-00-5	
Trichloroethene	ND	ug/L	0.40	1		11/23/14 15:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/23/14 15:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1		11/23/14 15:05	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/23/14 15:05	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/23/14 15:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/23/14 15:05	108-67-8	
Vinyl chloride	ND	ug/L	0.40	1		11/23/14 15:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/23/14 15:05	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102 %		75-125	1		11/23/14 15:05	17060-07-0	
Toluene-d8 (S)	100 %		75-125	1		11/23/14 15:05	2037-26-5	
4-Bromofluorobenzene (S)	99 %		75-125	1		11/23/14 15:05	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	26.7	mg/L	20.0	2		11/25/14 08:15		

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: DDLF-5		Lab ID: 1241151002	Collected: 11/12/14 11:45	Received: 11/13/14 18:52	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2510B Specific Conductance		Analytical Method: SM 2510B						
Specific Conductance	64	umhos/cm	10.0	1		11/20/14 10:45		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B						
pH	6.5	Std. Units	0.10	1		11/14/14 15:21		H6
USGS I-3765 TSS		Analytical Method: USGS I-3765						
Total Suspended Solids	68.8	mg/L	1.0	1		11/14/14 13:31		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	ND	mg/L	1.0	1		11/20/14 23:12	16887-00-6	
Sulfate	ND	mg/L	2.0	1		11/20/14 23:12	14808-79-8	
350.1 Ammonia, Distilled		Analytical Method: EPA 350.1 Preparation Method: EPA 350.1						
Nitrogen, Ammonia	ND	mg/L	0.10	1	11/20/14 11:38	11/21/14 14:40	7664-41-7	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2						
Nitrogen, NO2 plus NO3	0.11	mg/L	0.10	1		11/24/14 11:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: Equip Blank		Lab ID: 1241151003	Collected: 11/12/14 13:20	Received: 11/13/14 18:52	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7						
Barium, Dissolved	ND ug/L		10.0	1	11/18/14 10:16	11/19/14 11:09	7440-39-3	
Boron, Dissolved	ND ug/L		100	1	11/18/14 10:16	11/19/14 11:09	7440-42-8	
Chromium, Dissolved	ND ug/L		5.0	1	11/18/14 10:16	11/19/14 11:09	7440-47-3	
Copper, Dissolved	ND ug/L		5.0	1	11/18/14 10:16	11/19/14 11:09	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/18/14 10:16	11/19/14 11:09	7439-89-6	
Manganese, Dissolved	ND ug/L		10.0	1	11/18/14 10:16	11/19/14 11:09	7439-96-5	
Sodium, Dissolved	ND mg/L		0.50	1	11/18/14 10:16	11/19/14 11:09	7440-23-5	
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic, Dissolved	ND ug/L		0.50	1	11/18/14 10:16	11/18/14 18:32	7440-38-2	
Cadmium, Dissolved	ND ug/L		0.20	1	11/18/14 10:16	11/18/14 18:32	7440-43-9	
Lead, Dissolved	ND ug/L		0.50	1	11/18/14 10:16	11/18/14 18:32	7439-92-1	
245.1 Mercury, Dissolved		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1						
Mercury, Dissolved	ND ug/L		0.20	1	11/17/14 11:36	11/18/14 13:41	7439-97-6	
8260 VOC		Analytical Method: EPA 8260						
Acetone	ND ug/L		20.0	1		11/23/14 11:29	67-64-1	
Allyl chloride	ND ug/L		4.0	1		11/23/14 11:29	107-05-1	
Benzene	ND ug/L		1.0	1		11/23/14 11:29	71-43-2	
Bromobenzene	ND ug/L		1.0	1		11/23/14 11:29	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		11/23/14 11:29	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		11/23/14 11:29	75-27-4	
Bromoform	ND ug/L		4.0	1		11/23/14 11:29	75-25-2	
Bromomethane	ND ug/L		4.0	1		11/23/14 11:29	74-83-9	
2-Butanone (MEK)	ND ug/L		5.0	1		11/23/14 11:29	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		11/23/14 11:29	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		11/23/14 11:29	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		11/23/14 11:29	98-06-6	
Carbon tetrachloride	ND ug/L		1.0	1		11/23/14 11:29	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/23/14 11:29	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/23/14 11:29	75-00-3	
Chloroform	ND ug/L		1.0	1		11/23/14 11:29	67-66-3	
Chloromethane	ND ug/L		4.0	1		11/23/14 11:29	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		11/23/14 11:29	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		11/23/14 11:29	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		4.0	1		11/23/14 11:29	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		11/23/14 11:29	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		11/23/14 11:29	106-93-4	
Dibromomethane	ND ug/L		4.0	1		11/23/14 11:29	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 11:29	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 11:29	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/23/14 11:29	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		11/23/14 11:29	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		11/23/14 11:29	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/23/14 11:29	107-06-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: Equip Blank		Lab ID: 1241151003	Collected: 11/12/14 13:20	Received: 11/13/14 18:52	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260						
1,1-Dichloroethene	ND ug/L		1.0	1		11/23/14 11:29	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		11/23/14 11:29	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/23/14 11:29	156-60-5	
Dichlorofluoromethane	ND ug/L		1.0	1		11/23/14 11:29	75-43-4	
1,2-Dichloropropane	ND ug/L		4.0	1		11/23/14 11:29	78-87-5	
1,3-Dichloropropane	ND ug/L		1.0	1		11/23/14 11:29	142-28-9	
2,2-Dichloropropane	ND ug/L		4.0	1		11/23/14 11:29	594-20-7	
1,1-Dichloropropene	ND ug/L		1.0	1		11/23/14 11:29	563-58-6	
cis-1,3-Dichloropropene	ND ug/L		4.0	1		11/23/14 11:29	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		4.0	1		11/23/14 11:29	10061-02-6	
Diethyl ether (Ethyl ether)	ND ug/L		4.0	1		11/23/14 11:29	60-29-7	
Ethylbenzene	ND ug/L		1.0	1		11/23/14 11:29	100-41-4	
Hexachloro-1,3-butadiene	ND ug/L		1.0	1		11/23/14 11:29	87-68-3	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/23/14 11:29	98-82-8	
p-Isopropyltoluene	ND ug/L		1.0	1		11/23/14 11:29	99-87-6	
Methylene Chloride	ND ug/L		4.0	1		11/23/14 11:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		5.0	1		11/23/14 11:29	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	1		11/23/14 11:29	1634-04-4	
Naphthalene	ND ug/L		4.0	1		11/23/14 11:29	91-20-3	
n-Propylbenzene	ND ug/L		1.0	1		11/23/14 11:29	103-65-1	
Styrene	ND ug/L		1.0	1		11/23/14 11:29	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	1		11/23/14 11:29	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/23/14 11:29	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/23/14 11:29	127-18-4	
Tetrahydrofuran	ND ug/L		10.0	1		11/23/14 11:29	109-99-9	
Toluene	ND ug/L		1.0	1		11/23/14 11:29	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	1		11/23/14 11:29	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	1		11/23/14 11:29	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/23/14 11:29	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/23/14 11:29	79-00-5	
Trichloroethene	ND ug/L		0.40	1		11/23/14 11:29	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/23/14 11:29	75-69-4	
1,2,3-Trichloropropane	ND ug/L		4.0	1		11/23/14 11:29	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND ug/L		1.0	1		11/23/14 11:29	76-13-1	
1,2,4-Trimethylbenzene	ND ug/L		1.0	1		11/23/14 11:29	95-63-6	
1,3,5-Trimethylbenzene	ND ug/L		1.0	1		11/23/14 11:29	108-67-8	
Vinyl chloride	ND ug/L		0.40	1		11/23/14 11:29	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		11/23/14 11:29	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100 %.		75-125	1		11/23/14 11:29	17060-07-0	
Toluene-d8 (S)	99 %.		75-125	1		11/23/14 11:29	2037-26-5	
4-Bromofluorobenzene (S)	100 %.		75-125	1		11/23/14 11:29	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO3	ND mg/L		10.0	1		11/24/14 07:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

