WIDSETH SMITH NOLTING

2016 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 23, 2017

WSN No. 0283B0009.016

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January 23, 2017

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

RE: Camp Ripley Demolition Landfill, SW-359
2016 Annual Groundwater Monitoring Report
WSN No. 0283B0009.016

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 discusses 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. Consequently, an annual survey was performed at the landfill by Widseth Smith Nolting (WSN) staff on October 31.

The private landfill is within the boundaries of the Camp Ripley Training Center (CRTC). 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 landfill is shown on Figure 1.

The landfill operates under solid waste permit number SW-359, first issued by the MPCA in July 1990. The landfill was re-permitted in August 1995, February 2002, August 2006, and again in July 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 and only accepts demolition debris generated at the CRTC.

The landfill 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 CRTC 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 the CRTC. The lobes appear to have been present in the CRTC 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 ground 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 water table monitoring wells (DDLF-1, DDLF-2, DDLF-3, DDLF-4, and DDLF-5). The locations of the five monitoring wells are shown on Figure 2. Groundwater samples and depth to water levels are collected from the monitoring wells in the fall of each year as directed in the landfills solid waste permit. On October 31, 2016, WSN environmental technician, Mike Bogart, collected samples from the two down gradient monitoring wells, DDLF-4 and DDLF-5. The groundwater samples were analyzed for the inorganic and organic analytes listed in the attached Table 1. The required quality assurance samples were collected and analyzed as part of the 2016 sampling event. Depth to groundwater measurements were taken from all five monitoring wells prior to well purging.

The analytical results for the 2016 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

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years. Generally, the data in Table 3 also demonstrate similar results in the water quality when compared to the previous year. It should be noted that the tables include 2016 results to the laboratory's reporting limits (RLs) and to their method detection limits (MDLs).

The volatile organic compound (VOC) groundwater quality results for the 2016 sampling event are summarized in Table 4 and Table 5. As shown in both tables, VOC's were not detected in the 2016 samples at or above the RLs or the corresponding MDLs. All tables include historical analytical data back to the November 2008 sampling event.

Copies of the 2016 analytical reports to the RLs and to the MDLs are included in Appendix A. The samples were analyzed by Pace Analytical for both the inorganic and general chemistry parameters.

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. In addition, evaluation/inspection reports relative to the 2016 landfill activities are attached as Appendix C.

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 2016 and past analytical results, we do not believe it is necessary to make any changes in 2017 to the landfill's groundwater monitoring network or the analytical schedule as published in the landfill's current permit. In 2017, the analysis schedule specifies sample collection and analyses identical to 2016.

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

Sincerely,

WIDSETH SMITH NOLTING

Gregory W. Smith

Gregory W. Smith, P.G.

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

FIGURES

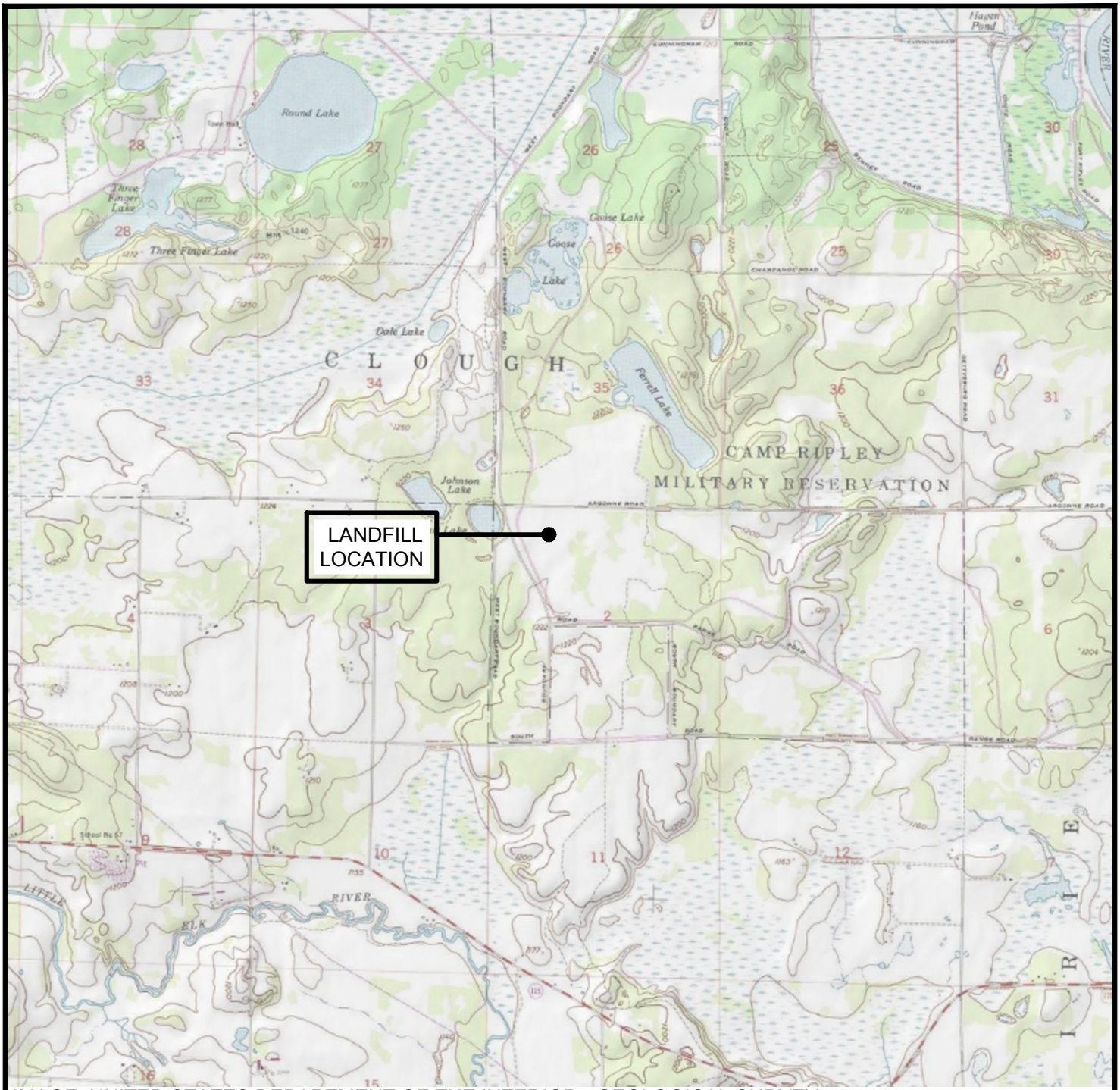
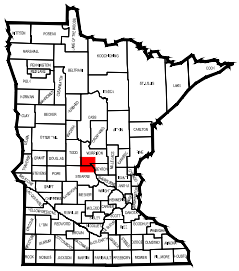


IMAGE: UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY

AREA LOCATION



NORTH

0 1000m 2000m

SCALE (IN METERS)

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

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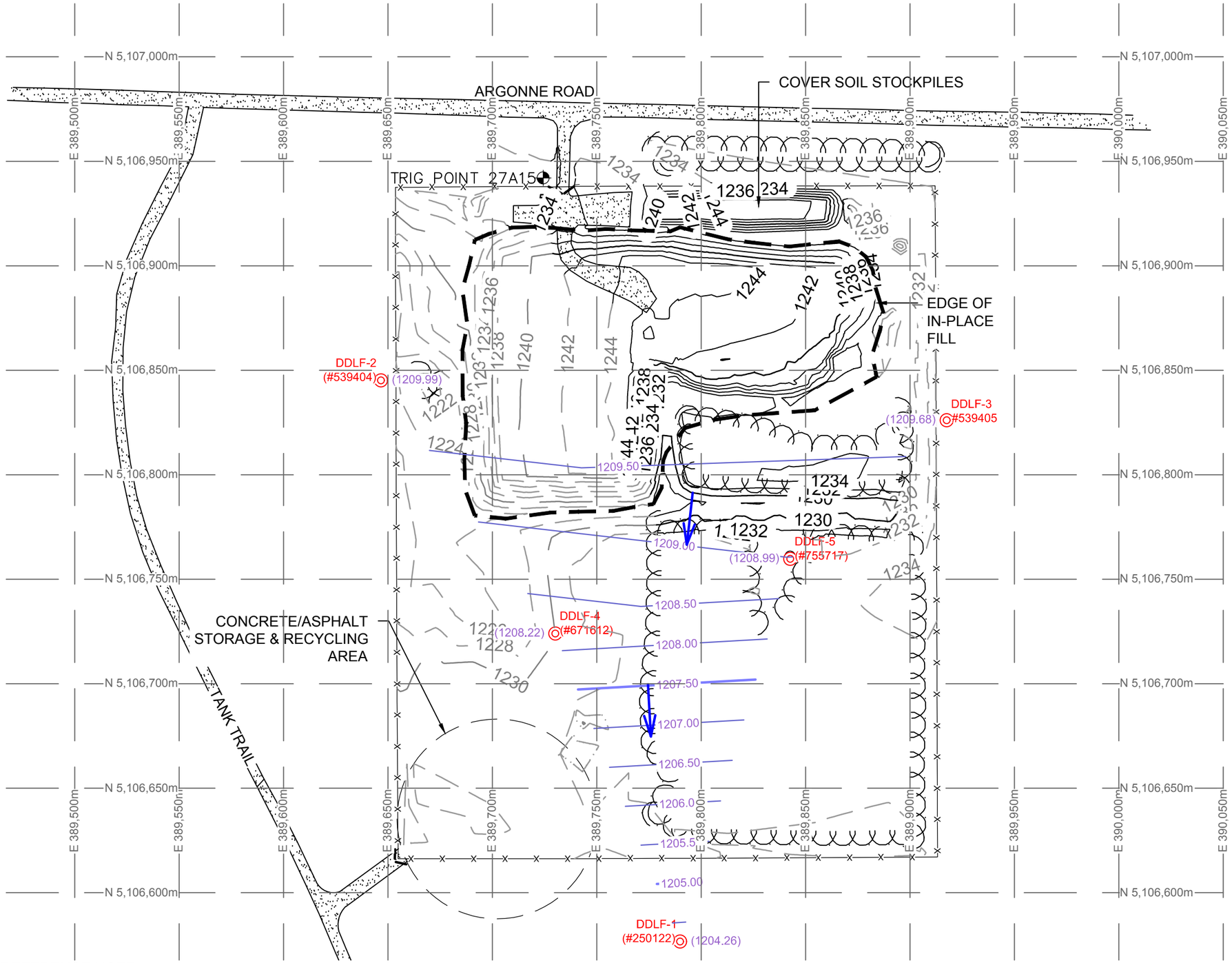
DEMOLITION LANDFILL - 2016 G.W. MONITORING
MN DEPARTMENT OF MILITARY AFFAIRS
LITTLE FALLS, MN

SITE LOCATION MAP

DATE: JANUARY 2017

JOB No.	FIGURE
0283B0009.016	01



LEGEND

- SITE BENCHMARK: BRASS DISK IN CONCRETE ELEV. = 1233.730 N: 5106942.014m (16755025.590ft) E: 389724.344m (1278620.618ft)
- DDFL @#539405 — DENOTES MONITORING WELL & UNIQUE WELL NUMBER
- 1208.00 — DENOTES GROUNDWATER SURFACE CONTOUR LINE
- (1207.17) — DENOTES GROUNDWATER ELEVATION AT LOCATION
- DENOTES GROUNDWATER FLOW DIRECTION
- DENOTES EDGE OF WOODS
- DENOTES FENCE
- DENOTES GRAVEL ROAD SURFACE
- 1126.00 — DENOTES 2014 EXISTING GRADE MAJOR CONTOUR LINE
- 1125.50 — DENOTES 2014 EXISTING GRADE MINOR CONTOUR LINE
- 1126.00 — DENOTES 2016 SURVEYED MAJOR CONTOUR LINE
- 1125.50 — DENOTES 2016 SURVEYED MINOR CONTOUR LINE
- DENOTES LANDFILL IN PLACE FILL LIMITS
- N 1,234,567m — DENOTES CONSTRUCTION GRID & VALUES IN METERS

0 50m 100m

SCALE (IN METERS)

REFERENCE NOTE:

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

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

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NORTH

DEMOLITION LANDFILL - 2016 G.W. MONITORING
MN DEPARTMENT OF MILITARY AFFAIRS
LITTLE FALLS, MN

GROUNDWATER ELEVATIONS ON 10-31-16

DATE: JANUARY 2017

JOB No. 0283B0009.016

FIGURE 02

TABLES

Table 1

Parameters for Analysis

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

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

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

Table 2

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

Parameter	Units	IL	DDLF-4 11/5/2008*	DDLF-4 11/11/2009*	DDLF-4 11/8/2010*	DDLF-4 11/8/2011*	DDLF-4 11/1/2012*	DDLF-4 10/25/2013	DDLF-4 11/12/2014	DDLF-4 11/5/2015	DDLF-4 10/31/2016	DDLF-4** 10/31/2016
Alkalinity	mg/L	--	51	72	62	64	76.1	72.4	<100	55.4	62.8	62.8
Ammonia Nitrogen	mg/L	--	<0.01	<0.01	<0.01	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.044
Arsenic (dissolved)	ug/L	2.5	<1.0	<1.0	<1.6	<1.6	<0.5	<20	<2.0	<2.0	<1.0	<0.48
Barium (dissolved)	mg/L	0.5	0.006	0.008	NA	NA	0.012	0.01	<0.01	<0.01	<10.0	.0079J
Boron (dissolved)	ug/L	250	<40	<40	NA	NA	NA	<150	<100	<100	<100	32.0J
Cadmium (dissolved)	ug/L	1	1	<0.2	0.2	NA	NA	<3.0	<0.8	<0.8	<0.40	<0.14
Calcium (dissolved)	mg/L	--	14	20	NA	NA	22.4	NA	NA	NA	NA	NA
Cation/Anion Balance	%	--	NA	NA	NA	NA	2.1	NA	NA	NA	NA	NA
Chloride	mg/L	--	1	1.1	NA	NA	<0.5	<2.0	NA	<1.0	<1.0	0.59J
Chromium (dissolved)	ug/L	25	<5	7.9	NA	NA	5	<10	<5	<10	<10.0	2.5J
Chromium, Trivalent	ug/L	--	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA
Chromium, Hexavalent	ug/L	--	<3	<3	NA	NA	<10	NA	NA	NA	NA	NA
Conductance (Field)	umhos/cm	--	NA	NA	NA	NA	96.3	149	110	113	121	121
Conductance (Lab)	umhos/cm	--	120	150	130	120	160	160	129	122	138	138
Copper (dissolved)	ug/L	250	<10	10	NA	NA	<5	<10	<5	<10	<10.0	<0.86
Dissolved Oxygen (Field)	mg/L	--	NA	NA	NA	NA	8.72	NA	10.13	9.35	9.7	9.7
Eh (Lab)	mV	--	130	140	140	440	202	NA	NA	NA	NA	NA
Eh (Field)	mV	--	NA	NA	NA	NA	502.7	NA	284	203	296	296
Iron (dissolved)	mg/L	--	<0.01	0.1	0.14	<0.01	0.099	0.217	<0.05	<0.05	<50.0	0.0374J
Lead (dissolved)	ug/L	1.25	<0.4	0.4	<0.4	<0.4	<0.5	<10	<2	<2	<1.0	<0.016
Magnesium (dissolved)	mg/L	--	4	5.6	4.5	4.6	6.1	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.025	0.059	0.01	NA	NA	<0.01	<0.005	<0.01	<0.01	<0.01	.0055J
Mercury (dissolved)	ug/L	0.5	<0.1	0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.20	<0.025
Nitrate + Nitrite as N	mg/L	2.5	0.8	1.1	NA	NA	NA	0.45	0.43	0.78	0.81	0.81
Nitrate as N	mg/L	--	NA	NA	0.68	0.56	0.37	0.45	NA	NA	NA	NA
Nitrite as N	mg/L	--	NA	NA	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	NA
pH (Field)	Standard Units	--	NA	NA	NA	NA	7.9	8.2	6.6	7.05	6.7	6.7
pH (Lab)	Standard Units	--	6.9	7.6	7	7.3	7	6.6	7	6.9	7.2	7.2
Potassium (dissolved)	mg/L	--	6	0.4	0.6	<0.3	0.57	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	--	2.1	2.3	2.4	2.4	NA	2.6	2.1	2.3	2.2	2.2
Sulfate	mg/L	--	6.2	6.3	3.1	1.9	2.1	3.4	2.5	4.1	3.9	3.9
Temp (Field)	Degrees C	--	NA	NA	NA	NA	8.8	8.8	8.6	8.8	9.2	9.2
Total Dissolved Solids (TDS)	mg/L	--	88	100	98	92	120	NA	NA	NA	NA	NA
Total Suspended Solids (TSS)	mg/L	--	4	150	12	14	98.7	12.8	27.6	54.7	6.8	6.8
Turbidity (Field)	NTU	--	5	53	12	16	38	56	25	38.4	64.4	64.4
Zinc (dissolved)	ug/L	500	<5	<5	NA	NA	<10	NA	NA	NA	NA	NA

NA = Not Analyzed
*Data obtained from previous reports
** = Results reported to the labs method detection limits
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts per billion
IL = Intervention limit
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

Table 3

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

Parameter	Units	IL	DDLF-5 11/5/2008*	DDLF-5 11/11/2009*	DDLF-5 11/8/2010*	DDLF-5 11/8/2011*	DDLF-5 11/1/2012*	DDLF-5 10/25/2013	DDLF-5 11/12/2014	DDLF-5 11/5/2015	DDLF-5 10/31/2016	DDLF-5** 10/31/2016
Alkalinity	mg/L	--	34	48	45	37	38.7	29.5	26.7	31.1	30.1	30.1
Ammonia Nitrogen	mg/L	--	<0.01	<0.01	<0.01	<0.1	<0.1	0.061	<0.1	<0.1	<0.10	<0.044
Arsenic (dissolved)	ug/L	2.5	<1	<1	<1.6	<1.6	0.85	<20	<2	<2	<1.0	<0.48
Barium (dissolved)	mg/L	0.5	0.01	0.006	NA	NA	0.0437	0.01	<0.01	<0.01	<0.01	.0058J
Boron (dissolved)	ug/L	250	<40	<40	NA	NA	NA	<150	<100	<100	<100	19.6J
Cadmium (dissolved)	ug/L	1	<0.2	<0.2	NA	NA	<0.2	<3.0	<0.8	<0.8	<0.40	<0.14
Calcium (dissolved)	mg/L	--	8.8	10	NA	NA	17.7	NA	NA	NA	NA	NA
Cation/Anion Balance	%	--	NA	NA	NA	NA	25.1	NA	NA	NA	NA	NA
Chloride	mg/L	--	1.1	0.73	NA	NA	<0.5	<2.0	<1.0	<1.0	<1.0	0.58J
Chromium (dissolved)	ug/L	25	<5	8.7	NA	NA	<5	<10	<5	<10	<10.0	<1.3
Chromium, Trivalent	ug/L	--	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA
Chromium, Hexavalent	ug/L	--	<3	<3	NA	NA	<10	NA	NA	NA	NA	NA
Conductance (Field)	umhos/cm	--	NA	NA	NA	NA	150.3	60	57	59	56	56
Conductance (Lab)	umhos/cm	--	77	97	93	74	110	66.4	60	70	62	62
Copper (dissolved)	ug/L	250	<10	<10	NA	NA	7.1	<10	<5	<10	<10.0	<0.86
Dissolved Oxygen (Field)	mg/L	--	NA	NA	NA	NA	8.83	NA	10.01	8.56	9.4	9.4
Eh (Lab)	mV	--	140	140	140	430	173	NA	NA	NA	NA	NA
Eh (Field)	mV	--	NA	NA	NA	NA	524	NA	390	282	356	356
Iron (dissolved)	mg/L	--	<0.01	<10	0.033	<0.01	5.03	<0.05	0.052	<0.05	<0.05	.0114J
Lead (dissolved)	ug/L	1.25	<0.4	<0.4	<0.4	0.4	2.2	<10	<2	<2	<1.0	<0.016
Magnesium (dissolved)	mg/L	--	2.3	3	3.1	2.5	4.6	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.025	0.076	<0.005	NA	NA	0.193	<0.005	<0.01	<0.01	<0.01	.005J
Mercury (dissolved)	ug/L	0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.20	<0.025
Nitrate + Nitrite as N	mg/L	2.5	0.6	1.2	NA	NA	NA	0.13	0.11	0.29	0.09	0.09
Nitrate as N	mg/L	--	NA	NA	0.59	<0.05	1.6	0.13	NA	NA	NA	NA
Nitrite as N	mg/L	--	NA	NA	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	NA
pH (Field)	Standard Units	--	NA	NA	NA	NA	7.64	7.79	6.11	6.34	6.4	6.4
pH (Lab)	Standard Units	--	6.6	7	6.7	7.3	6.7	6.3	6.5	6.3	6.8	6.8
Potassium (dissolved)	mg/L	--	0.6	0.4	0.55	0.43	1.3	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	--	2	2.1	2.2	1.9	NA	1.86	1.8	2	1.9	1.9
Sulfate	mg/L	--	2.8	2.2	2.7	1.5	3.8	<2.5	<2.0	<2.0	<2.0	<1.0
Temp (Field)	Degrees C	--	NA	NA	NA	NA	8.83	8.4	8.5	8.6	9.2	9.2
Total Dissolved Solids (TDS)	mg/L	--	64	80	88	72	93	NA	NA	NA	NA	NA
Total Suspended Solids (TSS)	mg/L	--	<2	320	32	290	904	38.4	68.8	715	114	114
Turbidity (Field)	NTU	--	3.6	70	19	110	70	76	65.3	39.9	92	92
Zinc (dissolved)	ug/L	500	<5	<5	NA	NA	76.8	NA	NA	NA	NA	NA

NA = Not Analyzed
*Data obtained from previous reports
** = Results reported to the labs method detection limits
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts per billion
IL = Intervention limit
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

Table 4

Summary of Volatile Organic Compounds 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	DDLF-4 11/5/2015	DDLF-4 10/31/2016	DDLF-4** 10/31/2016
Acetone	ug/L	175	<4.0	<4.0	<4.0	<4.0	<25.0	<20.0	<20.0	<20.0	<20.0	<0.64
Allylchloride	ug/L	7.5	<0.042	<0.042	<0.16	<0.16	<4.0	<4.0	<4.0	<5.0	<4.0	<0.25
Benzene	ug/L	0.5	<0.069	<0.069	<0.2	<0.2	<1.0	<1.0	<1.0	<0.50	<0.50	<0.042
Bromobenzene	ug/L	--	<0.17	<0.17	<0.12	<0.12	<1.0	<1.0	<1.0	<1.0	<0.50	<0.087
Bromochloromethane	ug/L	--	<0.082	<0.082	<0.18	<0.18	<1.0	<1.0	<1.0	<1.0	<1.0	<0.082
Bromodichloromethane	ug/L	1.5	<0.086	<0.086	<0.12	<0.12	<1.0	<1.0	<1.0	<1.0	<1.0	<0.068
Bromoform	ug/L	10	<0.16	<0.16	<0.13	<0.13	<4.0	<4.0	<4.0	<5.0	<4.0	<0.11
Bromomethane	ug/L	2.5	<0.06	<0.06	<0.16	<0.16	<4.0	<4.0	<4.0	<2.5	<4.0	<0.20
Methyl Ethyl Ketone (MEK)/2-Butanone	ug/L	1000	<0.1	<0.1	<0.18	<0.18	<4.0	<5.0	<5.0	<20.0	<5.0	<1.1
n-Butylbenzene	ug/L	--	<0.087	<0.087	<0.17	<0.17	<1.0	<1.0	<1.0	<2.5	<0.50	<0.16
sec-Butylbenzene	ug/L	--	<0.15	<0.15	<0.16	<0.16	<1.0	<1.0	<1.0	<1.0	<0.50	<0.094
tert-Butylbenzene	ug/L	--	<0.074	<0.074	<0.28	<0.28	<1.0	<1.0	<1.0	<1.0	<0.50	<0.051
Carbon tetrachloride	ug/L	0.75	<0.14	<0.14	<0.2	<0.2	<1.0	<1.0	<1.0	<0.50	<1.0	<0.079
Chlorobenzene	ug/L	25	<0.089	<0.089	<0.24	<0.24	<1.0	<1.0	<1.0	<1.0	<0.50	<0.066
Chloroethane	ug/L	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0	<2.5	<1.0	<0.12
Chloroform	ug/L	7.5	<0.068	<0.068	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21
Chloromethane	ug/L	--	<0.08	<0.08	<0.13	<0.13	<4.0	<4.0	<4.0	<2.5	<4.0	<0.080
2-Chlorotoluene	ug/L	--	<0.11	<0.11	<0.13	<0.13	<1.0	<1.0	<1.0	<1.0	<0.50	<0.084
4-Chlorotoluene	ug/L	--	<0.12	<0.12	<0.23	<0.23	<1.0	<1.0	<1.0	<1.0	<0.50	<0.084
1,2-Dibromo-3-chloropropane	ug/L	0.05	<0.12	<0.12	<0.13	<0.13	<4.0	<4.0	<4.0	<5.0	<10.0	<0.60
Dibromochloromethane	ug/L	2.5	<0.12	<0.12	<0.11	<0.11	<1.0	<1.0	<1.0	<0.50	<4.0	<0.048
1,2-Dibromoethane (EDB)	ug/L	0.001	<0.15	<0.15	<0.1	<0.1	<1.0	<1.0	<1.0	<0.50	<1.0	<0.092
Dibromomethane	ug/L	--	<0.081	<0.081	<0.21	<0.21	<4.0	<4.0	<4.0	<2.5	<1.0	<0.14
1,2-Dichlorobenzene	ug/L	150	<0.1	<0.1	<0.096	<0.096	<1.0	<1.0	<1.0	<0.50	<0.50	<0.078
1,3-Dichlorobenzene	ug/L	150	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.085
1,4-Dichlorobenzene	ug/L	2.5	<0.1	<0.1	<0.084	<0.084	<1.0	<1.0	<1.0	<1.0	<0.50	<0.081
Dichlorodifluoromethane	ug/L	175	<0.084	<0.084	<0.23	<0.23	<1.0	<1.0	<1.0	<5.0	<1.0	<0.075
1,1-Dichloroethane	ug/L	25	<0.077	<0.077	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.50	<0.055
1,2-Dichloroethane	ug/L	1	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0	<1.0	<0.25	<0.50	<0.072
1,1-Dichloroethene	ug/L	50	<0.12	<0.12	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.069
cis-1,2-Dichloroethene	ug/L	12.5	<0.081	<0.081	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<0.50	<0.12
trans-1,2-Dichloroethene	ug/L	25	<0.053	<0.053	<0.23	<0.23	<1.0	<1.0	<1.0	<1.0	<0.50	<0.15
Dichlorofluoromethane	ug/L	--	<0.097	<0.097	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<1.0	<0.054
1,2-Dichloropropane	ug/L	1.25	<0.055	<0.055	<0.19	<0.19	<4.0	<4.0	<4.0	<1.0	<4.0	<0.066
1,3-Dichloropropane	ug/L	--	<0.091	<0.091	<0.14	<0.14	<1.0	<1.0	<1.0	<1.0	<0.50	<0.059
2,2-Dichloropropane	ug/L	--	<0.063	<0.063	<0.36	<0.36	<4.0	<4.0	<4.0	<5.0	<1.0	<0.096
1,1-Dichloropropene	ug/L	--	<0.089	<0.089	<0.21	<0.21	<1.0	<1.0	<1.0	<1.0	<0.50	<0.082

NA = Not Analyzed
*Data obtained from previous reports
** = Results reported to the labs method detection limits
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts pre billion
IL = Intervention limit

Table 4 (con't)

Summary of Volatile Organic Compounds 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	DDLF-4 11/5/2015	DDLF-4 10/31/2016	DDLF-4** 10/31/2016
cis-1,3-Dichloropopene	ug/L	0.5	<0.098	<0.098	<0.16	<0.16	<4.0	<4.0	<4.0	<0.50	<0.50	<0.12
trans-1,3-Dichloropropene	ug/L	0.5	<0.041	<0.041	<0.14	<0.14	<4.0	<4.0	<4.0	<0.50	<1.0	<0.15
Diethyl Ether (Ethyl Ether)	ug/L	50	<0.079	<0.079	<0.15	<0.15	<4.0	<4.0	<4.0	<5.0	<4.0	<0.090
Ethylbenzene	ug/L	12.5	<0.12	<0.12	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.50	<0.075
Hexachlorobutadiene	ug/L	0.25	<0.096	<0.096	<0.2	<0.2	<5.0	<1.0	<1.0	<2.5	<4.0	<0.13
Isopropylbenzene (Cumene)	ug/L	75	<0.055	<0.055	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.064
p-Isopropyltoluene	ug/L	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<0.50	<0.064
Methylene Chloride	ug/L	1.25	<0.13	<0.13	<0.18	<0.18	<4.0	<4.0	<4.0	<2.5	<4.0	<0.097
Methyl isobutyl ketone	ug/L	75	<0.044	<0.044	<0.13	<0.13	<4.0	<5.0	<5.0	<5.0	<5.0	<0.80
Methyl tert-butyl ether	ug/L	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.50	<0.047
Naphthalene	ug/L	75	<0.13	<0.13	<0.2	<0.2	<4.0	<4.0	<4.0	<5.0	<1.0	<0.064
n-Propylbenzene	ug/L	--	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.049
Styrene	ug/L	25	<0.079	<0.079	<0.15	<0.15	<1.0	<1.0	<1.0	<1.0	<0.50	<0.056
1,1,1,2-Tetrachloroethane	ug/L	17.5	<0.099	<0.099	<0.13	<0.13	<1.0	<1.0	<1.0	<1.0	<1.0	<0.064
1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.094	<0.094	<0.1	<0.1	<1.0	<1.0	<1.0	<0.50	<0.50	<0.055
Tetrachloroethene	ug/L	1.25	<0.12	<0.12	<0.29	<0.29	<1.0	<1.0	<1.0	<1.0	<0.50	<0.13
Tetrahydrofuran	ug/L	25	<1.0	<1.0	<1.0	<1.0	<10.0	<10.0	<10.0	<20.0	<10.0	<1.5
Toluene	ug/L	50	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.50	<0.059
1,2,3-Trichlorobenzene	ug/L	--	<0.12	<0.12	<0.12	<0.12	<1.0	<1.0	<1.0	<5.0	<0.50	<0.17
1,2,4-Trichlorobenzene	ug/L	25	<0.073	<0.073	<0.15	<0.15	<1.0	<1.0	<1.0	<1.0	<0.50	<0.14
1,1,1-Trichloroethane	ug/L	150	<0.076	<0.076	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.057
1,1,2-Trichloroethane	ug/L	0.75	<0.11	<0.11	<0.11	<0.11	<1.0	<1.0	<1.0	<0.50	<0.50	<0.064
Trichloroethene	ug/L	1.25	<0.16	<0.16	<0.19	<0.19	<1.0	<0.4	<0.4	<0.50	<0.40	<0.044
Trichlorofluoromethane	ug/L	500	<0.095	<0.095	<0.19	<0.19	<1.0	<1.0	<1.0	<1.0	<0.50	<0.055
1,2,3-Trichloropropane	ug/L	10	<0.092	<0.092	<0.17	<0.17	<4.0	<4.0	<4.0	<0.20	<0.50	<0.19
1,1,2-Trichlorotrifluoroethane	ug/L	50,000	<0.074	<0.074	<0.27	<0.27	<1.0	<1.0	<1.0	<1.0	<1.0	<0.13
1,2,4-Trimethylbenzene	ug/L	25	<0.042	<0.042	<0.18	<0.18	<1.0	<1.0	<1.0	<1.0	<0.50	<0.068
1,3,5-Trimethylbenzene	ug/L	25	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.042
Vinyl Chloride	ug/L	0.05	<0.1	<0.1	<0.2	<0.2	<0.40	<0.4	<0.40	<0.050	<0.20	<0.098
m,p&o-Xylene (Xylene Total)	ug/L	75	<0.2	<0.2	<0.32	<0.32	<3.0	<3.0	<3.0	NA	<1.5	<0.15
m&p-Xylene	ug/L	--	NA	NA	NA	NA	<2.0	<2.0	NA	<2.0	<1.0	<0.11
o-Xylene	ug/L	--	NA	NA	NA	NA	<1.0	<1.0	NA	<1.0	<0.50	<0.044

NA = Not Analyzed
*Data obtained from previous reports
** = Results reported to the labs method detection limits
mg/L = Milligrams per liter = parts per million
ug/L = Micrograms per liter = parts per billion
IL = Intervention limit

Table 5

Summary of Volatile Organic Compounds 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	DDLF-5 11/5/2015	DDLF-5 10/31/2016	DDLF-5** 10/31/2016
Acetone	ug/L	175	<4.0	<4.0	<4.0	<4.0	<25.0	<20.0	<20.0	<20.0	<20.0	<0.64
Allyl chloride	ug/L	7.5	<0.042	<0.042	<0.16	<0.16	<4.0	<4.0	<4.0	<5.0	<4.0	<0.25
Benzene	ug/L	0.5	<0.069	<0.069	<0.2	<0.2	<1.0	<1.0	<1.0	<0.50	<0.50	<0.042
Bromobenzene	ug/L	--	<0.17	<0.17	<0.12	<0.12	<1.0	<1.0	<1.0	<1.0	<0.50	<0.087
Bromochloromethane	ug/L	--	<0.082	<0.082	<0.18	<0.18	<1.0	<1.0	<1.0	<1.0	<1.0	<0.082
Bromodichloromethane	ug/L	1.5	<0.086	<0.086	<0.12	<0.12	<1.0	<1.0	<1.0	<1.0	<1.0	<0.068
Bromoform	ug/L	10	<0.16	<0.16	<0.13	<0.13	<4.0	<4.0	<4.0	<5.0	<4.0	<0.11
Bromomethane	ug/L	2.5	<0.06	<0.06	<0.16	<0.16	<4.0	<4.0	<4.0	<2.5	<4.0	<0.20
Methyl Ethyl Ketone (MEK)/2-Butanone	ug/L	1000	<0.1	<0.1	<0.18	<0.18	<4.0	<5.0	<5.0	<20.0	<5.0	<1.1
n-Butylbenzene	ug/L	--	<0.087	<0.087	<0.17	<0.17	<1.0	<1.0	<1.0	<2.5	<0.50	<0.16
sec-Butylbenzene	ug/L	--	<0.15	<0.15	<0.16	<0.16	<1.0	<1.0	<1.0	<1.0	<0.50	<0.094
tert-Butylbenzene	ug/L	--	<0.074	<0.074	<0.28	<0.28	<1.0	<1.0	<1.0	<1.0	<0.50	<0.051
Carbon tetrachloride	ug/L	0.75	<0.14	<0.14	<0.2	<0.2	<1.0	<1.0	<1.0	<0.50	<1.0	<0.079
Chlorobenzene	ug/L	25	<0.089	<0.089	<0.24	<0.24	<1.0	<1.0	<1.0	<1.0	<0.50	<0.066
Chloroethane	ug/L	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0	<2.5	<1.0	<0.12
Chloroform	ug/L	7.5	<0.068	<0.068	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21
Chloromethane	ug/L	--	<0.08	<0.08	<0.13	<0.13	<4.0	<4.0	<4.0	<2.5	<4.0	<0.080
2-Chlorotoluene	ug/L	--	<0.11	<0.11	<0.13	<0.13	<1.0	<1.0	<1.0	<1.0	<0.50	<0.084
4-Chlorotoluene	ug/L	--	<0.12	<0.12	<0.23	<0.23	<1.0	<1.0	<1.0	<1.0	<0.50	<0.084
1,2-Dibromo-3-chloropropane	ug/L	0.05	<0.12	<0.12	<0.13	<0.13	<4.0	<4.0	<4.0	<5.0	<10.0	<0.60
Dibromochloromethane	ug/L	2.5	<0.12	<0.12	<0.11	<0.11	<1.0	<1.0	<1.0	<0.50	<4.0	<0.048
1,2-Dibromoethane (EDB)	ug/L	0.001	<0.15	<0.15	<0.1	<0.1	<1.0	<1.0	<1.0	<0.50	<1.0	<0.092
Dibromomethane	ug/L	--	<0.081	<0.081	<0.21	<0.21	<4.0	<4.0	<4.0	<2.5	<1.0	<0.14
1,2-Dichlorobenzene	ug/L	150	<0.1	<0.1	<0.096	<0.096	<1.0	<1.0	<1.0	<0.50	<0.50	<0.078
1,3-Dichlorobenzene	ug/L	150	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.085
1,4-Dichlorobenzene	ug/L	2.5	<0.1	<0.1	<0.084	<0.084	<1.0	<1.0	<1.0	<1.0	<0.50	<0.081
Dichlorodifluoromethane	ug/L	175	<0.084	<0.084	<0.23	<0.23	<1.0	<1.0	<1.0	<5.0	<1.0	<0.075
1,1-Dichloroethane	ug/L	25	<0.077	<0.077	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.50	<0.055
1,2-Dichloroethane	ug/L	1	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0	<1.0	<0.25	<0.50	<0.072
1,1-Dichloroethene	ug/L	50	<0.12	<0.12	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.069
cis-1,2-Dichloroethene	ug/L	12.5	<0.081	<0.081	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<0.50	<0.12
trans-1,2-Dichloroethene	ug/L	25	<0.053	<0.053	<0.23	<0.23	<1.0	<1.0	<1.0	<1.0	<0.50	<0.15
Dichlorofluoromethane	ug/L	--	<0.097	<0.097	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<1.0	<0.054
1,2-Dichloropropane	ug/L	1.25	<0.055	<0.055	<0.19	<0.19	<4.0	<4.0	<4.0	<1.0	<4.0	<0.066
1,3-Dichloropropane	ug/L	--	<0.091	<0.091	<0.14	<0.14	<1.0	<1.0	<1.0	<1.0	<0.50	<0.059
2,2-Dichloropropane	ug/L	--	<0.063	<0.063	<0.36	<0.36	<4.0	<4.0	<4.0	<5.0	<1.0	<0.096
1,1-Dichloropropene	ug/L	--	<0.089	<0.089	<0.21	<0.21	<1.0	<1.0	<1.0	<1.0	<0.50	<0.082