Sample: Equip Blank	Lab ID: 1241151003	Collected: 11/12/14 13:20	Received: 11/13/14 18:52	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	ND	umhos/cm	10.0	1		11/20/14 10:45		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	6.8	Std. Units	0.10	1		11/14/14 15:21		H6
USGS I-3765 TSS	Analytical Method: USGS I-3765							
Total Suspended Solids	ND	mg/L	1.0	1		11/14/14 13:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		11/20/14 23:35	16887-00-6	
Sulfate	ND	mg/L	2.0	1		11/20/14 23:35	14808-79-8	
350.1 Ammonia, Distilled	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1							
Nitrogen, Ammonia	ND	mg/L	0.10	1	11/20/14 11:38	11/21/14 14:37	7664-41-7	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		11/24/14 11:42		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: MERP/1639

Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1

Analysis Description: 245.1 Mercury - Dissolved

Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 176215

Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/18/14 13:28	

LABORATORY CONTROL SAMPLE: 176216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	2	1.9	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176217 176218

Parameter	Units	1241151001 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	2	2	2.0	2.0	100	100	70-130	1	15	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: MPRP/4808 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET Dissolved
 Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 176366 Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium, Dissolved	ug/L	ND	10.0	11/19/14 10:38	
Boron, Dissolved	ug/L	ND	100	11/19/14 10:38	
Chromium, Dissolved	ug/L	ND	5.0	11/19/14 10:38	
Copper, Dissolved	ug/L	ND	5.0	11/19/14 10:38	
Iron, Dissolved	ug/L	ND	50.0	11/19/14 10:38	
Manganese, Dissolved	ug/L	ND	10.0	11/19/14 10:38	
Sodium, Dissolved	mg/L	ND	0.50	11/19/14 10:38	

LABORATORY CONTROL SAMPLE: 176367

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium, Dissolved	ug/L	500	511	102	85-115	
Boron, Dissolved	ug/L	500	545	109	85-115	
Chromium, Dissolved	ug/L	500	516	103	85-115	
Copper, Dissolved	ug/L	500	527	105	85-115	
Iron, Dissolved	ug/L	10000	10300	103	85-115	
Manganese, Dissolved	ug/L	500	521	104	85-115	
Sodium, Dissolved	mg/L	20	20.1	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176368 176369

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		1241151001 Result	Spike Conc.	Spike Conc.	Conc.								
Barium, Dissolved	ug/L	ND	500	500	511	509	101	100	70-130	0	20		
Boron, Dissolved	ug/L	ND	500	500	541	552	103	105	70-130	2	20		
Chromium, Dissolved	ug/L	ND	500	500	510	508	102	101	70-130	1	20		
Copper, Dissolved	ug/L	ND	500	500	518	515	104	103	70-130	1	20		
Iron, Dissolved	ug/L	ND	10000	10000	10300	10200	102	102	70-130	0	20		
Manganese, Dissolved	ug/L	ND	500	500	509	506	101	100	70-130	1	20		
Sodium, Dissolved	mg/L	2.1	20	20	22.3	22.4	101	102	70-130	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176370 176371

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		1241159002 Result	Spike Conc.	Spike Conc.	Conc.								
Barium, Dissolved	ug/L	140	500	500	629	648	98	102	70-130	3	20		
Boron, Dissolved	ug/L	ND	500	500	552	586	104	110	70-130	6	20		

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176370												176371	
Parameter	Units	1241159002 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	% Rec	Max	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD		
Chromium, Dissolved	ug/L	ND	500	500	505	521	101	104	70-130		3	20	
Copper, Dissolved	ug/L	ND	500	500	523	543	104	108	70-130		4	20	
Iron, Dissolved	ug/L	ND	10000	10000	10200	10400	102	104	70-130		2	20	
Manganese, Dissolved	ug/L	ND	500	500	504	526	101	105	70-130		4	20	
Sodium, Dissolved	mg/L	3.3	20	20	23.8	23.9	103	103	70-130		0	20	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: MPRP/4809 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET Dissolved
 Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 176372 Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	11/18/14 17:49	
Cadmium, Dissolved	ug/L	ND	0.20	11/18/14 17:49	
Lead, Dissolved	ug/L	ND	0.50	11/18/14 17:49	

LABORATORY CONTROL SAMPLE: 176373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	503	101	85-115	
Cadmium, Dissolved	ug/L	500	497	99	85-115	
Lead, Dissolved	ug/L	500	489	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176374 176375

Parameter	Units	1241151001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Arsenic, Dissolved	ug/L	ND	500	508	511	101	102	70-130	1	20		
Cadmium, Dissolved	ug/L	ND	500	518	512	104	102	70-130	1	20		
Lead, Dissolved	ug/L	ND	500	499	500	100	100	70-130	0	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176376 176377

Parameter	Units	1241159002 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Arsenic, Dissolved	ug/L	ND	500	502	501	100	100	70-130	0	20		
Cadmium, Dissolved	ug/L	ND	500	503	507	101	101	70-130	1	20		
Lead, Dissolved	ug/L	ND	500	491	488	98	98	70-130	1	20		

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

METHOD BLANK: 1850779

Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	ND	1.0	11/23/14 10:31	
Dibromomethane	ug/L	ND	4.0	11/23/14 10:31	
Dichlorodifluoromethane	ug/L	ND	1.0	11/23/14 10:31	
Dichlorofluoromethane	ug/L	ND	1.0	11/23/14 10:31	
Diethyl ether (Ethyl ether)	ug/L	ND	4.0	11/23/14 10:31	
Ethylbenzene	ug/L	ND	1.0	11/23/14 10:31	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/23/14 10:31	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	11/23/14 10:31	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/23/14 10:31	
Methylene Chloride	ug/L	ND	4.0	11/23/14 10:31	
n-Butylbenzene	ug/L	ND	1.0	11/23/14 10:31	
n-Propylbenzene	ug/L	ND	1.0	11/23/14 10:31	
Naphthalene	ug/L	ND	4.0	11/23/14 10:31	
p-Isopropyltoluene	ug/L	ND	1.0	11/23/14 10:31	
sec-Butylbenzene	ug/L	ND	1.0	11/23/14 10:31	
Styrene	ug/L	ND	1.0	11/23/14 10:31	
tert-Butylbenzene	ug/L	ND	1.0	11/23/14 10:31	
Tetrachloroethene	ug/L	ND	1.0	11/23/14 10:31	
Tetrahydrofuran	ug/L	ND	10.0	11/23/14 10:31	
Toluene	ug/L	ND	1.0	11/23/14 10:31	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/23/14 10:31	
trans-1,3-Dichloropropene	ug/L	ND	4.0	11/23/14 10:31	
Trichloroethene	ug/L	ND	0.40	11/23/14 10:31	
Trichlorofluoromethane	ug/L	ND	1.0	11/23/14 10:31	
Vinyl chloride	ug/L	ND	0.40	11/23/14 10:31	
Xylene (Total)	ug/L	ND	3.0	11/23/14 10:31	
1,2-Dichloroethane-d4 (S)	%	99	75-125	11/23/14 10:31	
4-Bromofluorobenzene (S)	%	100	75-125	11/23/14 10:31	
Toluene-d8 (S)	%	100	75-125	11/23/14 10:31	

LABORATORY CONTROL SAMPLE: 1850780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	22.0	110	75-125	
1,1,1-Trichloroethane	ug/L	20	22.4	112	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	21.8	109	74-125	
1,1,2-Trichloroethane	ug/L	20	23.0	115	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.9	105	56-133	
1,1-Dichloroethane	ug/L	20	22.1	111	75-125	
1,1-Dichloroethene	ug/L	20	22.6	113	70-125	
1,1-Dichloropropene	ug/L	20	22.7	113	73-125	
1,2,3-Trichlorobenzene	ug/L	20	22.2	111	75-125	
1,2,3-Trichloropropane	ug/L	20	21.6	108	75-125	
1,2,4-Trichlorobenzene	ug/L	20	22.2	111	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