NA = Not Analyzed
*Data obtained from previous reports
** = Results reported to the labs method detection limits
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 Volatile Organnic Compounds 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	DDLF-5 11/5/2015	DDLF-5 10/31/2016	DDLF-5** 10/31/2016
cis-1,3-Dichloropopene	ug/L	0.5	<0.098	<0.098	<0.16	<0.16	<4.0	<4.0	<4.0	<0.50	<0.50	<0.12
trans-1,3-Dichloropropene	ug/L	0.5	<0.041	<0.041	<0.14	<0.14	<4.0	<4.0	<4.0	<0.50	<0.50	<0.15
Diethyl Ether (Ethyl Ether)	ug/L	50	<0.079	<0.079	<0.15	<0.15	<4.0	<4.0	<4.0	<5.0	<4.0	<0.090
Ethylbenzene	ug/L	12.5	<0.12	<0.12	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.50	<0.075
Hexachlorobutadiene	ug/L	0.25	<0.096	<0.096	<0.2	<0.2	<5.0	<1.0	<1.0	<2.5	<4.0	<0.13
Isopropylbenzene (Cumene)	ug/L	75	<0.055	<0.055	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.064
p-Isopropyltoluene	ug/L	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<0.50	<0.064
Methylene Chloride	ug/L	1.25	<0.13	<0.13	<0.18	<0.18	<4.0	<4.0	<4.0	<2.5	<4.0	<0.097
Methyl isobutyl ketone	ug/L	75	<0.044	<0.044	<0.13	<0.13	<4.0	<5.0	<5.0	<5.0	<5.0	<0.80
Methyl tert-butyl ether	ug/L	--	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.50	<0.047
Naphthalene	ug/L	75	<0.13	<0.13	<0.2	<0.2	<4.0	<4.0	<4.0	<5.0	<1.0	<0.064
n-Propylbenzene	ug/L	--	<0.13	<0.13	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.049
Styrene	ug/L	25	<0.079	<0.079	<0.15	<0.15	<1.0	<1.0	<1.0	<1.0	<0.50	<0.056
1,1,1,2-Tetrachloroethane	ug/L	17.5	<0.099	<0.099	<0.13	<0.13	<1.0	<1.0	<1.0	<1.0	<1.0	<0.064
1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.094	<0.094	<0.1	<0.1	<1.0	<1.0	<1.0	<0.50	<0.50	<0.055
Tetrachloroethene	ug/L	1.25	<0.12	<0.12	<0.29	<0.29	<1.0	<1.0	<1.0	<1.0	<0.50	<0.13
Tetrahydrofuran	ug/L	25	<1.0	<1.0	<1.0	<1.0	<10.0	<10.0	<10.0	<20.0	<10.0	<1.5
Toluene	ug/L	50	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.50	<0.059
1,2,3-Trichlorobenzene	ug/L	--	<0.12	<0.12	<0.12	<0.12	<1.0	<1.0	<1.0	<5.0	<0.50	<0.17
1,2,4-Trichlorobenzene	ug/L	25	<0.073	<0.073	<0.15	<0.15	<1.0	<1.0	<1.0	<1.0	<0.50	<0.14
1,1,1-Trichloroethane	ug/L	150	<0.076	<0.076	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.057
1,1,2-Trichloroethane	ug/L	0.75	<0.11	<0.11	<0.11	<0.11	<1.0	<1.0	<1.0	<0.50	<0.50	<0.064
Trichloroethene	ug/L	1.25	<0.16	<0.16	<0.19	<0.19	<1.0	<0.4	<0.4	<0.50	<0.50	<0.044
Trichlorofluoromethane	ug/L	500	<0.095	<0.095	<0.19	<0.19	<1.0	<1.0	<1.0	<1.0	<0.50	<0.055
1,2,3-Trichloropropane	ug/L	10	<0.092	<0.092	<0.17	<0.17	<4.0	<4.0	<4.0	<0.20	<4.0	<0.19
1,1,2-Trichlorotrifluoroethane	ug/L	50,000	<0.074	<0.074	<0.27	<0.27	<1.0	<1.0	<1.0	<1.0	<1.0	<0.13
1,2,4-Trimethylbenzene	ug/L	25	<0.042	<0.042	<0.18	<0.18	<1.0	<1.0	<1.0	<1.0	<0.50	<0.068
1,3,5-Trimethylbenzene	ug/L	25	<0.1	<0.1	<0.17	<0.17	<1.0	<1.0	<1.0	<1.0	<0.50	<0.042
Vinyl Chloride	ug/L	0.05	<0.1	<0.1	<0.2	<0.2	<0.40	<0.4	<0.4	<0.050	<0.20	<0.098
m,p&o-Xylene (Xylene Total)	ug/L	75	<0.2	<0.2	<0.32	<0.32	<3.0	<3.0	<3.0	NA	<1.0	<0.15
m&p-Xylene	ug/L	--	NA	NA	NA	NA	<2.0	<2.0	NA	<2.0	<1.0	<0.11
o-Xylene	ug/L	--	NA	NA	NA	NA	<1.0	<1.0	NA	<1.0	<0.50	<0.044

NA = Not Analyzed
*Data obtained from previous reports
** = Results reported to the labs method detection limits
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

	DDLF-1	DDLF-2	DDLF-3	DDLF-4	DDLF-5
Unique Well Number	250122	539404	539405	671612	755717
Top of Casing Elevation (ft MSL)*	1233.65	1228.26	1236	1231.95	1235.85
Top of Casing Elevation (ft MSL)**	1232.98	1229.64	1236.71	1232.38	1236.02
Screened Interval (ft MSL)*	1206.45-1196.45	1212.26-1197.26	1214.95-1197.95	1206.95-1196.95	1208.55-1193.55
Date	**DDLF-1**	**DDLF-2**	**DDLF-3**	**DDLF-4**	**DDLF-5**
11/5/2008*	1202.28	1206.11	1206.49	1205.19	1206.65
11/11/2009*	1202.13	1206.12	1206.49	1204.96	1206.11
11/8/2010*	1201.8	1207.88	1207.21	1205.93	1206.63
11/8/2011	1203.38	1209.2	1209.02	1207.29	1208.22
11/1/2012	1201.23	1207.09	1206.69	1204.88	1205.92
10/25/2013	1203.12	1209.01	1207.99	1207.17	1208.01
11/12/2014	1203.00	1210.61	1210.37	1208.82	1209.66
11/5/2015	1203.84	1209.63	1209.30	1207.80	1208.58
10/31/2016	1204.26	1209.99	1209.68	1208.22	1208.99

*According to survey prior to 2011
** According to 2011 survey

APPENDIX A

ANALYTICAL REPORTS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

November 16, 2016

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

RE: Project: Camp Ripley DDLF
Pace Project No.: 1278220

Dear Greg Smith:
Enclosed are the analytical results for sample(s) received by the laboratory on November 02, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

CERTIFICATIONS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
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-107
Alaska Certification UST-107
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
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

Duluth Minnesota Cerification ID's

4730 Oneota St., Duluth, MN 55807
Minnesota Dept of Health Certification #: 027-137-152
Wisconsin DNR Certification # : 999446800
North Dakota Certification #: R-105

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

SAMPLE SUMMARY

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1278220001	**DDLF-4**	Water	10/31/16 11:05	11/02/16 10:30
1278220002	**DDLF-5**	Water	10/31/16 11:45	11/02/16 10:30

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

SAMPLE ANALYTE COUNT

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1278220001	**DDLF-4**	EPA 350.1 rev. 2 (1993)	KJD	1	PASI-DUL
		EPA 353.2 rev. 2 (1993)	TMW	1	PASI-DUL
		EPA 200.7	CSD	7	PASI-V
		EPA 200.8	KRV	3	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 8260B	DJB	72	PASI-M
		SM 2320B	BEM	1	PASI-V
		SM 2510B	JJH	1	PASI-V
		SM 2540D (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	2	PASI-V
1278220002	**DDLF-5**	EPA 350.1 rev. 2 (1993)	KJD	1	PASI-DUL
		EPA 353.2 rev. 2 (1993)	TMW	1	PASI-DUL
		EPA 200.7	CSD	7	PASI-V
		EPA 200.8	KRV	3	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 8260B	DJB	72	PASI-M
		SM 2320B	BEM	1	PASI-V
		SM 2510B	JJH	1	PASI-V
		SM 2540D (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	2	PASI-V

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-4 **Lab ID: 1278220001** Collected: 10/31/16 11:05 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	Analytical Method: EPA 350.1 rev. 2 (1993) Preparation Method: EPA 350.1								
Nitrogen, Ammonia	**<0.044**	mg/L	0.10	0.044	1	11/10/16 10:28	11/10/16 13:57	7664-41-7	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2 rev. 2 (1993)								
Nitrogen, NO2 plus NO3	**0.81**	mg/L	0.020	0.0035	1		11/11/16 14:44		
200.7 MET ICP, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7								
Barium, Dissolved	**7.9J**	ug/L	10.0	0.65	1	11/07/16 10:06	11/08/16 10:58	7440-39-3	
Boron, Dissolved	**32.0J**	ug/L	100	5.9	1	11/07/16 10:06	11/08/16 10:58	7440-42-8	
Chromium, Dissolved	**2.5J**	ug/L	10.0	1.3	1	11/07/16 10:06	11/08/16 10:58	7440-47-3	
Copper, Dissolved	**<0.86**	ug/L	10.0	0.86	1	11/07/16 10:06	11/08/16 10:58	7440-50-8	
Iron, Dissolved	**37.4J**	ug/L	50.0	2.9	1	11/07/16 10:06	11/08/16 10:58	7439-89-6	
Manganese, Dissolved	**5.5J**	ug/L	10.0	0.23	1	11/07/16 10:06	11/08/16 10:58	7439-96-5	
Sodium, Dissolved	**2.2**	mg/L	0.50	0.13	1	11/07/16 10:06	11/08/16 10:58	7440-23-5	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Arsenic, Dissolved	**<0.48**	ug/L	1.0	0.48	2	11/07/16 10:06	11/10/16 22:30	7440-38-2	
Cadmium, Dissolved	**<0.14**	ug/L	0.40	0.14	2	11/07/16 10:06	11/10/16 22:30	7440-43-9	
Lead, Dissolved	**<0.016**	ug/L	1.0	0.016	2	11/07/16 10:06	11/10/16 22:30	7439-92-1	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.025**	ug/L	0.20	0.025	1	11/10/16 15:50	11/14/16 09:39	7439-97-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	20.0	0.64	1		11/11/16 21:30	67-64-1	
Allyl chloride	ND	ug/L	4.0	0.25	1		11/11/16 21:30	107-05-1	
Benzene	ND	ug/L	0.50	0.042	1		11/11/16 21:30	71-43-2	
Bromobenzene	ND	ug/L	0.50	0.087	1		11/11/16 21:30	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.082	1		11/11/16 21:30	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.068	1		11/11/16 21:30	75-27-4	
Bromoform	ND	ug/L	4.0	0.11	1		11/11/16 21:30	75-25-2	
Bromomethane	ND	ug/L	4.0	0.20	1		11/11/16 21:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1.1	1		11/11/16 21:30	78-93-3	
n-Butylbenzene	ND	ug/L	0.50	0.16	1		11/11/16 21:30	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	0.094	1		11/11/16 21:30	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	0.051	1		11/11/16 21:30	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	0.079	1		11/11/16 21:30	56-23-5	
Chlorobenzene	ND	ug/L	0.50	0.066	1		11/11/16 21:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.12	1		11/11/16 21:30	75-00-3	
Chloroform	ND	ug/L	1.0	0.21	1		11/11/16 21:30	67-66-3	
Chloromethane	ND	ug/L	4.0	0.080	1		11/11/16 21:30	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	0.084	1		11/11/16 21:30	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	0.048	1		11/11/16 21:30	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	0.60	1		11/11/16 21:30	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	0.048	1		11/11/16 21:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.092	1		11/11/16 21:30	106-93-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-4 **Lab ID: 1278220001** Collected: 10/31/16 11:05 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Dibromomethane	ND	ug/L	1.0	0.14	1		11/11/16 21:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	0.078	1		11/11/16 21:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	0.085	1		11/11/16 21:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	0.081	1		11/11/16 21:30	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.075	1		11/11/16 21:30	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	0.055	1		11/11/16 21:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	0.072	1		11/11/16 21:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	0.069	1		11/11/16 21:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.12	1		11/11/16 21:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.15	1		11/11/16 21:30	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	0.054	1		11/11/16 21:30	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	0.066	1		11/11/16 21:30	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	0.059	1		11/11/16 21:30	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.096	1		11/11/16 21:30	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	0.082	1		11/11/16 21:30	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.069	1		11/11/16 21:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.044	1		11/11/16 21:30	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	0.090	1		11/11/16 21:30	60-29-7	
Ethylbenzene	ND	ug/L	0.50	0.075	1		11/11/16 21:30	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	4.0	0.13	1		11/11/16 21:30	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	0.064	1		11/11/16 21:30	98-82-8	
p-Isopropyltoluene	ND	ug/L	0.50	0.064	1		11/11/16 21:30	99-87-6	
Methylene Chloride	ND	ug/L	4.0	0.097	1		11/11/16 21:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.80	1		11/11/16 21:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	0.50	0.047	1		11/11/16 21:30	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.064	1		11/11/16 21:30	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	0.049	1		11/11/16 21:30	103-65-1	
Styrene	ND	ug/L	0.50	0.056	1		11/11/16 21:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.064	1		11/11/16 21:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.055	1		11/11/16 21:30	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	0.13	1		11/11/16 21:30	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.5	1		11/11/16 21:30	109-99-9	
Toluene	ND	ug/L	0.50	0.059	1		11/11/16 21:30	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.17	1		11/11/16 21:30	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.14	1		11/11/16 21:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	0.057	1		11/11/16 21:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	0.064	1		11/11/16 21:30	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.044	1		11/11/16 21:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	0.50	0.055	1		11/11/16 21:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.19	1		11/11/16 21:30	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.13	1		11/11/16 21:30	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.068	1		11/11/16 21:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.042	1		11/11/16 21:30	108-67-8	
Vinyl chloride	ND	ug/L	0.20	0.098	1		11/11/16 21:30	75-01-4	
Xylene (Total)	ND	ug/L	1.5	0.15	1		11/11/16 21:30	1330-20-7	
m&p-Xylene	ND	ug/L	1.0	0.11	1		11/11/16 21:30	179601-23-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-4 **Lab ID: 1278220001** Collected: 10/31/16 11:05 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
o-Xylene	ND	ug/L	0.50	0.044	1		11/11/16 21:30	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		11/11/16 21:30	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		11/11/16 21:30	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125		1		11/11/16 21:30	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**62.8**	mg/L	5.0	1.2	1		11/07/16 17:19		
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**138**	umhos/cm	10.0	5.0	1		11/04/16 09:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D (1997)								
Total Suspended Solids	**6.8**	mg/L	2.0	2.0	1		11/04/16 10:49		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/02/16 14:49		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.59J**	mg/L	1.0	0.50	1		11/08/16 15:20	16887-00-6	
Sulfate	**3.9**	mg/L	2.0	1.0	1		11/08/16 15:20	14808-79-8	