LABORATORY CONTROL SAMPLE: 1850780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	22.6	113	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	55.7	111	70-125	
1,2-Dibromoethane (EDB)	ug/L	20	22.3	112	75-125	
1,2-Dichlorobenzene	ug/L	20	21.9	109	75-125	
1,2-Dichloroethane	ug/L	20	21.9	109	75-125	
1,2-Dichloropropane	ug/L	20	22.3	112	75-125	
1,3,5-Trimethylbenzene	ug/L	20	22.5	112	75-125	
1,3-Dichlorobenzene	ug/L	20	21.9	110	75-125	
1,3-Dichloropropane	ug/L	20	21.9	109	75-125	
1,4-Dichlorobenzene	ug/L	20	21.6	108	75-125	
2,2-Dichloropropane	ug/L	20	22.2	111	66-130	
2-Butanone (MEK)	ug/L	100	112	112	64-126	
2-Chlorotoluene	ug/L	20	22.5	113	73-125	
4-Chlorotoluene	ug/L	20	22.1	111	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	117	117	71-125	
Acetone	ug/L	100	108	108	66-131	
Allyl chloride	ug/L	20	21.3	107	70-129	
Benzene	ug/L	20	21.5	108	75-125	
Bromobenzene	ug/L	20	22.1	111	75-125	
Bromochloromethane	ug/L	20	22.0	110	75-125	
Bromodichloromethane	ug/L	20	21.9	109	75-125	
Bromoform	ug/L	20	20.5	103	70-125	
Bromomethane	ug/L	20	18.9	94	30-150	
Carbon tetrachloride	ug/L	20	20.8	104	68-129	
Chlorobenzene	ug/L	20	21.1	105	75-125	
Chloroethane	ug/L	20	21.4	107	68-133	
Chloroform	ug/L	20	22.2	111	75-125	
Chloromethane	ug/L	20	23.7	118	57-140	
cis-1,2-Dichloroethene	ug/L	20	22.0	110	75-125	
cis-1,3-Dichloropropene	ug/L	20	22.5	112	75-125	
Dibromochloromethane	ug/L	20	20.4	102	75-125	
Dibromomethane	ug/L	20	21.1	106	75-125	
Dichlorodifluoromethane	ug/L	20	22.2	111	50-134	
Dichlorofluoromethane	ug/L	20	23.0	115	74-125	
Diethyl ether (Ethyl ether)	ug/L	20	21.1	106	75-125	
Ethylbenzene	ug/L	20	20.6	103	75-125	
Hexachloro-1,3-butadiene	ug/L	20	24.7	124	74-128	
Isopropylbenzene (Cumene)	ug/L	20	22.9	114	73-125	
Methyl-tert-butyl ether	ug/L	20	22.4	112	75-125	
Methylene Chloride	ug/L	20	20.2	101	75-125	
n-Butylbenzene	ug/L	20	23.4	117	73-125	
n-Propylbenzene	ug/L	20	23.3	116	72-125	
Naphthalene	ug/L	20	21.8	109	74-125	
p-Isopropyltoluene	ug/L	20	23.5	117	74-125	
sec-Butylbenzene	ug/L	20	23.8	119	74-125	
Styrene	ug/L	20	22.9	115	75-125	
tert-Butylbenzene	ug/L	20	22.4	112	74-125	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

LABORATORY CONTROL SAMPLE: 1850780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	20	19.1	96	71-125	
Tetrahydrofuran	ug/L	200	218	109	70-125	
Toluene	ug/L	20	21.7	108	75-125	
trans-1,2-Dichloroethene	ug/L	20	22.5	112	73-125	
trans-1,3-Dichloropropene	ug/L	20	22.2	111	75-125	
Trichloroethene	ug/L	20	21.3	106	75-125	
Trichlorofluoromethane	ug/L	20	24.8	124	70-128	
Vinyl chloride	ug/L	20	20.6	103	70-130	
Xylene (Total)	ug/L	60	66.1	110	75-125	
1,2-Dichloroethane-d4 (S)	%			104	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE SAMPLE: 1850781

Parameter	Units	1241151001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	19.1	96	74-131	
1,1,1-Trichloroethane	ug/L	ND	20	19.2	96	73-139	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.2	96	72-125	
1,1,2-Trichloroethane	ug/L	ND	20	19.4	97	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	18.1	91	68-150	
1,1-Dichloroethane	ug/L	ND	20	18.9	95	73-132	
1,1-Dichloroethene	ug/L	ND	20	20.8	104	71-142	
1,1-Dichloropropene	ug/L	ND	20	18.3	92	73-139	
1,2,3-Trichlorobenzene	ug/L	ND	20	18.9	95	70-129	
1,2,3-Trichloropropane	ug/L	ND	20	19.8	99	74-125	
1,2,4-Trichlorobenzene	ug/L	ND	20	18.8	94	70-129	
1,2,4-Trimethylbenzene	ug/L	ND	20	19.5	98	72-136	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	49.0	98	66-127	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20.7	103	75-125	
1,2-Dichlorobenzene	ug/L	ND	20	18.1	91	75-125	
1,2-Dichloroethane	ug/L	ND	20	18.3	92	68-128	
1,2-Dichloropropane	ug/L	ND	20	20.1	101	74-131	
1,3,5-Trimethylbenzene	ug/L	ND	20	18.4	92	75-131	
1,3-Dichlorobenzene	ug/L	ND	20	17.5	87	73-125	
1,3-Dichloropropane	ug/L	ND	20	19.6	98	75-125	
1,4-Dichlorobenzene	ug/L	ND	20	17.6	88	73-125	
2,2-Dichloropropane	ug/L	ND	20	19.7	99	58-150	
2-Butanone (MEK)	ug/L	ND	100	104	104	56-140	
2-Chlorotoluene	ug/L	ND	20	18.2	91	70-130	
4-Chlorotoluene	ug/L	ND	20	18.1	90	73-126	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	110	110	69-128	
Acetone	ug/L	ND	100	104	104	57-143	
Allyl chloride	ug/L	ND	20	20.8	104	65-146	
Benzene	ug/L	ND	20	20.9	104	75-129	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