Sample: DDLF-5 **Lab ID: 1278220002** Collected: 10/31/16 11:45 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	Analytical Method: EPA 350.1 rev. 2 (1993) Preparation Method: EPA 350.1								
Nitrogen, Ammonia	**<0.044**	mg/L	0.10	0.044	1	11/10/16 10:28	11/10/16 13:58	7664-41-7	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2 rev. 2 (1993)								
Nitrogen, NO2 plus NO3	**0.090**	mg/L	0.020	0.0035	1		11/11/16 14:46		
200.7 MET ICP, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7								
Barium, Dissolved	**5.8J**	ug/L	10.0	0.65	1	11/07/16 10:06	11/08/16 11:01	7440-39-3	
Boron, Dissolved	**19.6J**	ug/L	100	5.9	1	11/07/16 10:06	11/08/16 11:01	7440-42-8	
Chromium, Dissolved	**<1.3**	ug/L	10.0	1.3	1	11/07/16 10:06	11/08/16 11:01	7440-47-3	
Copper, Dissolved	**<0.86**	ug/L	10.0	0.86	1	11/07/16 10:06	11/08/16 11:01	7440-50-8	
Iron, Dissolved	**11.4J**	ug/L	50.0	2.9	1	11/07/16 10:06	11/08/16 11:01	7439-89-6	
Manganese, Dissolved	**5.0J**	ug/L	10.0	0.23	1	11/07/16 10:06	11/08/16 11:01	7439-96-5	
Sodium, Dissolved	**1.9**	mg/L	0.50	0.13	1	11/07/16 10:06	11/08/16 11:01	7440-23-5	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Arsenic, Dissolved	**<0.48**	ug/L	1.0	0.48	2	11/07/16 10:06	11/10/16 22:34	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
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ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-5 **Lab ID: 1278220002** Collected: 10/31/16 11:45 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Cadmium, Dissolved	**<0.14**	ug/L	0.40	0.14	2	11/07/16 10:06	11/10/16 22:34	7440-43-9	
Lead, Dissolved	**<0.016**	ug/L	1.0	0.016	2	11/07/16 10:06	11/10/16 22:34	7439-92-1	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.025**	ug/L	0.20	0.025	1	11/10/16 15:50	11/14/16 09:46	7439-97-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	20.0	0.64	1		11/11/16 21:52	67-64-1	
Allyl chloride	ND	ug/L	4.0	0.25	1		11/11/16 21:52	107-05-1	
Benzene	ND	ug/L	0.50	0.042	1		11/11/16 21:52	71-43-2	
Bromobenzene	ND	ug/L	0.50	0.087	1		11/11/16 21:52	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.082	1		11/11/16 21:52	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.068	1		11/11/16 21:52	75-27-4	
Bromoform	ND	ug/L	4.0	0.11	1		11/11/16 21:52	75-25-2	
Bromomethane	ND	ug/L	4.0	0.20	1		11/11/16 21:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1.1	1		11/11/16 21:52	78-93-3	
n-Butylbenzene	ND	ug/L	0.50	0.16	1		11/11/16 21:52	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	0.094	1		11/11/16 21:52	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	0.051	1		11/11/16 21:52	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	0.079	1		11/11/16 21:52	56-23-5	
Chlorobenzene	ND	ug/L	0.50	0.066	1		11/11/16 21:52	108-90-7	
Chloroethane	ND	ug/L	1.0	0.12	1		11/11/16 21:52	75-00-3	
Chloroform	ND	ug/L	1.0	0.21	1		11/11/16 21:52	67-66-3	
Chloromethane	ND	ug/L	4.0	0.080	1		11/11/16 21:52	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	0.084	1		11/11/16 21:52	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	0.048	1		11/11/16 21:52	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	0.60	1		11/11/16 21:52	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	0.048	1		11/11/16 21:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.092	1		11/11/16 21:52	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.14	1		11/11/16 21:52	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	0.078	1		11/11/16 21:52	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	0.085	1		11/11/16 21:52	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	0.081	1		11/11/16 21:52	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.075	1		11/11/16 21:52	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	0.055	1		11/11/16 21:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	0.072	1		11/11/16 21:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	0.069	1		11/11/16 21:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.12	1		11/11/16 21:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.15	1		11/11/16 21:52	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	0.054	1		11/11/16 21:52	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	0.066	1		11/11/16 21:52	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	0.059	1		11/11/16 21:52	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.096	1		11/11/16 21:52	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	0.082	1		11/11/16 21:52	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.069	1		11/11/16 21:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.044	1		11/11/16 21:52	10061-02-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-5 **Lab ID: 1278220002** Collected: 10/31/16 11:45 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	0.090	1		11/11/16 21:52	60-29-7	
Ethylbenzene	ND	ug/L	0.50	0.075	1		11/11/16 21:52	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	4.0	0.13	1		11/11/16 21:52	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	0.064	1		11/11/16 21:52	98-82-8	
p-Isopropyltoluene	ND	ug/L	0.50	0.064	1		11/11/16 21:52	99-87-6	
Methylene Chloride	ND	ug/L	4.0	0.097	1		11/11/16 21:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.80	1		11/11/16 21:52	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	0.50	0.047	1		11/11/16 21:52	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.064	1		11/11/16 21:52	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	0.049	1		11/11/16 21:52	103-65-1	
Styrene	ND	ug/L	0.50	0.056	1		11/11/16 21:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.064	1		11/11/16 21:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.055	1		11/11/16 21:52	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	0.13	1		11/11/16 21:52	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.5	1		11/11/16 21:52	109-99-9	
Toluene	ND	ug/L	0.50	0.059	1		11/11/16 21:52	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.17	1		11/11/16 21:52	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.14	1		11/11/16 21:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	0.057	1		11/11/16 21:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	0.064	1		11/11/16 21:52	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.044	1		11/11/16 21:52	79-01-6	
Trichlorofluoromethane	ND	ug/L	0.50	0.055	1		11/11/16 21:52	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.19	1		11/11/16 21:52	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.13	1		11/11/16 21:52	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.068	1		11/11/16 21:52	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.042	1		11/11/16 21:52	108-67-8	
Vinyl chloride	ND	ug/L	0.20	0.098	1		11/11/16 21:52	75-01-4	
Xylene (Total)	ND	ug/L	1.5	0.15	1		11/11/16 21:52	1330-20-7	
m&p-Xylene	ND	ug/L	1.0	0.11	1		11/11/16 21:52	179601-23-1	
o-Xylene	ND	ug/L	0.50	0.044	1		11/11/16 21:52	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		11/11/16 21:52	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		11/11/16 21:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		11/11/16 21:52	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**30.1**	mg/L	5.0	1.2	1		11/07/16 17:25		
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**62**	umhos/cm	10.0	5.0	1		11/04/16 09:51		
2540D Total Suspended Solids	Analytical Method: SM 2540D (1997)								
Total Suspended Solids	**114**	mg/L	2.0	2.0	1		11/04/16 10:49		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-5 **Lab ID: 1278220002** Collected: 10/31/16 11:45 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.8**	Std. Units	0.10	0.10	1		11/02/16 14:55		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.58J**	mg/L	1.0	0.50	1		11/08/16 16:27	16887-00-6	
Sulfate	**<1.0**	mg/L	2.0	1.0	1		11/08/16 16:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99747
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1 rev. 2 (1993)
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 396028 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	<0.044	0.10	0.044	11/10/16 13:26	

LABORATORY CONTROL SAMPLE: 396027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1	1.1	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396029 396030

Parameter	Units	1277946001 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	0.43	1	1	1.4	1.4	101	98	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396031 396032

Parameter	Units	1278192003 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	0.90	1	1	1.9	2.0	99	106	90-110	4	10	

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

Pace Analytical Services, LLC
315 Chestnut Street
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QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99840 Analysis Method: EPA 353.2 rev. 2 (1993)
QC Batch Method: EPA 353.2 rev. 2 (1993) Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 396392 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0035	0.020	0.0035	11/11/16 14:36	

LABORATORY CONTROL SAMPLE: 396391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.5	0.52	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396393 396394

Parameter	Units	1278207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.028	.5	.5	0.52	0.50	98	94	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396395 396396

Parameter	Units	1278246001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	.5	.5	0.53	0.53	107	105	90-110	2	10	

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

Pace Analytical Services, LLC
315 Chestnut Street
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QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99825 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 396314 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.025	0.20	0.025	11/14/16 09:31	

LABORATORY CONTROL SAMPLE: 396315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	2	2.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396316 396317

Parameter	Units	1278220001 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	<0.025	2	2	2.0	2.0	100	100	75-125	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396319 396320

Parameter	Units	1278641001 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	2.1	102	102	75-125	1	15	

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

Pace Analytical Services, LLC
315 Chestnut Street
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QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99370 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET Dissolved
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394481 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium, Dissolved	ug/L	<0.65	10.0	0.65	11/08/16 09:21	
Boron, Dissolved	ug/L	6.0J	100	5.9	11/08/16 09:21	
Chromium, Dissolved	ug/L	<1.3	10.0	1.3	11/08/16 09:21	
Copper, Dissolved	ug/L	<0.86	10.0	0.86	11/08/16 09:21	
Iron, Dissolved	ug/L	<2.9	50.0	2.9	11/08/16 09:21	
Manganese, Dissolved	ug/L	<0.23	10.0	0.23	11/08/16 09:21	
Sodium, Dissolved	mg/L	<0.13	0.50	0.13	11/08/16 09:21	

LABORATORY CONTROL SAMPLE: 394482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium, Dissolved	ug/L	500	491	98	85-115	
Boron, Dissolved	ug/L	500	489	98	85-115	
Chromium, Dissolved	ug/L	500	501	100	85-115	
Copper, Dissolved	ug/L	500	479	96	85-115	
Iron, Dissolved	ug/L	10000	9890	99	85-115	
Manganese, Dissolved	ug/L	1000	984	98	85-115	
Sodium, Dissolved	mg/L	20	19.6	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394483 394484

Parameter	Units	1278165002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium, Dissolved	ug/L	64.3	500	500	547	553	97	98	70-130	1	20	
Boron, Dissolved	ug/L	178	500	500	683	703	101	105	70-130	3	20	
Chromium, Dissolved	ug/L	ND	500	500	498	504	99	100	70-130	1	20	
Copper, Dissolved	ug/L	ND	500	500	498	505	99	101	70-130	1	20	
Iron, Dissolved	ug/L	180	10000	10000	9970	10000	98	99	70-130	1	20	
Manganese, Dissolved	ug/L	651	1000	1000	1630	1640	98	99	70-130	1	20	
Sodium, Dissolved	mg/L	70.7	20	20	91.3	91.6	103	104	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394485 394486

Parameter	Units	1278218003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium, Dissolved	ug/L	72.3	500	500	570	555	100	97	70-130	3	20	
Boron, Dissolved	ug/L	ND	500	500	541	530	100	98	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394485 394486

Parameter	Units	1278218003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Dissolved	ug/L	ND	500	500	509	499	102	99	70-130	2	20	
Copper, Dissolved	ug/L	ND	500	500	491	477	98	95	70-130	3	20	
Iron, Dissolved	ug/L	10700	10000	10000	20800	20500	100	98	70-130	1	20	
Manganese, Dissolved	ug/L	285	1000	1000	1270	1260	99	97	70-130	1	20	
Sodium, Dissolved	mg/L	4.4	20	20	23.9	23.8	97	97	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99371 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394491 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.24	0.50	0.24	11/10/16 20:24	
Cadmium, Dissolved	ug/L	<0.068	0.20	0.068	11/10/16 20:24	
Lead, Dissolved	ug/L	<0.0082	0.50	0.0082	11/10/16 20:24	

LABORATORY CONTROL SAMPLE: 394492

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	504	101	85-115	
Cadmium, Dissolved	ug/L	500	473	95	85-115	
Lead, Dissolved	ug/L	500	488	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394493 394494

Parameter	Units	1278165002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	500	500	509	501	102	100	70-130	2	20	
Cadmium, Dissolved	ug/L	ND	500	500	449	442	90	88	70-130	2	20	
Lead, Dissolved	ug/L	ND	500	500	467	468	93	94	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394495 394496

Parameter	Units	1278218003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	1.0	500	500	486	475	97	95	70-130	2	20	
Cadmium, Dissolved	ug/L	ND	500	500	469	462	94	92	70-130	2	20	
Lead, Dissolved	ug/L	ND	500	500	500	493	100	98	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
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QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 446601 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 2441169 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	0.064	11/11/16 14:33	
1,1,1-Trichloroethane	ug/L	ND	0.50	0.057	11/11/16 14:33	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	0.055	11/11/16 14:33	
1,1,2-Trichloroethane	ug/L	ND	0.50	0.064	11/11/16 14:33	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	0.13	11/11/16 14:33	
1,1-Dichloroethane	ug/L	ND	0.50	0.055	11/11/16 14:33	
1,1-Dichloroethene	ug/L	ND	0.50	0.069	11/11/16 14:33	
1,1-Dichloropropene	ug/L	ND	0.50	0.082	11/11/16 14:33	
1,2,3-Trichlorobenzene	ug/L	ND	0.50	0.17	11/11/16 14:33	
1,2,3-Trichloropropane	ug/L	ND	4.0	0.19	11/11/16 14:33	
1,2,4-Trichlorobenzene	ug/L	ND	0.50	0.14	11/11/16 14:33	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	0.068	11/11/16 14:33	
1,2-Dibromo-3-chloropropane	ug/L	ND	10.0	0.60	11/11/16 14:33	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	0.092	11/11/16 14:33	
1,2-Dichlorobenzene	ug/L	ND	0.50	0.078	11/11/16 14:33	
1,2-Dichloroethane	ug/L	ND	0.50	0.072	11/11/16 14:33	
1,2-Dichloropropane	ug/L	ND	4.0	0.066	11/11/16 14:33	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	0.042	11/11/16 14:33	
1,3-Dichlorobenzene	ug/L	ND	0.50	0.085	11/11/16 14:33	
1,3-Dichloropropane	ug/L	ND	0.50	0.059	11/11/16 14:33	
1,4-Dichlorobenzene	ug/L	ND	0.50	0.081	11/11/16 14:33	
2,2-Dichloropropane	ug/L	ND	1.0	0.096	11/11/16 14:33	
2-Butanone (MEK)	ug/L	ND	5.0	1.1	11/11/16 14:33	
2-Chlorotoluene	ug/L	ND	0.50	0.084	11/11/16 14:33	
4-Chlorotoluene	ug/L	ND	0.50	0.048	11/11/16 14:33	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	0.80	11/11/16 14:33	
Acetone	ug/L	ND	20.0	0.64	11/11/16 14:33	
Allyl chloride	ug/L	ND	4.0	0.25	11/11/16 14:33	
Benzene	ug/L	ND	0.50	0.042	11/11/16 14:33	
Bromobenzene	ug/L	ND	0.50	0.087	11/11/16 14:33	
Bromochloromethane	ug/L	ND	1.0	0.082	11/11/16 14:33	
Bromodichloromethane	ug/L	ND	1.0	0.068	11/11/16 14:33	
Bromoform	ug/L	ND	4.0	0.11	11/11/16 14:33	
Bromomethane	ug/L	ND	4.0	0.20	11/11/16 14:33	
Carbon tetrachloride	ug/L	ND	1.0	0.079	11/11/16 14:33	
Chlorobenzene	ug/L	ND	0.50	0.066	11/11/16 14:33	
Chloroethane	ug/L	ND	1.0	0.12	11/11/16 14:33	
Chloroform	ug/L	ND	1.0	0.21	11/11/16 14:33	
Chloromethane	ug/L	ND	4.0	0.080	11/11/16 14:33	
cis-1,2-Dichloroethene	ug/L	ND	0.50	0.12	11/11/16 14:33	
cis-1,3-Dichloropropene	ug/L	ND	0.50	0.069	11/11/16 14:33	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

METHOD BLANK: 2441169 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dibromochloromethane	ug/L	ND	4.0	0.048	11/11/16 14:33	
Dibromomethane	ug/L	ND	1.0	0.14	11/11/16 14:33	
Dichlorodifluoromethane	ug/L	ND	1.0	0.075	11/11/16 14:33	
Dichlorofluoromethane	ug/L	ND	1.0	0.054	11/11/16 14:33	
Diethyl ether (Ethyl ether)	ug/L	ND	4.0	0.090	11/11/16 14:33	
Ethylbenzene	ug/L	ND	0.50	0.075	11/11/16 14:33	
Hexachloro-1,3-butadiene	ug/L	ND	4.0	0.13	11/11/16 14:33	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	0.064	11/11/16 14:33	
m&p-Xylene	ug/L	ND	1.0	0.11	11/11/16 14:33	
Methyl-tert-butyl ether	ug/L	ND	0.50	0.047	11/11/16 14:33	
Methylene Chloride	ug/L	ND	4.0	0.097	11/11/16 14:33	
n-Butylbenzene	ug/L	ND	0.50	0.16	11/11/16 14:33	
n-Propylbenzene	ug/L	ND	0.50	0.049	11/11/16 14:33	
Naphthalene	ug/L	ND	1.0	0.064	11/11/16 14:33	
o-Xylene	ug/L	ND	0.50	0.044	11/11/16 14:33	
p-Isopropyltoluene	ug/L	ND	0.50	0.064	11/11/16 14:33	
sec-Butylbenzene	ug/L	ND	0.50	0.094	11/11/16 14:33	
Styrene	ug/L	ND	0.50	0.056	11/11/16 14:33	
tert-Butylbenzene	ug/L	ND	0.50	0.051	11/11/16 14:33	
Tetrachloroethene	ug/L	ND	0.50	0.13	11/11/16 14:33	
Tetrahydrofuran	ug/L	ND	10.0	1.5	11/11/16 14:33	
Toluene	ug/L	ND	0.50	0.059	11/11/16 14:33	
trans-1,2-Dichloroethene	ug/L	ND	0.50	0.15	11/11/16 14:33	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.044	11/11/16 14:33	
Trichloroethene	ug/L	ND	0.40	0.044	11/11/16 14:33	
Trichlorofluoromethane	ug/L	ND	0.50	0.055	11/11/16 14:33	
Vinyl chloride	ug/L	ND	0.20	0.098	11/11/16 14:33	
Xylene (Total)	ug/L	ND	1.5	0.15	11/11/16 14:33	
1,2-Dichloroethane-d4 (S)	%.	105	75-125		11/11/16 14:33	
4-Bromofluorobenzene (S)	%.	103	75-125		11/11/16 14:33	
Toluene-d8 (S)	%.	98	75-125		11/11/16 14:33	

LABORATORY CONTROL SAMPLE & LCSD: 2441170 2441171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.8	22.4	109	112	75-125	3	30	
1,1,1-Trichloroethane	ug/L	20	20.2	20.1	101	100	74-125	1	30	
1,1,2,2-Tetrachloroethane	ug/L	20	23.0	22.7	115	113	67-131	1	30	
1,1,2-Trichloroethane	ug/L	20	22.1	22.4	111	112	75-125	1	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.2	20.2	101	101	75-125	0	30	
1,1-Dichloroethane	ug/L	20	20.0	19.9	100	99	74-125	0	30	
1,1-Dichloroethene	ug/L	20	20.1	20.3	101	102	74-125	1	30	
1,1-Dichloropropene	ug/L	20	19.0	19.1	95	95	74-125	0	30	
1,2,3-Trichlorobenzene	ug/L	20	21.2	22.8	106	114	63-131	7	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