MATRIX SPIKE SAMPLE:	1850781						
Parameter	Units	1241151001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromobenzene	ug/L	ND	20	19.3	97	74-125	
Bromochloromethane	ug/L	ND	20	20.3	102	75-126	
Bromodichloromethane	ug/L	ND	20	20.1	101	75-128	
Bromoform	ug/L	ND	20	19.2	96	66-130	
Bromomethane	ug/L	ND	20	19.8	99	30-150	
Carbon tetrachloride	ug/L	ND	20	19.1	96	69-148	
Chlorobenzene	ug/L	ND	20	18.9	94	75-125	
Chloroethane	ug/L	ND	20	19.2	96	71-143	
Chloroform	ug/L	ND	20	20.8	104	75-126	
Chloromethane	ug/L	ND	20	21.6	108	55-150	
cis-1,2-Dichloroethene	ug/L	ND	20	20.2	101	75-130	
cis-1,3-Dichloropropene	ug/L	ND	20	18.4	92	72-129	
Dibromochloromethane	ug/L	ND	20	18.7	93	73-129	
Dibromomethane	ug/L	ND	20	19.2	96	75-125	
Dichlorodifluoromethane	ug/L	ND	20	18.7	93	70-150	
Dichlorofluoromethane	ug/L	ND	20	21.8	109	75-135	
Diethyl ether (Ethyl ether)	ug/L	ND	20	19.6	98	72-126	
Ethylbenzene	ug/L	ND	20	17.3	86	75-128	
Hexachloro-1,3-butadiene	ug/L	ND	20	22.4	112	65-144	
Isopropylbenzene (Cumene)	ug/L	ND	20	19.6	98	75-131	
Methyl-tert-butyl ether	ug/L	ND	20	20.3	101	74-128	
Methylene Chloride	ug/L	ND	20	18.4	92	69-125	
n-Butylbenzene	ug/L	ND	20	19.6	98	70-137	
n-Propylbenzene	ug/L	ND	20	18.9	94	72-131	
Naphthalene	ug/L	ND	20	19.2	96	70-132	
p-Isopropyltoluene	ug/L	ND	20	18.7	94	73-133	
sec-Butylbenzene	ug/L	ND	20	20.6	103	74-133	
Styrene	ug/L	ND	20	20.0	100	75-128	
tert-Butylbenzene	ug/L	ND	20	18.0	90	74-130	
Tetrachloroethene	ug/L	ND	20	16.2	81	68-140	
Tetrahydrofuran	ug/L	ND	200	211	106	65-131	
Toluene	ug/L	ND	20	19.2	96	75-129	
trans-1,2-Dichloroethene	ug/L	ND	20	20.2	101	70-136	
trans-1,3-Dichloropropene	ug/L	ND	20	19.4	97	71-125	
Trichloroethene	ug/L	ND	20	17.4	87	72-135	
Trichlorofluoromethane	ug/L	ND	20	23.8	119	75-150	
Vinyl chloride	ug/L	ND	20	17.8	89	73-150	
Xylene (Total)	ug/L	ND	60	54.5	91	75-129	
1,2-Dichloroethane-d4 (S)	%				101	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				101	75-125	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

SAMPLE DUPLICATE: 1850782

Parameter	Units	1241151002 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	
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	ND		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	ND		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	ND		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	ND	.73J		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	ND	.47J		30	
Diethyl ether (Ethyl ether)	ug/L	ND	2.5J		30	
Ethylbenzene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

SAMPLE DUPLICATE: 1850782

Parameter	Units	1241151002 Result	Dup Result	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
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	
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)	%.	102	100	1		
4-Bromofluorobenzene (S)	%.	99	98	1		
Toluene-d8 (S)	%.	100	100	0		

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1241151

QC Batch: WET/15741 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 177268 Matrix: Water
Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	10.0	11/24/14 07:27	

LABORATORY CONTROL SAMPLE: 177269

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	52.6	105	90-110	

SAMPLE DUPLICATE: 177270

Parameter	Units	1241151001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	73.3			

SAMPLE DUPLICATE: 177271

Parameter	Units	1241126004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	755	768	2	20	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: WET/15753

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Associated Lab Samples: 1241151001, 1241151002

METHOD BLANK: 177436

Matrix: Water

Associated Lab Samples: 1241151001, 1241151002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	10.0	11/25/14 07:18	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	10.0	11/25/14 07:18	

LABORATORY CONTROL SAMPLE: 177437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	52.6	105	90-110	

SAMPLE DUPLICATE: 177438

Parameter	Units	1241237001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	416	410	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	416	410	1	20	

SAMPLE DUPLICATE: 177439

Parameter	Units	1241227001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	121	124	3	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	121	124	3	20	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: WET/15692

Analysis Method: SM 2510B

QC Batch Method: SM 2510B

Analysis Description: 2510B Specific Conductance

Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 176904

Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	11/20/14 10:45	

LABORATORY CONTROL SAMPLE: 176905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1413	1454	103	90-110	

SAMPLE DUPLICATE: 176906

Parameter	Units	1241295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	900	902	0	20	

SAMPLE DUPLICATE: 176907

Parameter	Units	1241152001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	276	277	0	20	

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: WET/15634 Analysis Method: SM 4500-H+B
 QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
 Associated Lab Samples: 1241151001, 1241151002, 1241151003

LABORATORY CONTROL SAMPLE: 176099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 176100

Parameter	Units	1241150001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.1	7.1	0	10	H6

SAMPLE DUPLICATE: 176101

Parameter	Units	1241152003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.0	8.0	0	10	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: WET/15629

Analysis Method: USGS I-3765

QC Batch Method: USGS I-3765

Analysis Description: USGS I-3765 Total Suspended Solids

Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 176068

Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	1.0	11/14/14 13:31	

LABORATORY CONTROL SAMPLE: 176069

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	239	234	98	80-120	

SAMPLE DUPLICATE: 176070

Parameter	Units	1241093002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	106	110	4	10	

SAMPLE DUPLICATE: 176071

Parameter	Units	1241137001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	160	172	7	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: WETA/9992

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 176913

Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	11/20/14 20:54	
Sulfate	mg/L	ND	2.0	11/20/14 20:54	

LABORATORY CONTROL SAMPLE: 176914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.3	99	90-110	
Sulfate	mg/L	50	48.6	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176915 176916

Parameter	Units	1241237005 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	MSD Result						
Chloride	mg/L	ND	500	501	500	501	99	99	90-110	0	20	
Sulfate	mg/L	1040	500	1520	500	1520	95	95	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176917 176918

Parameter	Units	1241152004 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	MSD Result						
Chloride	mg/L	3.4	50	53.6	50	53.6	100	100	90-110	0	20	
Sulfate	mg/L	5.1	50	54.4	50	54.4	99	99	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: WETA/9988

Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1

Analysis Description: 350.1 Ammonia Distilled

Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 176857

Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	11/21/14 14:04	

LABORATORY CONTROL SAMPLE: 176858

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176859 176860

Parameter	Units	1241213002 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	<0.10	10	10	9.7	9.4	97	94	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 176861 176862

Parameter	Units	1241247002 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	0.18	10	10	9.9	9.5	98	93	90-110	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Camp Ripley DDLF

Pace Project No.: 1241151

QC Batch: WETA/10022

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, preserved

Associated Lab Samples: 1241151001, 1241151002, 1241151003

METHOD BLANK: 177320

Matrix: Water

Associated Lab Samples: 1241151001, 1241151002, 1241151003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	11/24/14 11:20	

LABORATORY CONTROL SAMPLE: 177321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	5	5.3	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 177322 177323

Parameter	Units	1241040001 Result	MS		MSD		% Rec		% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Conc.	Result	Result	% Rec	% Rec				
Nitrogen, NO2 plus NO3	mg/L	ND	2	2	2.0	2.0	98	98	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 177324 177325

Parameter	Units	1241151002 Result	MS		MSD		% Rec		% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Conc.	Result	Result	% Rec	% Rec				
Nitrogen, NO2 plus NO3	mg/L	0.11	2	2	2.1	2.1	100	101	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Camp Ripley DDLF

Pace Project No.: 1241151

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.

PQL - Practical Quantitation 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.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Camp Ripley DDLF
Pace Project No.: 1241151