LABORATORY CONTROL SAMPLE & LCSD: 2441170 2441171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,3-Trichloropropane	ug/L	20	22.5	22.4	113	112	73-125	1	30	
1,2,4-Trichlorobenzene	ug/L	20	22.3	22.8	111	114	66-126	2	30	
1,2,4-Trimethylbenzene	ug/L	20	21.5	21.8	107	109	74-129	2	30	
1,2-Dibromo-3-chloropropane	ug/L	50	56.8	54.7	114	109	54-129	4	30	
1,2-Dibromoethane (EDB)	ug/L	20	21.3	21.7	107	109	75-125	2	30	
1,2-Dichlorobenzene	ug/L	20	21.5	22.0	107	110	75-125	2	30	
1,2-Dichloroethane	ug/L	20	19.3	19.8	96	99	75-125	3	30	
1,2-Dichloropropane	ug/L	20	20.0	20.4	100	102	75-125	2	30	
1,3,5-Trimethylbenzene	ug/L	20	21.7	21.8	109	109	73-127	0	30	
1,3-Dichlorobenzene	ug/L	20	21.2	21.5	106	107	75-125	1	30	
1,3-Dichloropropane	ug/L	20	20.7	21.4	104	107	69-125	3	30	
1,4-Dichlorobenzene	ug/L	20	20.9	21.3	105	106	75-125	2	30	
2,2-Dichloropropane	ug/L	20	22.5	22.1	113	111	69-125	2	30	
2-Butanone (MEK)	ug/L	100	106	99.6	106	100	48-145	6	30	
2-Chlorotoluene	ug/L	20	21.3	21.1	106	105	74-125	1	30	
4-Chlorotoluene	ug/L	20	21.1	21.2	105	106	73-125	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	105	112	105	53-138	7	30	
Acetone	ug/L	100	92.6	94.0	93	94	70-142	2	30	
Allyl chloride	ug/L	20	18.4	18.7	92	93	61-127	1	30	
Benzene	ug/L	20	18.1	18.2	90	91	65-125	0	30	
Bromobenzene	ug/L	20	22.1	22.3	110	112	75-125	1	30	
Bromochloromethane	ug/L	20	19.7	20.6	99	103	75-125	4	30	
Bromodichloromethane	ug/L	20	21.5	22.4	107	112	73-125	4	30	
Bromoform	ug/L	20	21.7	22.7	109	113	69-125	4	30	
Bromomethane	ug/L	20	15.0	18.3	75	92	40-136	20	30	
Carbon tetrachloride	ug/L	20	21.5	21.5	108	107	70-125	0	30	
Chlorobenzene	ug/L	20	20.4	20.6	102	103	75-125	1	30	
Chloroethane	ug/L	20	18.6	19.3	93	97	67-141	4	30	
Chloroform	ug/L	20	20.2	20.4	101	102	75-125	1	30	
Chloromethane	ug/L	20	20.0	20.1	100	100	50-150	0	30	
cis-1,2-Dichloroethene	ug/L	20	20.1	19.9	100	99	75-125	1	30	
cis-1,3-Dichloropropene	ug/L	20	20.7	21.6	104	108	75-125	4	30	
Dibromochloromethane	ug/L	20	20.7	22.1	104	110	75-125	6	30	
Dibromomethane	ug/L	20	22.7	22.2	113	111	75-129	2	30	
Dichlorodifluoromethane	ug/L	20	22.2	21.9	111	110	59-135	1	30	
Dichlorofluoromethane	ug/L	20	20.5	20.7	103	104	74-130	1	30	
Diethyl ether (Ethyl ether)	ug/L	20	19.6	20.7	98	104	66-132	6	30	
Ethylbenzene	ug/L	20	20.2	20.1	101	101	75-125	0	30	
Hexachloro-1,3-butadiene	ug/L	20	24.4	25.1	122	126	72-126	3	30	
Isopropylbenzene (Cumene)	ug/L	20	21.1	21.2	105	106	71-136	1	30	
m&p-Xylene	ug/L	40	41.6	41.9	104	105	75-125	1	30	
Methyl-tert-butyl ether	ug/L	20	20.9	21.0	105	105	73-127	0	30	
Methylene Chloride	ug/L	20	17.4	17.9	87	89	68-128	3	30	
n-Butylbenzene	ug/L	20	21.5	22.2	107	111	70-126	3	30	
n-Propylbenzene	ug/L	20	21.0	21.0	105	105	67-131	0	30	
Naphthalene	ug/L	20	21.6	21.7	108	108	52-134	0	30	
o-Xylene	ug/L	20	21.1	21.7	105	108	75-125	3	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

LABORATORY CONTROL SAMPLE & LCSD: 2441170 2441171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
p-Isopropyltoluene	ug/L	20	22.0	22.4	110	112	74-125	2	30	
sec-Butylbenzene	ug/L	20	21.2	21.5	106	107	69-134	1	30	
Styrene	ug/L	20	20.9	21.1	105	105	75-125	1	30	
tert-Butylbenzene	ug/L	20	21.8	21.4	109	107	71-128	2	30	
Tetrachloroethene	ug/L	20	21.2	20.9	106	105	74-125	1	30	
Tetrahydrofuran	ug/L	200	195	197	97	99	64-142	1	30	
Toluene	ug/L	20	19.1	19.3	95	97	75-125	1	30	
trans-1,2-Dichloroethene	ug/L	20	20.0	20.4	100	102	73-125	2	30	
trans-1,3-Dichloropropene	ug/L	20	21.0	21.6	105	108	75-125	3	30	
Trichloroethene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
Trichlorofluoromethane	ug/L	20	23.4	23.5	117	117	75-126	0	30	
Vinyl chloride	ug/L	20	21.1	21.7	106	108	72-125	3	30	
Xylene (Total)	ug/L	60	62.6	63.6	104	106	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%.				101	100	75-125			
4-Bromofluorobenzene (S)	%.				101	101	75-125			
Toluene-d8 (S)	%.				100	100	75-125			

MATRIX SPIKE SAMPLE: 2441172

Parameter	Units	1278374001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	21.4	107	75-127	
1,1,1-Trichloroethane	ug/L	ND	20	21.2	106	66-142	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.5	103	70-131	
1,1,2-Trichloroethane	ug/L	ND	20	20.1	101	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	24.1	120	54-150	
1,1-Dichloroethane	ug/L	ND	20	20.5	103	58-147	
1,1-Dichloroethene	ug/L	ND	20	21.9	109	49-150	
1,1-Dichloropropene	ug/L	ND	20	20.3	101	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	20.7	103	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	20.5	102	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.5	108	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	21.1	106	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	49.8	100	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20.0	100	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	21.0	105	75-125	
1,2-Dichloroethane	ug/L	ND	20	19.0	95	63-133	
1,2-Dichloropropane	ug/L	ND	20	19.9	99	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	21.4	107	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	20.9	104	75-125	
1,3-Dichloropropane	ug/L	ND	20	19.7	99	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	20.6	103	70-126	
2,2-Dichloropropane	ug/L	ND	20	23.1	116	39-148	
2-Butanone (MEK)	ug/L	ND	100	88.2	88	50-144	
2-Chlorotoluene	ug/L	ND	20	21.1	106	71-135	
4-Chlorotoluene	ug/L	ND	20	20.9	105	71-131	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

MATRIX SPIKE SAMPLE: 2441172

Parameter	Units	1278374001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	94.4	94	60-147	
Acetone	ug/L	ND	100	84.0	84	59-150	
Allyl chloride	ug/L	ND	20	19.2	96	38-149	
Benzene	ug/L	ND	20	18.5	92	61-138	
Bromobenzene	ug/L	ND	20	21.2	106	74-130	
Bromochloromethane	ug/L	ND	20	19.7	99	65-137	
Bromodichloromethane	ug/L	ND	20	21.6	108	66-136	
Bromoform	ug/L	ND	20	20.5	103	71-125	
Bromomethane	ug/L	ND	20	21.5	107	30-150	
Carbon tetrachloride	ug/L	ND	20	23.3	116	68-140	
Chlorobenzene	ug/L	ND	20	20.1	100	75-132	
Chloroethane	ug/L	ND	20	21.9	109	55-150	
Chloroform	ug/L	ND	20	20.4	102	64-139	
Chloromethane	ug/L	ND	20	22.9	115	73-150	
cis-1,2-Dichloroethene	ug/L	ND	20	20.1	101	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	19.9	99	70-125	
Dibromochloromethane	ug/L	ND	20	20.4	102	74-125	
Dibromomethane	ug/L	ND	20	21.1	105	66-138	
Dichlorodifluoromethane	ug/L	ND	20	28.5	143	53-150	
Dichlorofluoromethane	ug/L	ND	20	23.2	116	58-150	
Diethyl ether (Ethyl ether)	ug/L	ND	20	19.2	96	47-145	
Ethylbenzene	ug/L	ND	20	20.2	101	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	26.5	133	63-139	
Isopropylbenzene (Cumene)	ug/L	ND	20	21.2	106	65-146	
m&p-Xylene	ug/L	ND	40	40.7	102	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	19.6	98	63-134	
Methylene Chloride	ug/L	ND	20	17.4	87	49-143	
n-Butylbenzene	ug/L	ND	20	22.0	110	67-134	
n-Propylbenzene	ug/L	ND	20	20.9	105	62-142	
Naphthalene	ug/L	ND	20	19.8	99	41-150	
o-Xylene	ug/L	ND	20	20.8	104	66-138	
p-Isopropyltoluene	ug/L	ND	20	22.1	111	64-137	
sec-Butylbenzene	ug/L	ND	20	21.5	108	65-142	
Styrene	ug/L	ND	20	20.3	102	61-142	
tert-Butylbenzene	ug/L	ND	20	21.3	106	69-135	
Tetrachloroethene	ug/L	ND	20	20.9	104	62-142	
Tetrahydrofuran	ug/L	ND	200	177	88	55-150	
Toluene	ug/L	ND	20	19.0	95	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	21.3	107	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	20.3	102	65-130	
Trichloroethene	ug/L	ND	20	20.7	103	64-142	
Trichlorofluoromethane	ug/L	ND	20	29.2	146	63-150	
Vinyl chloride	ug/L	ND	20	25.7	128	58-150	
Xylene (Total)	ug/L	ND	60	61.5	103	70-140	
1,2-Dichloroethane-d4 (S)	%.				101	75-125	
4-Bromofluorobenzene (S)	%.				100	75-125	
Toluene-d8 (S)	%.				99	75-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

SAMPLE DUPLICATE: 2441173

Parameter	Units	1278374002 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	ND		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	ND		30	
Diethyl ether (Ethyl ether)	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

SAMPLE DUPLICATE: 2441173

Parameter	Units	1278374002 Result	Dup Result	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
m&p-Xylene	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	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
sec-Butylbenzene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
tert-Butylbenzene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Tetrahydrofuran	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	105	106	1		
4-Bromofluorobenzene (S)	%.	102	101	1		
Toluene-d8 (S)	%.	99	97	1		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99424 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394698 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.2	5.0	1.2	11/07/16 16:40	

LABORATORY CONTROL SAMPLE: 394699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	101	101	90-110	

SAMPLE DUPLICATE: 394700

Parameter	Units	1278355001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	306	309	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99258 Analysis Method: SM 2510B
QC Batch Method: SM 2510B Analysis Description: 2510B Specific Conductance
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394057 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<5.0	10.0	5.0	11/04/16 09:37	

LABORATORY CONTROL SAMPLE: 394058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1413	1372	97	90-110	

SAMPLE DUPLICATE: 394059

Parameter	Units	1278287001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	131	131	0	20	

SAMPLE DUPLICATE: 394060

Parameter	Units	1278377002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	873	872	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99273 Analysis Method: SM 2540D (1997)
QC Batch Method: SM 2540D (1997) Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394104 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<1.0	1.0	1.0	11/04/16 10:49	

LABORATORY CONTROL SAMPLE: 394105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	239	226	95	80-120	

SAMPLE DUPLICATE: 394106

Parameter	Units	1278403001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	164	176	7	10	

SAMPLE DUPLICATE: 394107

Parameter	Units	1278399001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L		400	17	10	D6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99019
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 1278220001, 1278220002

LABORATORY CONTROL SAMPLE: 392989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 392990

Parameter	Units	1278220001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	10	H6

SAMPLE DUPLICATE: 392991

Parameter	Units	1278201001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.7	0	10	H6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99527 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 395054 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.50	1.0	0.50	11/08/16 14:58	
Sulfate	mg/L	<1.0	2.0	1.0	11/08/16 14:58	

LABORATORY CONTROL SAMPLE: 395055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.4	101	90-110	
Sulfate	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395056 395057

Parameter	Units	1278220001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.59J	50	50	50.9	51.0	101	101	90-110	0	20	
Sulfate	mg/L	3.9	50	50	54.1	54.5	101	101	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395058 395059

Parameter	Units	1278263001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	20.1	50	50	70.6	70.7	101	101	90-110	0	20	
Sulfate	mg/L	157	50	50	206	206	97	98	90-110	0	20	E

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALIFIERS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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 decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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-DUL	Pace Analytical Services - Duluth
PASI-M	Pace Analytical Services - Minneapolis
PASI-V	Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 446601

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA required holding time.

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1278220001	**DDLF-4**	EPA 350.1	99747	EPA 350.1 rev. 2 (1993)	99827
1278220002	**DDLF-5**	EPA 350.1	99747	EPA 350.1 rev. 2 (1993)	99827
1278220001	**DDLF-4**	EPA 353.2 rev. 2 (1993)	99840		
1278220002	**DDLF-5**	EPA 353.2 rev. 2 (1993)	99840		
1278220001	**DDLF-4**	EPA 200.7	99370	EPA 200.7	99386
1278220002	**DDLF-5**	EPA 200.7	99370	EPA 200.7	99386
1278220001	**DDLF-4**	EPA 200.8	99371	EPA 200.8	99387
1278220002	**DDLF-5**	EPA 200.8	99371	EPA 200.8	99387
1278220001	**DDLF-4**	EPA 7470	99825	EPA 7470	99849
1278220002	**DDLF-5**	EPA 7470	99825	EPA 7470	99849
1278220001	**DDLF-4**	EPA 8260B	446601		
1278220002	**DDLF-5**	EPA 8260B	446601		
1278220001	**DDLF-4**	SM 2320B	99424		
1278220002	**DDLF-5**	SM 2320B	99424		
1278220001	**DDLF-4**	SM 2510B	99258		
1278220002	**DDLF-5**	SM 2510B	99258		
1278220001	**DDLF-4**	SM 2540D (1997)	99273		
1278220002	**DDLF-5**	SM 2540D (1997)	99273		
1278220001	**DDLF-4**	SM 4500-H+B	99019		
1278220002	**DDLF-5**	SM 4500-H+B	99019		
1278220001	**DDLF-4**	EPA 300.0	99527		
1278220002	**DDLF-5**	EPA 300.0	99527		

CHAIN-OF-CUSTODY RECORD

WO#: 1278220

PM: MMW Due Date: 11/16/16

CLIENT: WSN

WIDSETH SMITH NOLTING

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

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

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

2
Croc
TE
FA

ENGINEERING ARCHITECTURE

PROJECT NUMBER	PROJECT NAME	NUMBER OF CON-TAINERS	ANALYSES REQUEST
0283B0009.016	Camp Ripley DDLF LOCATION Ronald, MN		See Attached List

SAMPLERS: *(Signature)* MCR

SAMPLERS: *(Print)* Michael Bogart

SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	SAMPLE MATERIAL	NUMBER OF CON-TAINERS	ANALYSES REQUEST	REMARKS
DDLF-4	10/31/16	11:05		X	H_2O	7	X	All Metals (HNO_3) Are F. Herein
DDLF-5	10/31/16	11:45		X	H_2O	7	X	

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
MCR	11/1/16 13:00				
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Report To:	
			11-2-16 10:30	Greg Smith	
				Bill To: WSN 0283B0009.016	

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

T= 1.4 SO

№ 6567

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

Organics (con't.)

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

Inorganics

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

Parameter Lists for Sampling of Ground Water Monitoring Network

MDH 468 List (Organics)

Analytes

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

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: WidSETH SMITH NOLTING

Project #: **WO#: 1278220**

1278220

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ~~☒ Client~~ TB 11-2-16
☐ Commercial ☐ Pace ☒ Other: SD

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: ~~☒~~ 140792808 Type of Ice: ☐ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.1 Cooler Temp Corrected °C: 1.4 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: TB 11-2-16

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	~~☒~~ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	~~☒~~ Yes	☐ No	~~☒~~ N/A	6. TB 11-2-16 PH
Rush Turn Around Time Requested?	☐ Yes	☐ No	☒ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: _____	☐ Yes	☒ No	☐ N/A	12. Analysis on Bottles IS NOT Present Bottle doesNT indicate THAT They A FF
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☒ Yes	☐ No	☐ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☒ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (If purchased): _____				

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: _____ Date: 11/2/16

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)

Intra-Regional Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 1278220 **Workorder Name:** Camp Ripley DDLF **Owner Received Date:** 11/2/2016 **Due Date:** 11/16/2016

Received at:

Pace Analytical Virginia
315 Chestnut Street
Virginia, MN 55792
Phone (218) 742-1042

Send To Lab:

Pace Analytical Duluth
4730 Oneota Street
Duluth, MN 55807
Phone (218) 727-6380

Report To:
Melisa M Woods

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: H2SO4						Requested Analysis: EPA 350.1 rev. 2 (1993)	Requested Analysis: EPA 353.2 rev. 2 (1993)										LAB USE ONLY
1	DDLF-4	PS	10/31/2016 11:05	1278220001	Water	\						X	X										
2	DDLF-5	PS	10/31/2016 11:45	1278220002	Water	\						X	X										
3																							
4																							
5																							

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	11/3/16 1900	[illegible]	11/3/16 1900
2	[illegible]	11/3/16 1530	[illegible]	11/3/16 1530
3				
4				

Comments

Cooler Temperature on Receipt 0.4 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical®	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-DUL-C-001-Rev.01	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: IR COC VIRG. Project #:

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: ☒ B00051 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.0 Cooler Temp Corrected °C: 0.4 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: -0.6 °C Date and Initials of Person Examining Contents: BK 11/3/16

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☐ Yes	☐ No	☒ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT.				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☒ Yes	☐ No	☒ N/A	11/3/16 RAC See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☒ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

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

Person Contacted: Date/Time:

Comments/Resolution:

CAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: AP for LMF Date: 11-3-16

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)

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

November 15, 2016

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

RE: Project: Camp Ripley DDLF
Pace Project No.: 1278220

Dear Greg Smith:
Enclosed are the analytical results for sample(s) received by the laboratory on November 02, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

CERTIFICATIONS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
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-107
Alaska Certification UST-107
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
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

Duluth Minnesota Cerification ID's

4730 Oneota St., Duluth, MN 55807
Minnesota Dept of Health Certification #: 027-137-152
Wisconsin DNR Certification # : 999446800
North Dakota Certification #: R-105

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

SAMPLE SUMMARY

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1278220001	**DDLF-4**	Water	10/31/16 11:05	11/02/16 10:30
1278220002	**DDLF-5**	Water	10/31/16 11:45	11/02/16 10:30