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1241151001	DDLDF-4	EPA 200.7	MPRP/4808	EPA 200.7	ICP/3850
1241151002	DDLDF-5	EPA 200.7	MPRP/4808	EPA 200.7	ICP/3850
1241151003	Equip Blank	EPA 200.7	MPRP/4808	EPA 200.7	ICP/3850
1241151001	DDLDF-4	EPA 200.8	MPRP/4809	EPA 200.8	ICPM/3443
1241151002	DDLDF-5	EPA 200.8	MPRP/4809	EPA 200.8	ICPM/3443
1241151003	Equip Blank	EPA 200.8	MPRP/4809	EPA 200.8	ICPM/3443
1241151001	DDLDF-4	EPA 245.1	MERP/1639	EPA 245.1	MERC/2046
1241151002	DDLDF-5	EPA 245.1	MERP/1639	EPA 245.1	MERC/2046
1241151003	Equip Blank	EPA 245.1	MERP/1639	EPA 245.1	MERC/2046
1241151001	DDLDF-4	EPA 8260	MSV/29471		
1241151002	DDLDF-5	EPA 8260	MSV/29471		
1241151003	Equip Blank	EPA 8260	MSV/29471		
1241151001	DDLDF-4	SM 2320B	WET/15741		
1241151001	DDLDF-4	SM 2320B	WET/15753		
1241151002	DDLDF-5	SM 2320B	WET/15741		
1241151002	DDLDF-5	SM 2320B	WET/15753		
1241151003	Equip Blank	SM 2320B	WET/15741		
1241151001	DDLDF-4	SM 2510B	WET/15692		
1241151002	DDLDF-5	SM 2510B	WET/15692		
1241151003	Equip Blank	SM 2510B	WET/15692		
1241151001	DDLDF-4	SM 4500-H+B	WET/15634		
1241151002	DDLDF-5	SM 4500-H+B	WET/15634		
1241151003	Equip Blank	SM 4500-H+B	WET/15634		
1241151001	DDLDF-4	USGS I-3765	WET/15629		
1241151002	DDLDF-5	USGS I-3765	WET/15629		
1241151003	Equip Blank	USGS I-3765	WET/15629		
1241151001	DDLDF-4	EPA 300.0	WETA/9992		
1241151002	DDLDF-5	EPA 300.0	WETA/9992		
1241151003	Equip Blank	EPA 300.0	WETA/9992		
1241151001	DDLDF-4	EPA 350.1	WETA/9988	EPA 350.1	WETA/10007
1241151002	DDLDF-5	EPA 350.1	WETA/9988	EPA 350.1	WETA/10007
1241151003	Equip Blank	EPA 350.1	WETA/9988	EPA 350.1	WETA/10007
1241151001	DDLDF-4	EPA 353.2	WETA/10022		
1241151002	DDLDF-5	EPA 353.2	WETA/10022		
1241151003	Equip Blank	EPA 353.2	WETA/10022		

REPORT OF LABORATORY ANALYSIS

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- Brief reiteration (one or two paragraphs) for each of the following topics:
 - 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

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 (ortho-)
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

2008
16⁰⁰



Document Name:
Sample Condition Upon Receipt Form
Document No.:
F-VM-C-001-Rev.07

Document Revised: 05May2014
Page 1 of 1
Issuing Authority:
Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: WSN

Project #:

WO#: 1241151

1241151

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

Thermometer Used: 122639828

Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.6 Cooler Temp Corrected °C: 1.8 Biological Tissue Frozen? Yes No NA
Temp should be above freezing to 6°C Correction Factor: +0.2 Date and Initials of Person Examining Contents: 11/13/14 BL

Comments: 11/14/14 TK

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. pH
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WST</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: [Signature]

Date: 11-17-14

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



ALEXANDRIA
Phone & Fax
320-762-8149
320-762-0263

BEMIDJI
Phone & Fax
218-444-1859
218-444-1860

BRAINERD/BAXTER
Phone & Fax
218-829-5117
218-829-2517

CROOKSTON
Phone & Fax
218-281-6522
218-281-6545

GRAND FORKS
Phone & Fax
701-795-1975
701-795-1978

RED WING
Phone & Fax
651-388-2443
651-388-5236

ROCHESTER
Phone & Fax
507-292-8743
507-292-8746

ENGINEERING ARCHITECTURE LAND SURVEYING ENVIRONMENTAL SERVICES

DATE: 11/12/14

PROJECT NAME: Camp Ripley PROJECT NUMBER: 0283B.0009.014

LOCATION: Radall, MN WEATHER: Overcast

TEMP. MIN. 18°F TEMP. MAX. 24°F ENGINEER PERSONNEL: MB

CONTRACTOR(S): _____

SUBCONTRACTOR WORKING: _____

WORK DONE BY ENGINEER: Fall Sampling Event

DAILY PROGRESS (Contractors & Subcontractors): Checked in @ Range Control @ 9:00. Tim at Range Control asked me to sample the Denardian landfill first because the person who needed to get me the key for the closed landfill was busy. Got to Denardian Landfill and located the wells. Did not have a key for the monitoring wells so I had to get a hold of Mark Erickson. He brought one out to me. Sampled DDLF-4 + DDLF-5 and checked static water level in DDLF-1, DDLF-2, DDLF-3. On the way back to range control I found MW-3 and sampled that. Found Tim at Range Control and got the key for the closed landfill area. Could not find MW-7 because it was on at-grade so I sampled MW-8 and called Mark Erickson to see if he could help me find MW-7. Located MW-7 and sampled that as well. MW-7 was FID. Took Equip Blank at 13:20. Returned to Range control and turned in the keys and my range pass.

SWL DDLF 2 - 19.03

DDLDF 3 - 26.34

DDLDF 1 - 29.98

Samples will be sent to Puer Virginia tomorrow.

REMARKS: _____

SIGNED: MB DATE SIGNED: 11/12/14

(If more space is required, use other side)

APPENDIX C
EVALUATION REPORTS

Evaluation Reports

PERSONNEL AND TRAINING INFORMATION

Certified personnel on duty at the site during hours of operation in 2014 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.

EMERGENCY/CORRECTIVE ACTION REPORT

No emergency or corrective actions were necessary in 2014. 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 2014 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 follow.

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 2014 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.

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 23 Dec 14
2. Area presently being filled (Phase No. from plans): 4
3. Intermediate cover used: 0 yd³
4. Final cover used: 0 yd³
5. Demolition debris received: 12 yd³

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 26 Nov 14
2. Area presently being filled (Phase No. from plans): 4
3. Intermediate cover used: 0 yd³
4. Final cover used: 0 yd³
5. Demolition debris received: 7 yd³

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Tom Sobania
Signature: T.S.

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 Oct 14
2. Area presently being filled (Phase No. from plans): 4
3. Intermediate cover used: 0 yd³
4. Final cover used: 0 yd³
5. Demolition debris received: 43 yd³

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

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: TOM SOBANIA
Signature: T.S.

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

Ent.
Jan
10-22-14

1. Date Inspected: 29 Sept 14
2. Area presently being filled (Phase No. from plans): 4
3. Intermediate cover used: 90 yd³
4. Final cover used: 0 yd³
5. Demolition debris received: 27 yd³

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

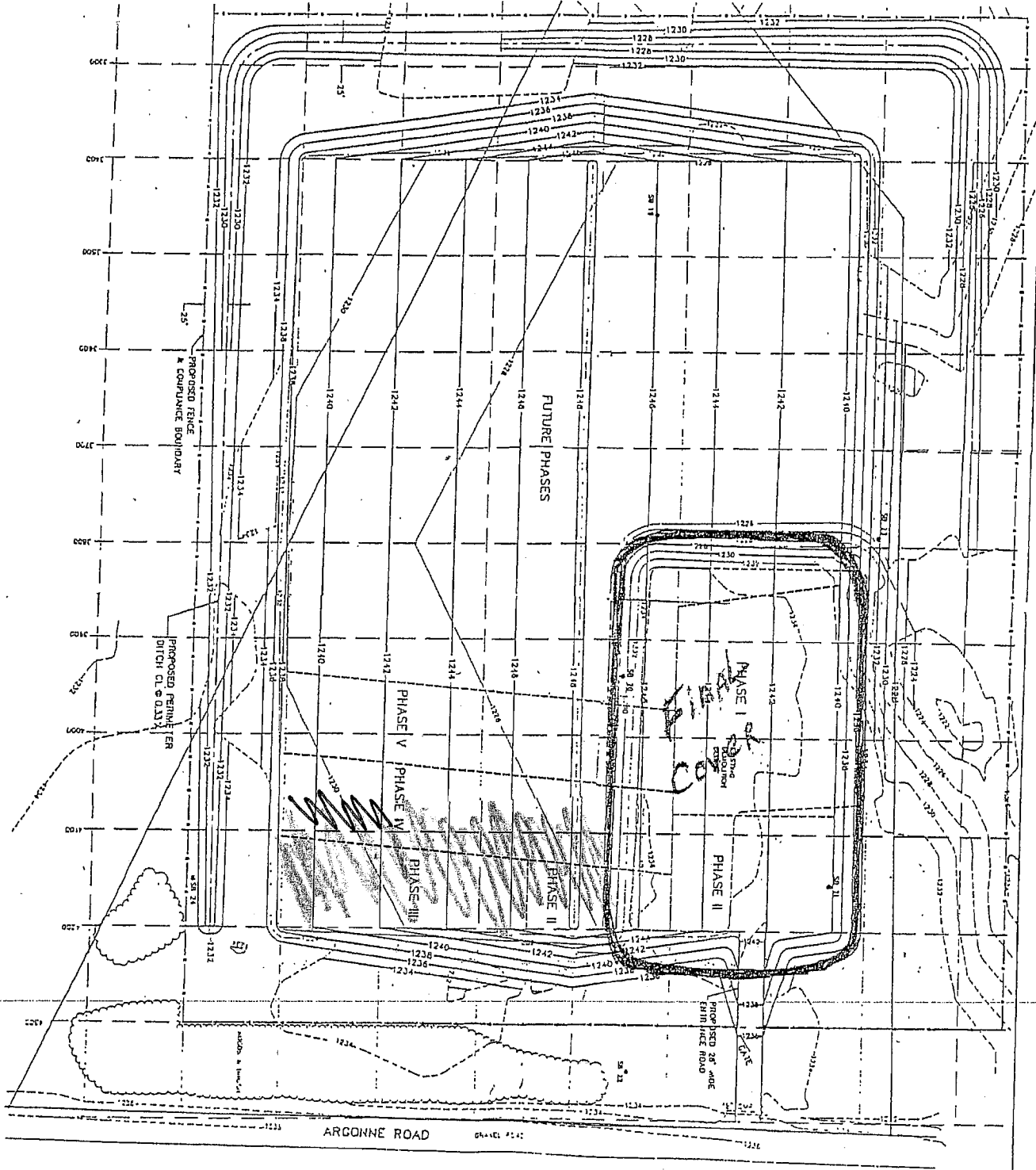
6. Results of inspection:


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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner





 0.25" = 50'

 SCALE = 1" = 50'

LEGEND

- EXISTING CONTOUR
- PROPOSED DITCH
- EXISTING PERIMETER DITCH
- PROPOSED PERIMETER DITCH
- EXISTING FENCE & COMPLIANCE BOUNDARY
- PROPOSED FENCE & COMPLIANCE BOUNDARY
- EXISTING ROAD
- PROPOSED ROAD
- EXISTING ROAD
- PROPOSED ROAD
- EXISTING ROAD
- PROPOSED ROAD

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 29 Aug 14
2. Area presently being filled (Phase No. from plans): 4
3. Intermediate cover used: 0 yd³
4. Final cover used: 0 yd³
5. Demolition debris received: 107 yd³

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

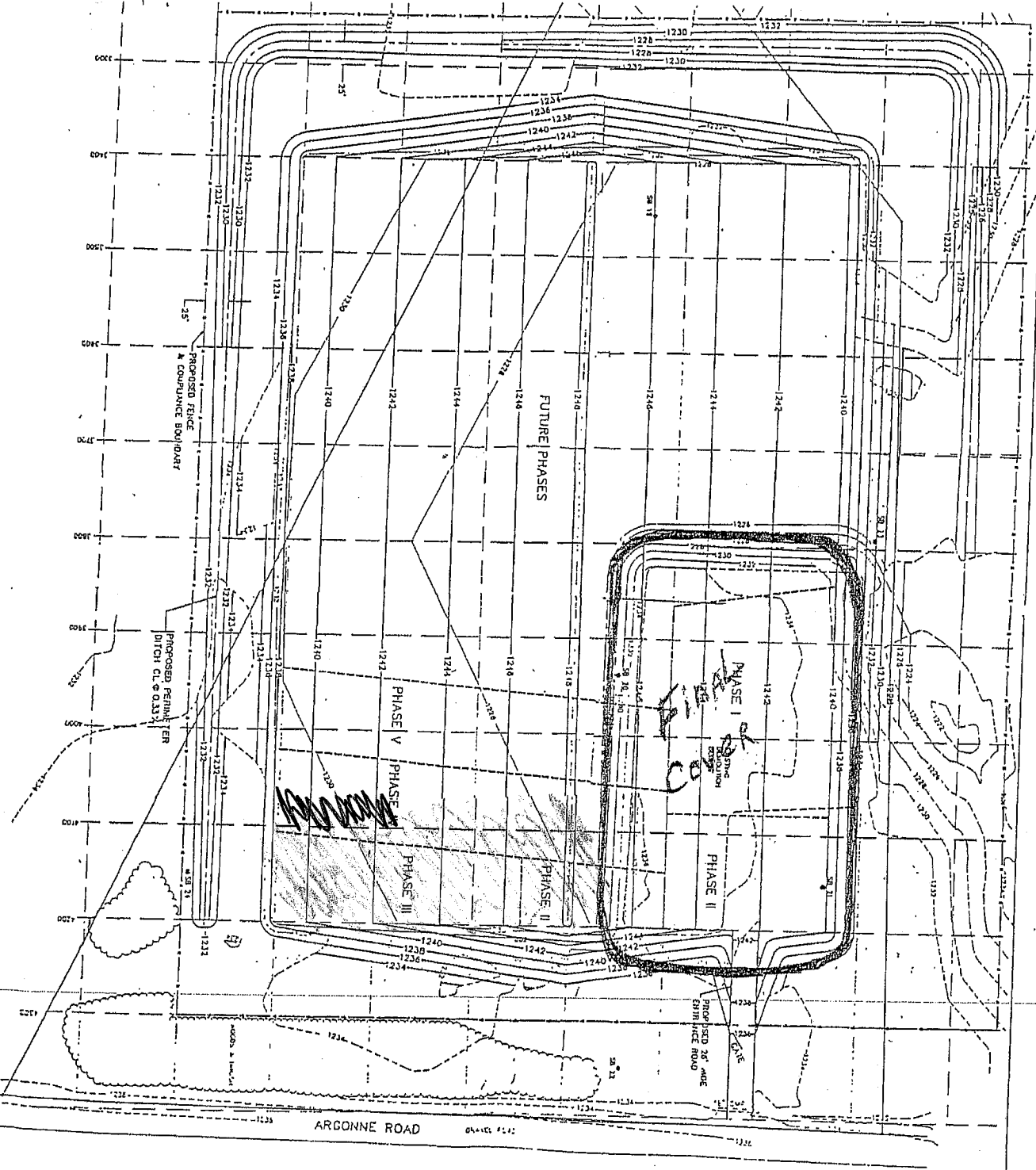
6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner



ARGONNE ROAD

DATE: 12-1-52

LEGEND

- EXISTING CONTOUR
- DTM LINE
- STREET CENTER, SHADOWER
- STREET CENTER, WALKWAY
- HILL LINE
- PROPOSED PHASE I & CONDUIT PERIMETER
- 10' X 30' UNDERPASS TELL
- 6" X 18" SOI, SPOILING
- EXISTING 60" DIA. SPOILING LINE
- PROPOSED PHASE SHADOWER
- PROPOSED PAUL CENTER
- PROPOSED FIRE CENTER

0 1 2 3 4
SCALE: 1" = 30'



UMH

Erickson
FMD

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

- 1. Date Inspected: 31 July 14
- 2. Area presently being filled (Phase No. from plans): 4
- 3. Intermediate cover used: 50 yd³
- 4. Final cover used: 450 yd³ Phase 3
- 5. Demolition debris received: 48 yd³