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

SAMPLE ANALYTE COUNT

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1278220001	**DDLF-4**	EPA 350.1 rev. 2 (1993)	KJD	1	PASI-DUL
		EPA 353.2 rev. 2 (1993)	TMW	1	PASI-DUL
		EPA 200.7	CSD	7	PASI-V
		EPA 200.8	KRV	3	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 8260B	DJB	72	PASI-M
		SM 2320B	BEM	1	PASI-V
		SM 2510B	JJH	1	PASI-V
		SM 2540D (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	2	PASI-V
1278220002	**DDLF-5**	EPA 350.1 rev. 2 (1993)	KJD	1	PASI-DUL
		EPA 353.2 rev. 2 (1993)	TMW	1	PASI-DUL
		EPA 200.7	CSD	7	PASI-V
		EPA 200.8	KRV	3	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 8260B	DJB	72	PASI-M
		SM 2320B	BEM	1	PASI-V
		SM 2510B	JJH	1	PASI-V
		SM 2540D (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	2	PASI-V

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-4 **Lab ID: 1278220001** Collected: 10/31/16 11:05 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	Analytical Method: EPA 350.1 rev. 2 (1993) Preparation Method: EPA 350.1							
Nitrogen, Ammonia	ND	mg/L	0.10	1	11/10/16 10:28	11/10/16 13:57	7664-41-7	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2 rev. 2 (1993)							
Nitrogen, NO2 plus NO3	**0.81**	mg/L	0.020	1		11/11/16 14:44		
200.7 MET ICP, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium, Dissolved	ND	ug/L	10.0	1	11/07/16 10:06	11/08/16 10:58	7440-39-3	
Boron, Dissolved	ND	ug/L	100	1	11/07/16 10:06	11/08/16 10:58	7440-42-8	
Chromium, Dissolved	ND	ug/L	10.0	1	11/07/16 10:06	11/08/16 10:58	7440-47-3	
Copper, Dissolved	ND	ug/L	10.0	1	11/07/16 10:06	11/08/16 10:58	7440-50-8	
Iron, Dissolved	ND	ug/L	50.0	1	11/07/16 10:06	11/08/16 10:58	7439-89-6	
Manganese, Dissolved	ND	ug/L	10.0	1	11/07/16 10:06	11/08/16 10:58	7439-96-5	
Sodium, Dissolved	**2.2**	mg/L	0.50	1	11/07/16 10:06	11/08/16 10:58	7440-23-5	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Arsenic, Dissolved	ND	ug/L	1.0	2	11/07/16 10:06	11/10/16 22:30	7440-38-2	
Cadmium, Dissolved	ND	ug/L	0.40	2	11/07/16 10:06	11/10/16 22:30	7440-43-9	
Lead, Dissolved	ND	ug/L	1.0	2	11/07/16 10:06	11/10/16 22:30	7439-92-1	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/10/16 15:50	11/14/16 09:39	7439-97-6	
8260B MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	20.0	1		11/11/16 21:30	67-64-1	
Allyl chloride	ND	ug/L	4.0	1		11/11/16 21:30	107-05-1	
Benzene	ND	ug/L	0.50	1		11/11/16 21:30	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		11/11/16 21:30	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/11/16 21:30	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/11/16 21:30	75-27-4	
Bromoform	ND	ug/L	4.0	1		11/11/16 21:30	75-25-2	
Bromomethane	ND	ug/L	4.0	1		11/11/16 21:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/11/16 21:30	78-93-3	
n-Butylbenzene	ND	ug/L	0.50	1		11/11/16 21:30	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		11/11/16 21:30	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		11/11/16 21:30	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	1		11/11/16 21:30	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		11/11/16 21:30	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/11/16 21:30	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/11/16 21:30	67-66-3	
Chloromethane	ND	ug/L	4.0	1		11/11/16 21:30	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		11/11/16 21:30	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		11/11/16 21:30	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	1		11/11/16 21:30	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	1		11/11/16 21:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/11/16 21:30	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/11/16 21:30	74-95-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-4 **Lab ID: 1278220001** Collected: 10/31/16 11:05 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:30	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/11/16 21:30	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		11/11/16 21:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		11/11/16 21:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		11/11/16 21:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		11/11/16 21:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		11/11/16 21:30	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	1		11/11/16 21:30	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	1		11/11/16 21:30	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		11/11/16 21:30	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/11/16 21:30	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		11/11/16 21:30	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		11/11/16 21:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/11/16 21:30	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		11/11/16 21:30	60-29-7	
Ethylbenzene	ND	ug/L	0.50	1		11/11/16 21:30	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	4.0	1		11/11/16 21:30	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		11/11/16 21:30	98-82-8	
p-Isopropyltoluene	ND	ug/L	0.50	1		11/11/16 21:30	99-87-6	
Methylene Chloride	ND	ug/L	4.0	1		11/11/16 21:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/11/16 21:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		11/11/16 21:30	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/11/16 21:30	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		11/11/16 21:30	103-65-1	
Styrene	ND	ug/L	0.50	1		11/11/16 21:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/11/16 21:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		11/11/16 21:30	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		11/11/16 21:30	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		11/11/16 21:30	109-99-9	
Toluene	ND	ug/L	0.50	1		11/11/16 21:30	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:30	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		11/11/16 21:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		11/11/16 21:30	79-00-5	
Trichloroethene	ND	ug/L	0.40	1		11/11/16 21:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	0.50	1		11/11/16 21:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1		11/11/16 21:30	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/11/16 21:30	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		11/11/16 21:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		11/11/16 21:30	108-67-8	
Vinyl chloride	ND	ug/L	0.20	1		11/11/16 21:30	75-01-4	
Xylene (Total)	ND	ug/L	1.5	1		11/11/16 21:30	1330-20-7	
m&p-Xylene	ND	ug/L	1.0	1		11/11/16 21:30	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		11/11/16 21:30	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-4 **Lab ID: 1278220001** Collected: 10/31/16 11:05 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B							
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%.	75-125	1		11/11/16 21:30	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		11/11/16 21:30	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125	1		11/11/16 21:30	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**62.8**	mg/L	5.0	1		11/07/16 17:19		
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	**138**	umhos/cm	10.0	1		11/04/16 09:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D (1997)							
Total Suspended Solids	**6.8**	mg/L	2.0	1		11/04/16 10:49		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		11/02/16 14:49		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		11/08/16 15:20	16887-00-6	
Sulfate	**3.9**	mg/L	2.0	1		11/08/16 15:20	14808-79-8	

Sample: DDLF-5 **Lab ID: 1278220002** Collected: 10/31/16 11:45 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	Analytical Method: EPA 350.1 rev. 2 (1993) Preparation Method: EPA 350.1							
Nitrogen, Ammonia	ND	mg/L	0.10	1	11/10/16 10:28	11/10/16 13:58	7664-41-7	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2 rev. 2 (1993)							
Nitrogen, NO2 plus NO3	**0.090**	mg/L	0.020	1		11/11/16 14:46		
200.7 MET ICP, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium, Dissolved	ND	ug/L	10.0	1	11/07/16 10:06	11/08/16 11:01	7440-39-3	
Boron, Dissolved	ND	ug/L	100	1	11/07/16 10:06	11/08/16 11:01	7440-42-8	
Chromium, Dissolved	ND	ug/L	10.0	1	11/07/16 10:06	11/08/16 11:01	7440-47-3	
Copper, Dissolved	ND	ug/L	10.0	1	11/07/16 10:06	11/08/16 11:01	7440-50-8	
Iron, Dissolved	ND	ug/L	50.0	1	11/07/16 10:06	11/08/16 11:01	7439-89-6	
Manganese, Dissolved	ND	ug/L	10.0	1	11/07/16 10:06	11/08/16 11:01	7439-96-5	
Sodium, Dissolved	**1.9**	mg/L	0.50	1	11/07/16 10:06	11/08/16 11:01	7440-23-5	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Arsenic, Dissolved	ND	ug/L	1.0	2	11/07/16 10:06	11/10/16 22:34	7440-38-2	
Cadmium, Dissolved	ND	ug/L	0.40	2	11/07/16 10:06	11/10/16 22:34	7440-43-9	
Lead, Dissolved	ND	ug/L	1.0	2	11/07/16 10:06	11/10/16 22:34	7439-92-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
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(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-5 **Lab ID: 1278220002** Collected: 10/31/16 11:45 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/10/16 15:50	11/14/16 09:46	7439-97-6	
8260B MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	20.0	1		11/11/16 21:52	67-64-1	
Allyl chloride	ND	ug/L	4.0	1		11/11/16 21:52	107-05-1	
Benzene	ND	ug/L	0.50	1		11/11/16 21:52	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		11/11/16 21:52	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/11/16 21:52	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/11/16 21:52	75-27-4	
Bromoform	ND	ug/L	4.0	1		11/11/16 21:52	75-25-2	
Bromomethane	ND	ug/L	4.0	1		11/11/16 21:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/11/16 21:52	78-93-3	
n-Butylbenzene	ND	ug/L	0.50	1		11/11/16 21:52	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		11/11/16 21:52	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		11/11/16 21:52	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	1		11/11/16 21:52	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		11/11/16 21:52	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/11/16 21:52	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/11/16 21:52	67-66-3	
Chloromethane	ND	ug/L	4.0	1		11/11/16 21:52	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		11/11/16 21:52	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		11/11/16 21:52	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	1		11/11/16 21:52	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	1		11/11/16 21:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/11/16 21:52	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/11/16 21:52	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:52	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:52	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:52	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/11/16 21:52	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		11/11/16 21:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		11/11/16 21:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		11/11/16 21:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		11/11/16 21:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		11/11/16 21:52	156-60-5	
Dichlorofluoromethane	ND	ug/L	1.0	1		11/11/16 21:52	75-43-4	
1,2-Dichloropropane	ND	ug/L	4.0	1		11/11/16 21:52	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		11/11/16 21:52	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/11/16 21:52	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		11/11/16 21:52	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		11/11/16 21:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/11/16 21:52	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		11/11/16 21:52	60-29-7	
Ethylbenzene	ND	ug/L	0.50	1		11/11/16 21:52	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	4.0	1		11/11/16 21:52	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		11/11/16 21:52	98-82-8	
p-Isopropyltoluene	ND	ug/L	0.50	1		11/11/16 21:52	99-87-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
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(218) 742-1042

ANALYTICAL RESULTS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Sample: DDLF-5 **Lab ID: 1278220002** Collected: 10/31/16 11:45 Received: 11/02/16 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B							
Methylene Chloride	ND	ug/L	4.0	1		11/11/16 21:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/11/16 21:52	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		11/11/16 21:52	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/11/16 21:52	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		11/11/16 21:52	103-65-1	
Styrene	ND	ug/L	0.50	1		11/11/16 21:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/11/16 21:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		11/11/16 21:52	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		11/11/16 21:52	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		11/11/16 21:52	109-99-9	
Toluene	ND	ug/L	0.50	1		11/11/16 21:52	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:52	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		11/11/16 21:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		11/11/16 21:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		11/11/16 21:52	79-00-5	
Trichloroethene	ND	ug/L	0.40	1		11/11/16 21:52	79-01-6	
Trichlorofluoromethane	ND	ug/L	0.50	1		11/11/16 21:52	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1		11/11/16 21:52	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/11/16 21:52	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		11/11/16 21:52	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		11/11/16 21:52	108-67-8	
Vinyl chloride	ND	ug/L	0.20	1		11/11/16 21:52	75-01-4	
Xylene (Total)	ND	ug/L	1.5	1		11/11/16 21:52	1330-20-7	
m&p-Xylene	ND	ug/L	1.0	1		11/11/16 21:52	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		11/11/16 21:52	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%.	75-125	1		11/11/16 21:52	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1		11/11/16 21:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		11/11/16 21:52	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**30.1**	mg/L	5.0	1		11/07/16 17:25		
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	**62**	umhos/cm	10.0	1		11/04/16 09:51		
2540D Total Suspended Solids	Analytical Method: SM 2540D (1997)							
Total Suspended Solids	**114**	mg/L	2.0	1		11/04/16 10:49		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.8**	Std. Units	0.10	1		11/02/16 14:55		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		11/08/16 16:27	16887-00-6	
Sulfate	ND	mg/L	2.0	1		11/08/16 16:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99747 Analysis Method: EPA 350.1 rev. 2 (1993)
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 396028 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	11/10/16 13:26	

LABORATORY CONTROL SAMPLE: 396027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1	1.1	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396029 396030

Parameter	Units	1277946001 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	0.43	1	1	1.4	1.4	101	98	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396031 396032

Parameter	Units	1278192003 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	0.90	1	1	1.9	2.0	99	106	90-110	4	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
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QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99840 Analysis Method: EPA 353.2 rev. 2 (1993)
QC Batch Method: EPA 353.2 rev. 2 (1993) Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 396392 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.020	11/11/16 14:36	

LABORATORY CONTROL SAMPLE: 396391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.5	0.52	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396393 396394

Parameter	Units	1278207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.028	.5	.5	0.52	0.50	98	94	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396395 396396

Parameter	Units	1278246001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	.5	.5	0.53	0.53	107	105	90-110	2	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
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QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99825 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 396314 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/14/16 09:31	

LABORATORY CONTROL SAMPLE: 396315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	2	2.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396316 396317

Parameter	Units	1278220001 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	75-125	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 396319 396320

Parameter	Units	1278641001 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	2.1	102	102	75-125	1	15	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99370 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET Dissolved
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394481 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium, Dissolved	ug/L	ND	10.0	11/08/16 09:21	
Boron, Dissolved	ug/L	ND	100	11/08/16 09:21	
Chromium, Dissolved	ug/L	ND	10.0	11/08/16 09:21	
Copper, Dissolved	ug/L	ND	10.0	11/08/16 09:21	
Iron, Dissolved	ug/L	ND	50.0	11/08/16 09:21	
Manganese, Dissolved	ug/L	ND	10.0	11/08/16 09:21	
Sodium, Dissolved	mg/L	ND	0.50	11/08/16 09:21	

LABORATORY CONTROL SAMPLE: 394482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium, Dissolved	ug/L	500	491	98	85-115	
Boron, Dissolved	ug/L	500	489	98	85-115	
Chromium, Dissolved	ug/L	500	501	100	85-115	
Copper, Dissolved	ug/L	500	479	96	85-115	
Iron, Dissolved	ug/L	10000	9890	99	85-115	
Manganese, Dissolved	ug/L	1000	984	98	85-115	
Sodium, Dissolved	mg/L	20	19.6	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394483 394484

Parameter	Units	1278165002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium, Dissolved	ug/L	64.3	500	500	547	553	97	98	70-130	1	20	
Boron, Dissolved	ug/L	178	500	500	683	703	101	105	70-130	3	20	
Chromium, Dissolved	ug/L	ND	500	500	498	504	99	100	70-130	1	20	
Copper, Dissolved	ug/L	ND	500	500	498	505	99	101	70-130	1	20	
Iron, Dissolved	ug/L	180	10000	10000	9970	10000	98	99	70-130	1	20	
Manganese, Dissolved	ug/L	651	1000	1000	1630	1640	98	99	70-130	1	20	
Sodium, Dissolved	mg/L	70.7	20	20	91.3	91.6	103	104	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394485 394486

Parameter	Units	1278218003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium, Dissolved	ug/L	72.3	500	500	570	555	100	97	70-130	3	20	
Boron, Dissolved	ug/L	ND	500	500	541	530	100	98	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
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(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394485 394486

Parameter	Units	1278218003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Dissolved	ug/L	ND	500	500	509	499	102	99	70-130	2	20	
Copper, Dissolved	ug/L	ND	500	500	491	477	98	95	70-130	3	20	
Iron, Dissolved	ug/L	10700	10000	10000	20800	20500	100	98	70-130	1	20	
Manganese, Dissolved	ug/L	285	1000	1000	1270	1260	99	97	70-130	1	20	
Sodium, Dissolved	mg/L	4.4	20	20	23.9	23.8	97	97	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99371 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394491 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	11/10/16 20:24	
Cadmium, Dissolved	ug/L	ND	0.20	11/10/16 20:24	
Lead, Dissolved	ug/L	ND	0.50	11/10/16 20:24	

LABORATORY CONTROL SAMPLE: 394492

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	504	101	85-115	
Cadmium, Dissolved	ug/L	500	473	95	85-115	
Lead, Dissolved	ug/L	500	488	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394493 394494

Parameter	Units	1278165002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	500	500	509	501	102	100	70-130	2	20	
Cadmium, Dissolved	ug/L	ND	500	500	449	442	90	88	70-130	2	20	
Lead, Dissolved	ug/L	ND	500	500	467	468	93	94	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394495 394496

Parameter	Units	1278218003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	1.0	500	500	486	475	97	95	70-130	2	20	
Cadmium, Dissolved	ug/L	ND	500	500	469	462	94	92	70-130	2	20	
Lead, Dissolved	ug/L	ND	500	500	500	493	100	98	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 446601 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 2441169 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/11/16 14:33	
1,1,1-Trichloroethane	ug/L	ND	0.50	11/11/16 14:33	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	11/11/16 14:33	
1,1,2-Trichloroethane	ug/L	ND	0.50	11/11/16 14:33	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	11/11/16 14:33	
1,1-Dichloroethane	ug/L	ND	0.50	11/11/16 14:33	
1,1-Dichloroethene	ug/L	ND	0.50	11/11/16 14:33	
1,1-Dichloropropene	ug/L	ND	0.50	11/11/16 14:33	
1,2,3-Trichlorobenzene	ug/L	ND	0.50	11/11/16 14:33	
1,2,3-Trichloropropane	ug/L	ND	4.0	11/11/16 14:33	
1,2,4-Trichlorobenzene	ug/L	ND	0.50	11/11/16 14:33	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	11/11/16 14:33	
1,2-Dibromo-3-chloropropane	ug/L	ND	10.0	11/11/16 14:33	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/11/16 14:33	
1,2-Dichlorobenzene	ug/L	ND	0.50	11/11/16 14:33	
1,2-Dichloroethane	ug/L	ND	0.50	11/11/16 14:33	
1,2-Dichloropropane	ug/L	ND	4.0	11/11/16 14:33	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	11/11/16 14:33	
1,3-Dichlorobenzene	ug/L	ND	0.50	11/11/16 14:33	
1,3-Dichloropropane	ug/L	ND	0.50	11/11/16 14:33	
1,4-Dichlorobenzene	ug/L	ND	0.50	11/11/16 14:33	
2,2-Dichloropropane	ug/L	ND	1.0	11/11/16 14:33	
2-Butanone (MEK)	ug/L	ND	5.0	11/11/16 14:33	
2-Chlorotoluene	ug/L	ND	0.50	11/11/16 14:33	
4-Chlorotoluene	ug/L	ND	0.50	11/11/16 14:33	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/11/16 14:33	
Acetone	ug/L	ND	20.0	11/11/16 14:33	
Allyl chloride	ug/L	ND	4.0	11/11/16 14:33	
Benzene	ug/L	ND	0.50	11/11/16 14:33	
Bromobenzene	ug/L	ND	0.50	11/11/16 14:33	
Bromochloromethane	ug/L	ND	1.0	11/11/16 14:33	
Bromodichloromethane	ug/L	ND	1.0	11/11/16 14:33	
Bromoform	ug/L	ND	4.0	11/11/16 14:33	
Bromomethane	ug/L	ND	4.0	11/11/16 14:33	
Carbon tetrachloride	ug/L	ND	1.0	11/11/16 14:33	
Chlorobenzene	ug/L	ND	0.50	11/11/16 14:33	
Chloroethane	ug/L	ND	1.0	11/11/16 14:33	
Chloroform	ug/L	ND	1.0	11/11/16 14:33	
Chloromethane	ug/L	ND	4.0	11/11/16 14:33	
cis-1,2-Dichloroethene	ug/L	ND	0.50	11/11/16 14:33	
cis-1,3-Dichloropropene	ug/L	ND	0.50	11/11/16 14:33	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