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

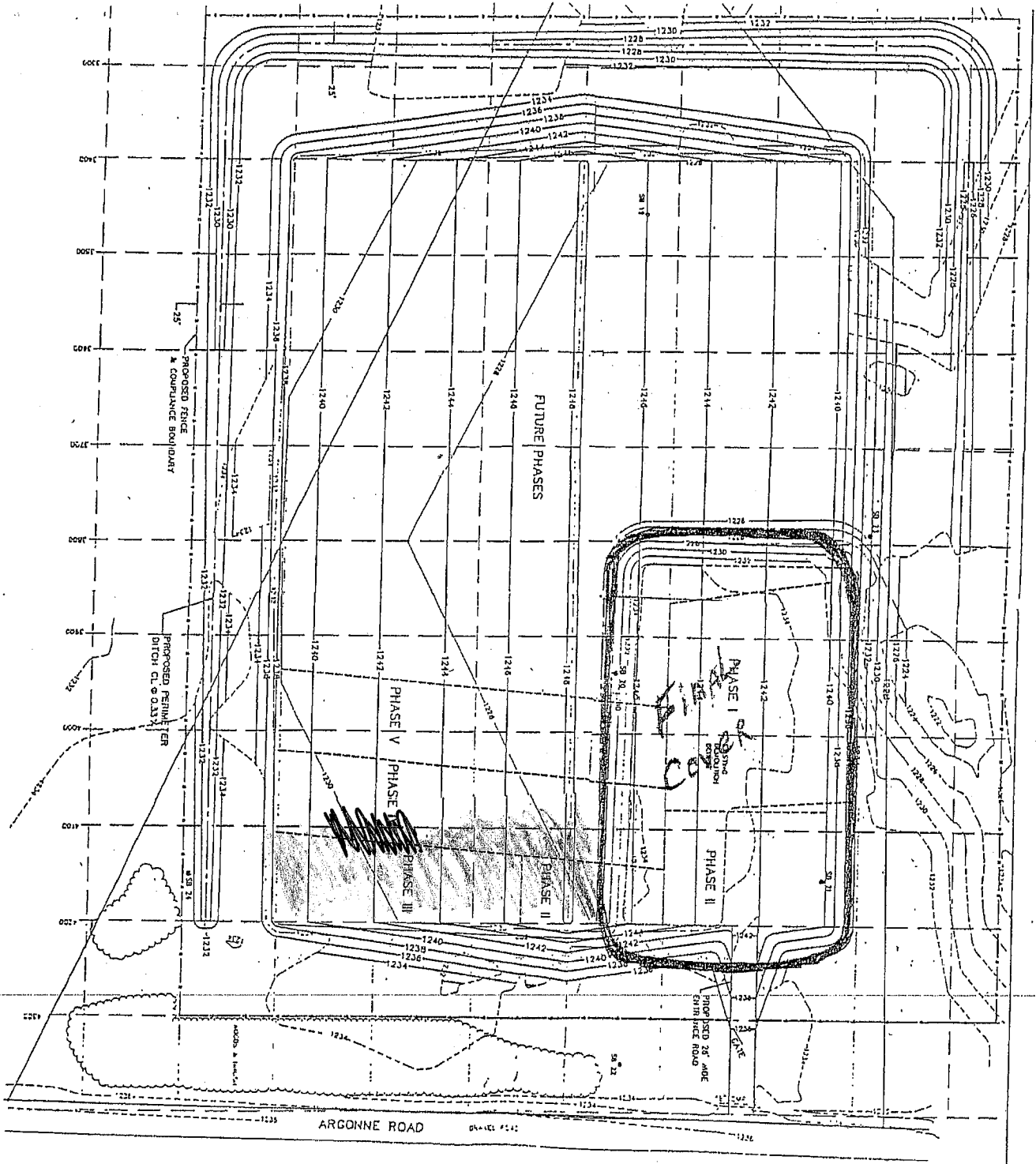
6. Results of inspection:

- 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

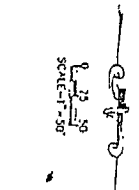
Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turnek
Signature: Jesse Turnek



- LEGEND**
- 100' --- EXISTING CONTOUR
 - 50' --- OPEN USE
 - 20' --- STAGY CONTOUR BOUNDARY
 - 10' --- STAGY CONTOUR BOUNDARY
 - 5' --- PROPOSED STAGE & COURSE BOUNDARY
 - 2' --- PROPOSED PERIMETER DITCH CL. 0.011V
 - 1' --- UNDERWAY - 50'
 - 0.5' --- UNDERWAY - 25'
 - 0.25' --- EXISTING 8' X 8' CONTOUR
 - 0.125' --- PROPOSED 8' X 8' CONTOUR
 - 0.0625' --- PROPOSED 4' X 4' CONTOUR
 - 0.03125' --- PROPOSED 2' X 2' CONTOUR



UMH

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

- 1. Date Inspected: 30 June 14
- 2. Area presently being filled (Phase No. from plans): 4
- 3. Intermediate cover used: _____ yd³
- 4. Final cover used: _____ yd³
- 5. Demolition debris received: 17 yd³

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

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner

Umsat

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

- 1. Date Inspected: 30 MAY - 14
- 2. Area presently being filled (Phase No. from plans): 4
- 3. Intermediate cover used: 0 yd³
- 4. Final cover used: 0 yd³
- 5. Demolition debris received: 19 yd³

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner

Umtt

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

- 1. Date Inspected: 30 APR 14
- 2. Area presently being filled (Phase No. from plans): 4
- 3. Intermediate cover used: 0 yd³
- 4. Final cover used: 0 yd³
- 5. Demolition debris received: 4 yd³

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 MAR 14
2. Area presently being filled (Phase No. from plans): 4
3. Intermediate cover used: 0 yd³
4. Final cover used: 0 yd³
5. Demolition debris received: 18 yd³

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

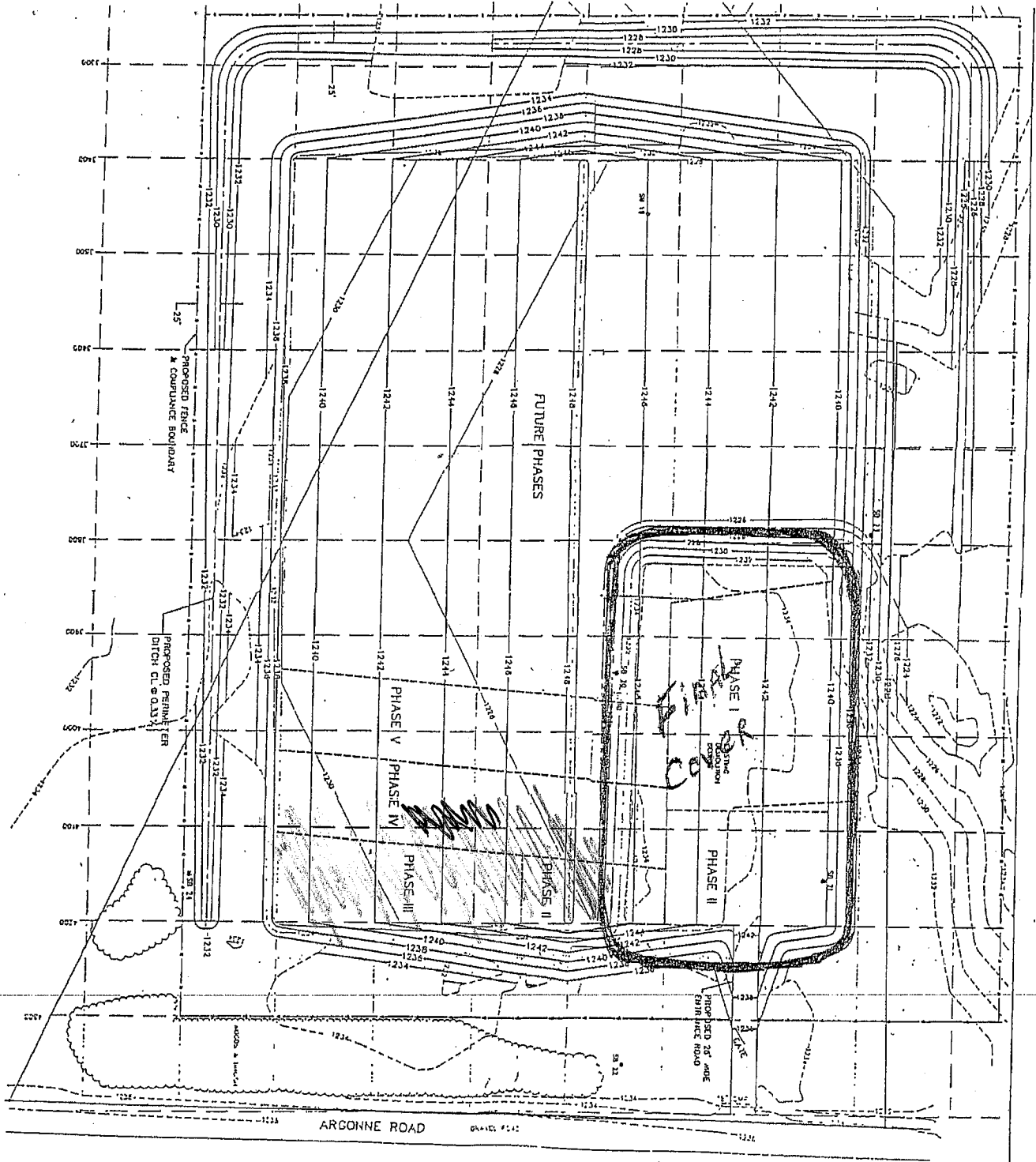
6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner



- LEGEND**
- Existing Contour
 - Contour
 - Survey Contour Boundary
 - Survey Contour Boundary
 - Proposed Fence & Conduit Boundary
 - Proposed 30' ADE China Walk Road
 - Proposed 4' X 6' Contour
 - Proposed 30' ADE China Walk Road
 - Proposed 4' X 6' Contour

0 1 2 3 4 5
 SCALE = 1" = 50'

Umat

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

- 1. Date Inspected: 28 FEB 14
- 2. Area presently being filled (Phase No. from plans): 4
- 3. Intermediate cover used: 0 yd³
- 4. Final cover used: 0 yd³
- 5. Demolition debris received: 2 yd³

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

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 Jan 14
2. Area presently being filled (Phase No. from plans): 4
3. Intermediate cover used: 0 yd³
4. Final cover used: 0 yd³
5. Demolition debris received: 3 yd³

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

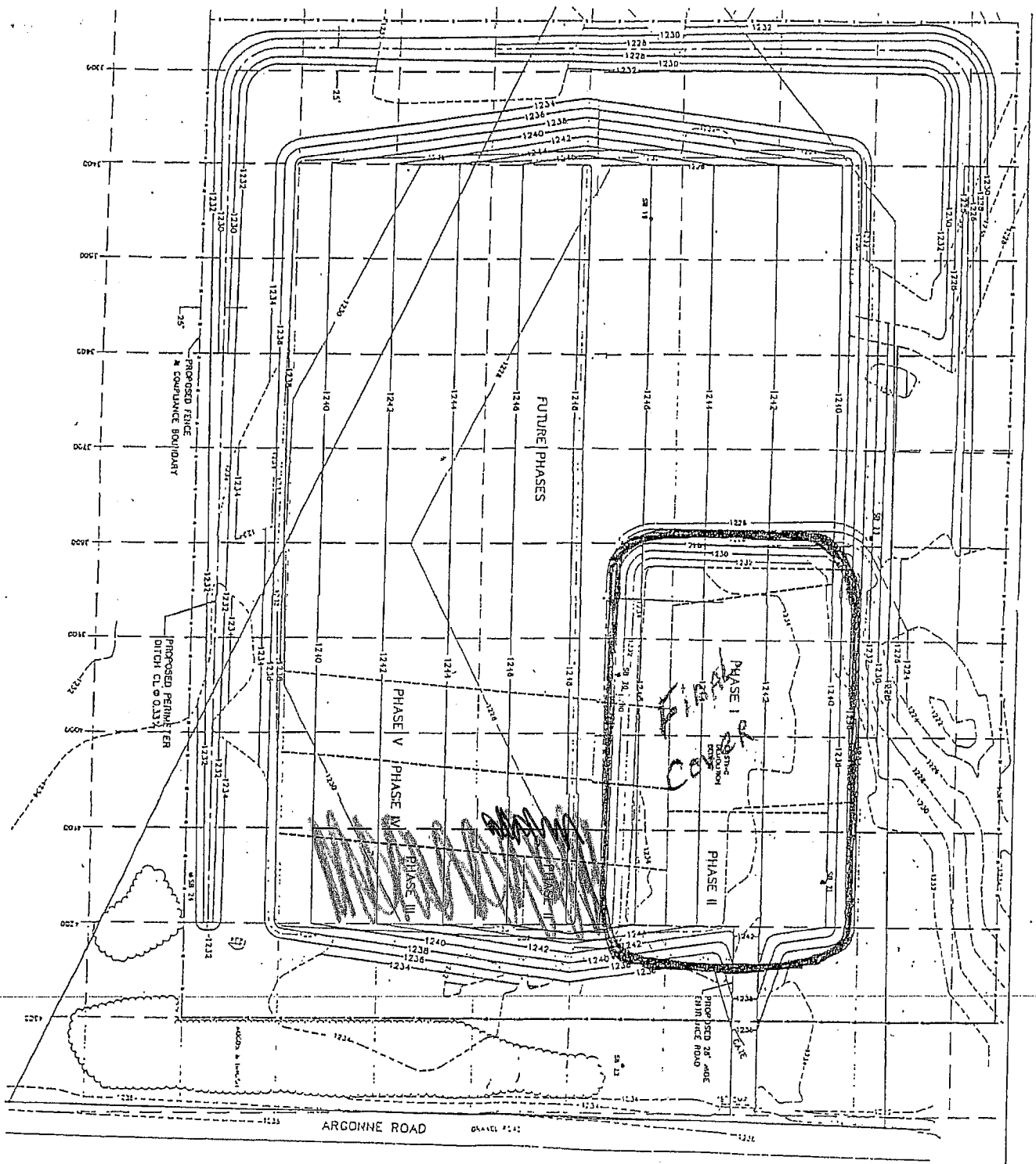
6. Results of inspection:

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

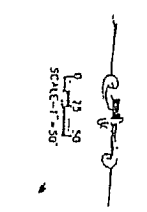
Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner
Signature: Jesse Turner



- LEGEND**
- Existing contour
 - 20' L&E
 - 50' L&E
 - 100' L&E
 - 150' L&E
 - 200' L&E
 - 250' L&E
 - 300' L&E
 - 350' L&E
 - 400' L&E
 - 450' L&E
 - 500' L&E
 - 550' L&E
 - 600' L&E
 - 650' L&E
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 - 1050' L&E
 - 1100' L&E
 - 1150' L&E
 - 1200' L&E
 - 1250' L&E
 - 1300' L&E
 - 1350' L&E
 - 1400' L&E
 - 1450' L&E
 - 1500' L&E
 - 1550' L&E
 - 1600' L&E
 - 1650' L&E
 - 1700' L&E
 - 1750' L&E
 - 1800' L&E
 - 1850' L&E
 - 1900' L&E
 - 1950' L&E
 - 2000' L&E



ARGONNE ROAD

DATE: 12/14/00

PROPOSED 20' WIDE BRUSH PILE ROAD

PROPOSED FENCE COMPLIANCE BOUNDARY

PROPOSED PERMITS DITCH CL. 0.15%

FUTURE PHASES

PHASE I
PHASE II
PHASE III
PHASE IV
PHASE V

PHASE I
PHASE II
PHASE III
PHASE IV
PHASE V

1200
1210
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