METHOD BLANK: 2441169 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	ND	4.0	11/11/16 14:33	
Dibromomethane	ug/L	ND	1.0	11/11/16 14:33	
Dichlorodifluoromethane	ug/L	ND	1.0	11/11/16 14:33	
Dichlorofluoromethane	ug/L	ND	1.0	11/11/16 14:33	
Diethyl ether (Ethyl ether)	ug/L	ND	4.0	11/11/16 14:33	
Ethylbenzene	ug/L	ND	0.50	11/11/16 14:33	
Hexachloro-1,3-butadiene	ug/L	ND	4.0	11/11/16 14:33	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	11/11/16 14:33	
m&p-Xylene	ug/L	ND	1.0	11/11/16 14:33	
Methyl-tert-butyl ether	ug/L	ND	0.50	11/11/16 14:33	
Methylene Chloride	ug/L	ND	4.0	11/11/16 14:33	
n-Butylbenzene	ug/L	ND	0.50	11/11/16 14:33	
n-Propylbenzene	ug/L	ND	0.50	11/11/16 14:33	
Naphthalene	ug/L	ND	1.0	11/11/16 14:33	
o-Xylene	ug/L	ND	0.50	11/11/16 14:33	
p-Isopropyltoluene	ug/L	ND	0.50	11/11/16 14:33	
sec-Butylbenzene	ug/L	ND	0.50	11/11/16 14:33	
Styrene	ug/L	ND	0.50	11/11/16 14:33	
tert-Butylbenzene	ug/L	ND	0.50	11/11/16 14:33	
Tetrachloroethene	ug/L	ND	0.50	11/11/16 14:33	
Tetrahydrofuran	ug/L	ND	10.0	11/11/16 14:33	
Toluene	ug/L	ND	0.50	11/11/16 14:33	
trans-1,2-Dichloroethene	ug/L	ND	0.50	11/11/16 14:33	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/11/16 14:33	
Trichloroethene	ug/L	ND	0.40	11/11/16 14:33	
Trichlorofluoromethane	ug/L	ND	0.50	11/11/16 14:33	
Vinyl chloride	ug/L	ND	0.20	11/11/16 14:33	
Xylene (Total)	ug/L	ND	1.5	11/11/16 14:33	
1,2-Dichloroethane-d4 (S)	%.	105	75-125	11/11/16 14:33	
4-Bromofluorobenzene (S)	%.	103	75-125	11/11/16 14:33	
Toluene-d8 (S)	%.	98	75-125	11/11/16 14:33	

LABORATORY CONTROL SAMPLE & LCSD: 2441170 2441171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.8	22.4	109	112	75-125	3	30	
1,1,1-Trichloroethane	ug/L	20	20.2	20.1	101	100	74-125	1	30	
1,1,2,2-Tetrachloroethane	ug/L	20	23.0	22.7	115	113	67-131	1	30	
1,1,2-Trichloroethane	ug/L	20	22.1	22.4	111	112	75-125	1	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.2	20.2	101	101	75-125	0	30	
1,1-Dichloroethane	ug/L	20	20.0	19.9	100	99	74-125	0	30	
1,1-Dichloroethene	ug/L	20	20.1	20.3	101	102	74-125	1	30	
1,1-Dichloropropene	ug/L	20	19.0	19.1	95	95	74-125	0	30	
1,2,3-Trichlorobenzene	ug/L	20	21.2	22.8	106	114	63-131	7	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

LABORATORY CONTROL SAMPLE & LCSD: 2441170 2441171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,3-Trichloropropane	ug/L	20	22.5	22.4	113	112	73-125	1	30	
1,2,4-Trichlorobenzene	ug/L	20	22.3	22.8	111	114	66-126	2	30	
1,2,4-Trimethylbenzene	ug/L	20	21.5	21.8	107	109	74-129	2	30	
1,2-Dibromo-3-chloropropane	ug/L	50	56.8	54.7	114	109	54-129	4	30	
1,2-Dibromoethane (EDB)	ug/L	20	21.3	21.7	107	109	75-125	2	30	
1,2-Dichlorobenzene	ug/L	20	21.5	22.0	107	110	75-125	2	30	
1,2-Dichloroethane	ug/L	20	19.3	19.8	96	99	75-125	3	30	
1,2-Dichloropropane	ug/L	20	20.0	20.4	100	102	75-125	2	30	
1,3,5-Trimethylbenzene	ug/L	20	21.7	21.8	109	109	73-127	0	30	
1,3-Dichlorobenzene	ug/L	20	21.2	21.5	106	107	75-125	1	30	
1,3-Dichloropropane	ug/L	20	20.7	21.4	104	107	69-125	3	30	
1,4-Dichlorobenzene	ug/L	20	20.9	21.3	105	106	75-125	2	30	
2,2-Dichloropropane	ug/L	20	22.5	22.1	113	111	69-125	2	30	
2-Butanone (MEK)	ug/L	100	106	99.6	106	100	48-145	6	30	
2-Chlorotoluene	ug/L	20	21.3	21.1	106	105	74-125	1	30	
4-Chlorotoluene	ug/L	20	21.1	21.2	105	106	73-125	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	105	112	105	53-138	7	30	
Acetone	ug/L	100	92.6	94.0	93	94	70-142	2	30	
Allyl chloride	ug/L	20	18.4	18.7	92	93	61-127	1	30	
Benzene	ug/L	20	18.1	18.2	90	91	65-125	0	30	
Bromobenzene	ug/L	20	22.1	22.3	110	112	75-125	1	30	
Bromochloromethane	ug/L	20	19.7	20.6	99	103	75-125	4	30	
Bromodichloromethane	ug/L	20	21.5	22.4	107	112	73-125	4	30	
Bromoform	ug/L	20	21.7	22.7	109	113	69-125	4	30	
Bromomethane	ug/L	20	15.0	18.3	75	92	40-136	20	30	
Carbon tetrachloride	ug/L	20	21.5	21.5	108	107	70-125	0	30	
Chlorobenzene	ug/L	20	20.4	20.6	102	103	75-125	1	30	
Chloroethane	ug/L	20	18.6	19.3	93	97	67-141	4	30	
Chloroform	ug/L	20	20.2	20.4	101	102	75-125	1	30	
Chloromethane	ug/L	20	20.0	20.1	100	100	50-150	0	30	
cis-1,2-Dichloroethene	ug/L	20	20.1	19.9	100	99	75-125	1	30	
cis-1,3-Dichloropropene	ug/L	20	20.7	21.6	104	108	75-125	4	30	
Dibromochloromethane	ug/L	20	20.7	22.1	104	110	75-125	6	30	
Dibromomethane	ug/L	20	22.7	22.2	113	111	75-129	2	30	
Dichlorodifluoromethane	ug/L	20	22.2	21.9	111	110	59-135	1	30	
Dichlorofluoromethane	ug/L	20	20.5	20.7	103	104	74-130	1	30	
Diethyl ether (Ethyl ether)	ug/L	20	19.6	20.7	98	104	66-132	6	30	
Ethylbenzene	ug/L	20	20.2	20.1	101	101	75-125	0	30	
Hexachloro-1,3-butadiene	ug/L	20	24.4	25.1	122	126	72-126	3	30	
Isopropylbenzene (Cumene)	ug/L	20	21.1	21.2	105	106	71-136	1	30	
m&p-Xylene	ug/L	40	41.6	41.9	104	105	75-125	1	30	
Methyl-tert-butyl ether	ug/L	20	20.9	21.0	105	105	73-127	0	30	
Methylene Chloride	ug/L	20	17.4	17.9	87	89	68-128	3	30	
n-Butylbenzene	ug/L	20	21.5	22.2	107	111	70-126	3	30	
n-Propylbenzene	ug/L	20	21.0	21.0	105	105	67-131	0	30	
Naphthalene	ug/L	20	21.6	21.7	108	108	52-134	0	30	
o-Xylene	ug/L	20	21.1	21.7	105	108	75-125	3	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

LABORATORY CONTROL SAMPLE & LCSD: 2441170 2441171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
p-Isopropyltoluene	ug/L	20	22.0	22.4	110	112	74-125	2	30	
sec-Butylbenzene	ug/L	20	21.2	21.5	106	107	69-134	1	30	
Styrene	ug/L	20	20.9	21.1	105	105	75-125	1	30	
tert-Butylbenzene	ug/L	20	21.8	21.4	109	107	71-128	2	30	
Tetrachloroethene	ug/L	20	21.2	20.9	106	105	74-125	1	30	
Tetrahydrofuran	ug/L	200	195	197	97	99	64-142	1	30	
Toluene	ug/L	20	19.1	19.3	95	97	75-125	1	30	
trans-1,2-Dichloroethene	ug/L	20	20.0	20.4	100	102	73-125	2	30	
trans-1,3-Dichloropropene	ug/L	20	21.0	21.6	105	108	75-125	3	30	
Trichloroethene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
Trichlorofluoromethane	ug/L	20	23.4	23.5	117	117	75-126	0	30	
Vinyl chloride	ug/L	20	21.1	21.7	106	108	72-125	3	30	
Xylene (Total)	ug/L	60	62.6	63.6	104	106	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%.				101	100	75-125			
4-Bromofluorobenzene (S)	%.				101	101	75-125			
Toluene-d8 (S)	%.				100	100	75-125			

MATRIX SPIKE SAMPLE: 2441172

Parameter	Units	1278374001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	21.4	107	75-127	
1,1,1-Trichloroethane	ug/L	ND	20	21.2	106	66-142	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.5	103	70-131	
1,1,2-Trichloroethane	ug/L	ND	20	20.1	101	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	24.1	120	54-150	
1,1-Dichloroethane	ug/L	ND	20	20.5	103	58-147	
1,1-Dichloroethene	ug/L	ND	20	21.9	109	49-150	
1,1-Dichloropropene	ug/L	ND	20	20.3	101	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	20.7	103	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	20.5	102	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.5	108	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	21.1	106	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	49.8	100	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20.0	100	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	21.0	105	75-125	
1,2-Dichloroethane	ug/L	ND	20	19.0	95	63-133	
1,2-Dichloropropane	ug/L	ND	20	19.9	99	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	21.4	107	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	20.9	104	75-125	
1,3-Dichloropropane	ug/L	ND	20	19.7	99	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	20.6	103	70-126	
2,2-Dichloropropane	ug/L	ND	20	23.1	116	39-148	
2-Butanone (MEK)	ug/L	ND	100	88.2	88	50-144	
2-Chlorotoluene	ug/L	ND	20	21.1	106	71-135	
4-Chlorotoluene	ug/L	ND	20	20.9	105	71-131	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

MATRIX SPIKE SAMPLE: 2441172

Parameter	Units	1278374001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	94.4	94	60-147	
Acetone	ug/L	ND	100	84.0	84	59-150	
Allyl chloride	ug/L	ND	20	19.2	96	38-149	
Benzene	ug/L	ND	20	18.5	92	61-138	
Bromobenzene	ug/L	ND	20	21.2	106	74-130	
Bromochloromethane	ug/L	ND	20	19.7	99	65-137	
Bromodichloromethane	ug/L	ND	20	21.6	108	66-136	
Bromoform	ug/L	ND	20	20.5	103	71-125	
Bromomethane	ug/L	ND	20	21.5	107	30-150	
Carbon tetrachloride	ug/L	ND	20	23.3	116	68-140	
Chlorobenzene	ug/L	ND	20	20.1	100	75-132	
Chloroethane	ug/L	ND	20	21.9	109	55-150	
Chloroform	ug/L	ND	20	20.4	102	64-139	
Chloromethane	ug/L	ND	20	22.9	115	73-150	
cis-1,2-Dichloroethene	ug/L	ND	20	20.1	101	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	19.9	99	70-125	
Dibromochloromethane	ug/L	ND	20	20.4	102	74-125	
Dibromomethane	ug/L	ND	20	21.1	105	66-138	
Dichlorodifluoromethane	ug/L	ND	20	28.5	143	53-150	
Dichlorofluoromethane	ug/L	ND	20	23.2	116	58-150	
Diethyl ether (Ethyl ether)	ug/L	ND	20	19.2	96	47-145	
Ethylbenzene	ug/L	ND	20	20.2	101	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	26.5	133	63-139	
Isopropylbenzene (Cumene)	ug/L	ND	20	21.2	106	65-146	
m&p-Xylene	ug/L	ND	40	40.7	102	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	19.6	98	63-134	
Methylene Chloride	ug/L	ND	20	17.4	87	49-143	
n-Butylbenzene	ug/L	ND	20	22.0	110	67-134	
n-Propylbenzene	ug/L	ND	20	20.9	105	62-142	
Naphthalene	ug/L	ND	20	19.8	99	41-150	
o-Xylene	ug/L	ND	20	20.8	104	66-138	
p-Isopropyltoluene	ug/L	ND	20	22.1	111	64-137	
sec-Butylbenzene	ug/L	ND	20	21.5	108	65-142	
Styrene	ug/L	ND	20	20.3	102	61-142	
tert-Butylbenzene	ug/L	ND	20	21.3	106	69-135	
Tetrachloroethene	ug/L	ND	20	20.9	104	62-142	
Tetrahydrofuran	ug/L	ND	200	177	88	55-150	
Toluene	ug/L	ND	20	19.0	95	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	21.3	107	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	20.3	102	65-130	
Trichloroethene	ug/L	ND	20	20.7	103	64-142	
Trichlorofluoromethane	ug/L	ND	20	29.2	146	63-150	
Vinyl chloride	ug/L	ND	20	25.7	128	58-150	
Xylene (Total)	ug/L	ND	60	61.5	103	70-140	
1,2-Dichloroethane-d4 (S)	%.				101	75-125	
4-Bromofluorobenzene (S)	%.				100	75-125	
Toluene-d8 (S)	%.				99	75-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

SAMPLE DUPLICATE: 2441173

Parameter	Units	1278374002 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	ND		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	ND		30	
Diethyl ether (Ethyl ether)	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

SAMPLE DUPLICATE: 2441173

Parameter	Units	1278374002 Result	Dup Result	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
m&p-Xylene	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	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
sec-Butylbenzene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
tert-Butylbenzene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Tetrahydrofuran	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	105	106	1		
4-Bromofluorobenzene (S)	%.	102	101	1		
Toluene-d8 (S)	%.	99	97	1		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99424 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394698 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	11/07/16 16:40	

LABORATORY CONTROL SAMPLE: 394699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	101	101	90-110	

SAMPLE DUPLICATE: 394700

Parameter	Units	1278355001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	306	309	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99258 Analysis Method: SM 2510B
QC Batch Method: SM 2510B Analysis Description: 2510B Specific Conductance
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394057 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	11/04/16 09:37	

LABORATORY CONTROL SAMPLE: 394058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1413	1372	97	90-110	

SAMPLE DUPLICATE: 394059

Parameter	Units	1278287001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	131	131	0	20	

SAMPLE DUPLICATE: 394060

Parameter	Units	1278377002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	873	872	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99273 Analysis Method: SM 2540D (1997)
QC Batch Method: SM 2540D (1997) Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 394104 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	1.0	11/04/16 10:49	

LABORATORY CONTROL SAMPLE: 394105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	239	226	95	80-120	

SAMPLE DUPLICATE: 394106

Parameter	Units	1278403001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	164	176	7	10	

SAMPLE DUPLICATE: 394107

Parameter	Units	1278399001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L		400	17	10	D6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99019 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1278220001, 1278220002

LABORATORY CONTROL SAMPLE: 392989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 392990

Parameter	Units	1278220001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	10	H6

SAMPLE DUPLICATE: 392991

Parameter	Units	1278201001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.7	0	10	H6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: Camp Ripley DDLF
Pace Project No.: 1278220

QC Batch: 99527 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1278220001, 1278220002

METHOD BLANK: 395054 Matrix: Water
Associated Lab Samples: 1278220001, 1278220002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	11/08/16 14:58	
Sulfate	mg/L	ND	2.0	11/08/16 14:58	

LABORATORY CONTROL SAMPLE: 395055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.4	101	90-110	
Sulfate	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395056 395057

Parameter	Units	1278220001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	50.9	51.0	101	101	90-110	0	20	
Sulfate	mg/L	3.9	50	50	54.1	54.5	101	101	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395058 395059

Parameter	Units	1278263001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	20.1	50	50	70.6	70.7	101	101	90-110	0	20	
Sulfate	mg/L	157	50	50	206	206	97	98	90-110	0	20	E

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALIFIERS

Project: Camp Ripley DDLF
Pace Project No.: 1278220

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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 decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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-DUL	Pace Analytical Services - Duluth
PASI-M	Pace Analytical Services - Minneapolis
PASI-V	Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 446601

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA required holding time.

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Camp Ripley DDLF
Pace Project No.: 1278220

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1278220001	**DDLF-4**	EPA 350.1	99747	EPA 350.1 rev. 2 (1993)	99827
1278220002	**DDLF-5**	EPA 350.1	99747	EPA 350.1 rev. 2 (1993)	99827
1278220001	**DDLF-4**	EPA 353.2 rev. 2 (1993)	99840		
1278220002	**DDLF-5**	EPA 353.2 rev. 2 (1993)	99840		
1278220001	**DDLF-4**	EPA 200.7	99370	EPA 200.7	99386
1278220002	**DDLF-5**	EPA 200.7	99370	EPA 200.7	99386
1278220001	**DDLF-4**	EPA 200.8	99371	EPA 200.8	99387
1278220002	**DDLF-5**	EPA 200.8	99371	EPA 200.8	99387
1278220001	**DDLF-4**	EPA 7470	99825	EPA 7470	99849
1278220002	**DDLF-5**	EPA 7470	99825	EPA 7470	99849
1278220001	**DDLF-4**	EPA 8260B	446601		
1278220002	**DDLF-5**	EPA 8260B	446601		
1278220001	**DDLF-4**	SM 2320B	99424		
1278220002	**DDLF-5**	SM 2320B	99424		
1278220001	**DDLF-4**	SM 2510B	99258		
1278220002	**DDLF-5**	SM 2510B	99258		
1278220001	**DDLF-4**	SM 2540D (1997)	99273		
1278220002	**DDLF-5**	SM 2540D (1997)	99273		
1278220001	**DDLF-4**	SM 4500-H+B	99019		
1278220002	**DDLF-5**	SM 4500-H+B	99019		
1278220001	**DDLF-4**	EPA 300.0	99527		
1278220002	**DDLF-5**	EPA 300.0	99527		

CHAIN-OF-CUSTODY RECORD

WO#: 1278220

PM: MMW Due Date: 11/16/16

CLIENT: WSN

WIDSETH SMITH NOLTING

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

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

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

2
Croc
TE
FA

ENGINEERING ARCHITECTURE

PROJECT NUMBER	PROJECT NAME	NUMBER OF CON-TAINERS	ANALYSES REQUEST
0283B0009.016	Camp Ripley DDLF LOCATION Randall, MN		See Attached List

SAMPLERS: *(Signature)* MCR

SAMPLERS: *(Print)* Michael Bogart

SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	SAMPLE MATERIAL	NUMBER OF CON-TAINERS	ANALYSES REQUEST	REMARKS
DDLF-4	10/31/16	11:05		X	H_2O	7	X	All Metals (HNO_3) Are Filtered
DDLF-5	10/31/16	11:45		X	H_2O	7	X	

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
MCR	11/1/16 13:00				
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Report To:	
			11-2-16 10:30	Greg Smith	
				Bill To: WSN 0283B0009.016	

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

T= 1.4 Nº 6567

SO

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

Organics (con't.)

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

Inorganics

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

Parameter Lists for Sampling of Ground Water Monitoring Network

MDH 468 List (Organics)

Analytes

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

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: WidSETH SMITH NOLTING

Project #: **WO#: 1278220**

1278220

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ~~☒ Client~~ TB 11-2-16
☐ Commercial ☐ Pace ☒ Other: SD

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: ~~☒~~ 140792808 Type of Ice: ☐ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.1 Cooler Temp Corrected °C: 1.4 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: TB 11-2-16

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	~~☒~~ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	~~☒~~ Yes	☐ No	~~☒~~ N/A	6. TB 11-2-16 PH
Rush Turn Around Time Requested?	☐ Yes	☐ No	☒ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: _____	☐ Yes	☒ No	☐ N/A	12. ANALYSIS ON BOTTLES IS NOT PRESENT BOTTLE DOESNT INDICATE THAT THEY A FF
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☒ Yes	☐ No	☐ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☒ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (If purchased): _____				

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: _____ Date: 11/2/16

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)

Intra-Regional Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 1278220 **Workorder Name:** Camp Ripley DDLF **Owner Received Date:** 11/2/2016 **Due Date:** 11/16/2016

Received at:	Send To Lab:
Pace Analytical Virginia 315 Chestnut Street Virginia, MN 55792 Phone (218) 742-1042	Pace Analytical Duluth 4730 Oneota Street Duluth, MN 55807 Phone (218) 727-6380

Report To:
Melisa M Woods

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: H2SO4						Requested Analysis: EPA 350.1 rev. 2 (1993)	EPA 353.2 rev. 2 (1993)										LAB USE ONLY
1	DDLF-4	PS	10/31/2016 11:05	1278220001	Water	\						X	X										
2	DDLF-5	PS	10/31/2016 11:45	1278220002	Water	\						X	X										
3																							
4																							
5																							

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	11/3/16 1900	[illegible]	11/3/16 1900
2	[illegible]	11/3/16 1530	[illegible]	11/3/16 1530
3				
4				

Comments

Cooler Temperature on Receipt 0.4 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical®	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-DUL-C-001-Rev.01	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: IR COC VIRG. Project #:

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: ☒ B00051 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.0 Cooler Temp Corrected °C: 0.4 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: -0.6 °C Date and Initials of Person Examining Contents: RK 11/3/16

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☐ Yes	☐ No	☒ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT.				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☒ Yes	☐ No	☒ N/A	11/3/16 RAE See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☒ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

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

Person Contacted: Date/Time:

Comments/Resolution:

LOGICAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: AP for LMF Date: 11-3-16

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

APPENDIX B

WELL STABILIZATION FORMS

WIDSETH SMITH NOLTING

GROUNDWATER SAMPLING and ELEVATION LOG SHEET

Project Name: Camp Ripley DDLF & MMLF ***Project No.*** _____ ***Location:*** _____

Sampling Date: 10/31/16 ***By:*** Mike Bogart ***Project Manager:*** _____

Sampling Device: _____ ***Cleaning Method:*** _____

Purging Method: _____ ***Parameter:*** _____

Well Capacity Formula = [ft. H_2O] X [0.16 gals per ft. H_2O (2" well)]

Well No.	T.O.C. Elev.	Depth to Water	G.W. Elev.	Total Well Depth	Water in Casing	Well Capacity	Volume Purged	Color	Turb.	Odor	Time Sampled	Temp	PH	Do	ORP	SpC	Nitrate
DDLF-4		24.16		35.00	10.84	1.73	6.00				11:05						
DDLF-5		27.03		42.00	14.97	2.40	7.50				11:45						
MW-3		22.04		47.00	24.96	4.00	12.00				13:35						
MW-7		26.43		37.00	10.17	1.63	6.00				[illegible]	14:30					
MW-8		29.54		40.00	10.46	1.67	6.00				15:20						
DDLF-1		28.72															
DDLF-2		19.65															
DDLF-3		27.03															

** Referenced to Top of Well Casing (T.O.C.)*

Comments: MW-7 is FLD DUP Equip Blank 13:40

WIDSETH SMITH NOLTING & ASSOCIATES

MONITORING/TEST WELL STABILIZATION FORM

SITE: Camp Ripley
DATE: 10/3/16
TIME:
SAMPLE DESIGNATION: DDLE-4
WEATHER CONDITIONS: Overcast
PERSONNEL: MB
PUMP RATE (GPM): .50 1.10
WELL DEPTH: 35.00
STATIC LEVEL: 24.16
WELL VOLUME (GAL): 1.73

LOCK:	YES	X	NO	
WELL LABEL:	YES	X	NO	

CONDITION OF WELL: Good
PURGE METHOD: Whale
SAMPLE METHOD: Whale Slow Flow
APPEARANCE: Clear

WIDSETH SMITH NOLTING
Engineering
Architecture
Surveying
Environmental

FIELD DUPLICATE
YES ☐
NO ☒

FLOW CELL USED
YES ☒
NO ☐

EXCEPTIONS TO PROTOCOL: NONE ☐

TIME	TEMP. FAHRENHEIT (+/- 0.5)	SPECIFIC CONDUCTANCE (mS/cm +/- 5%)	DISSOLVED OXYGEN (+/- 0.5 mg/l)	Ph (+/- 0.04 SU)	ORP (mv)	TURBIDITY (+/- 10 NTU)	VOL. REMOVED (gal.)
10:52	48.6	.141	9.48	6.89	294	71.4	2.0
10:56	48.5	.136	9.52	6.90	294	67.3	4.0
11:00	48.6	.121	9.66	6.84	296	64.4	6.0
INITIAL							
2nd RECHARGE							
3rd RECHARGE							

COMMENTS:
TIME SAMPLED 11:05

WIDSETH SMITH NOLTING & ASSOCIATES

MONITORING/TEST WELL STABILIZATION FORM

WIDSETH SMITH NOLTING

Engineering
Architecture
Surveying
Environmental

SITE: Camp Ripley
DATE: 10/31/16
TIME:
SAMPLE DESIGNATION: DDLF-5
WEATHER CONDITIONS: Overcast / L. Rain
PERSONNEL: MB
PUMP RATE (GPM): .50/.10
WELL DEPTH: 42.00
STATIC LEVEL: 27.03
WELL VOLUME (GAL): 2.40

LOCK:	YES	X	NO	
WELL LABEL:	YES	Y	NO	

CONDITION OF WELL: Good
PURGE METHOD: Waterra
SAMPLE METHOD: Waterra (Slow Flow)
APPEARANCE: Clear

FIELD DUPLICATE
YES ☐
NO ☒

FLOW CELL USED
YES ☒
NO ☐

EXCEPTIONS TO PROTOCOL: NONE ☐

TIME	TEMP. FAHRENHEIT (+/- 0.5)	SPECIFIC CONDUCTANCE (mS/cm +/- 5%)	DISSOLVED OXYGEN (+/- 0.5 mg/l)	Ph (+/- 0.04 SU)	ORP (mv)	TURBIDITY (+/- 10 NTU)	VOL. REMOVED (gal.)
11:31	48.5	.054	9.45	6.37	350	101.8	2.50
11:36	48.6	.055	9.39	6.36	354	97.4	5.00
11:41	48.5	.056	9.37	6.35	356	92.0	7.50
INITIAL							
2nd RECHARGE							
3rd RECHARGE							

COMMENTS:
TIME SAMPLED 11:45

APPENDIX C

EVALUATION REPORTS

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 29 Jan 16

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

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 1 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Turner

   Signature: Jesse Turner

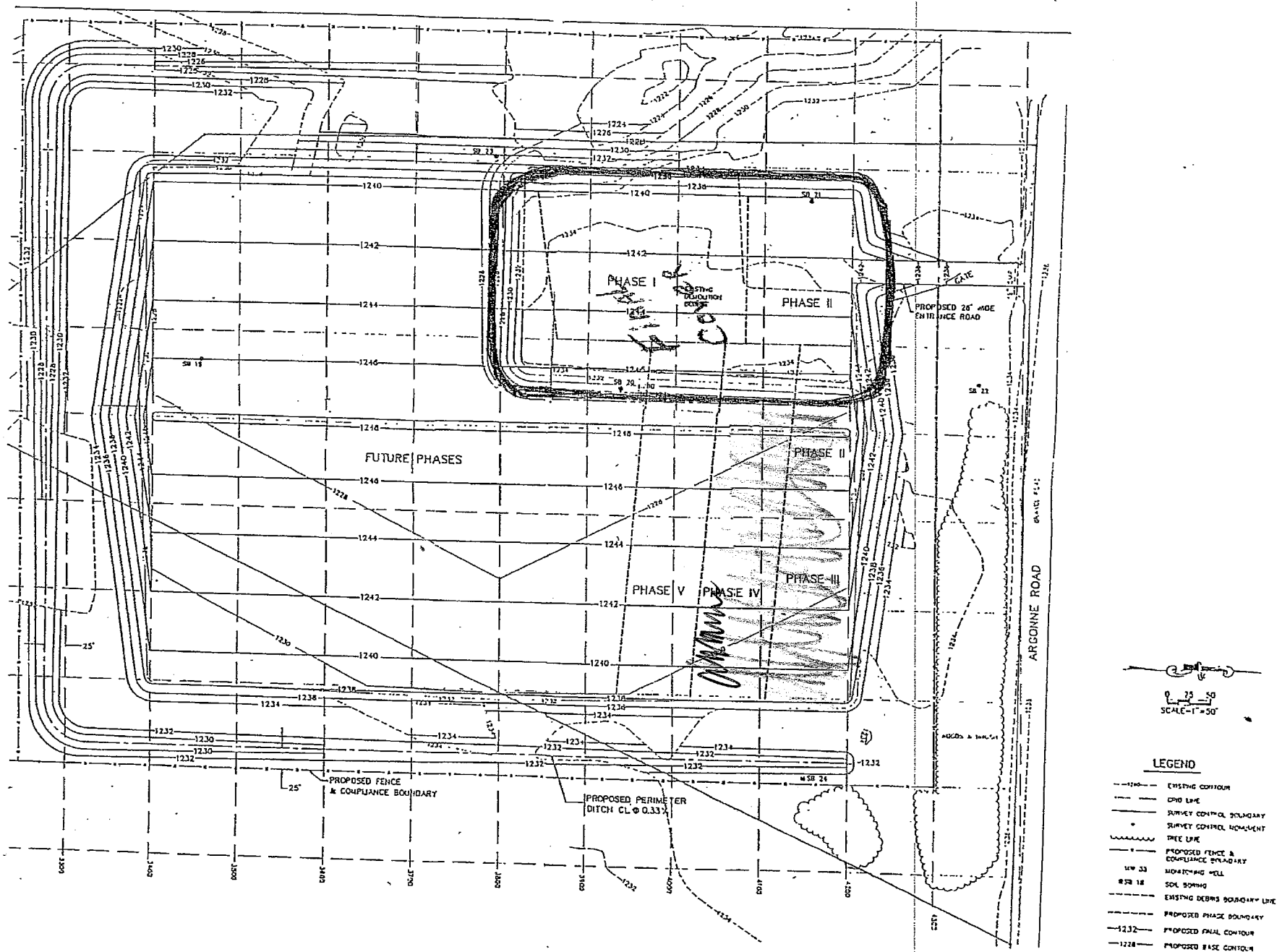
Unit

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

JAN 2016

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
	1/21	11:20 AM	12:00 NOON	1 Yd	Scrap wood of Pallets	warehouse	TP


PHASE I
EXISTING DEMOLITION DEBRIS
PHASE II
PROPOSED 28' WIDE ENTRANCE ROAD
GATE
FUTURE PHASES
PHASE II
PHASE III
PHASE IV
PHASE V
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
25'
SB 23
SB 21
SB 22
SB 24
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
SURVEY CONTROL BOUNDARY
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MW 33 MONITORING WELL
SB 18 SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
1232 PROPOSED FINAL CONTOUR
1228 PROPOSED BASE CONTOUR

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 29 FEB 16

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

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 95 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Turner

   Signature: Jesse Turner

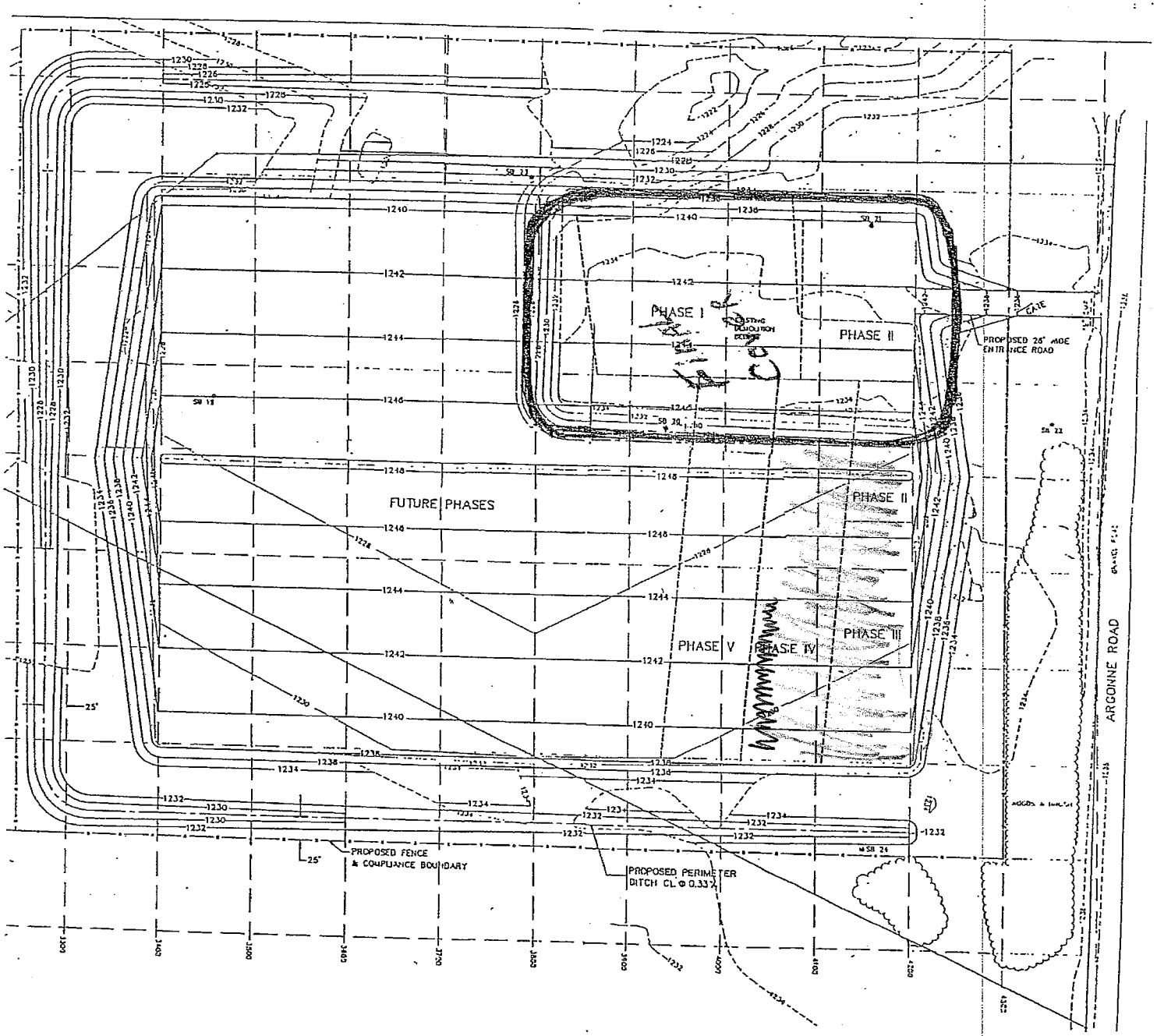
Unit

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2016

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
Headley	5 FEB	1000	1600	90	Wood / Shingles	AREA 3	JT
CMA	17 FEB	1100	1150	5	Wood	CMA	JT
				90 @ 400 = 36,000			
				5 @ 400 = 2000			
					38,000		


PHASE I
EXISTING DEMOLITION DEBRIS
PHASE II
PROPOSED 26' WIDE ENTRANCE ROAD
GATE
FUTURE PHASES
PHASE II
PHASE V
PHASE IV
PHASE III
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
25'
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
GRID LINE
SURVEY CONTROL BOUNDARY
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MONITORING WELL
SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
PROPOSED FINAL CONTOUR
PROPOSED BASE CONTOUR

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 MAK16

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

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 27 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

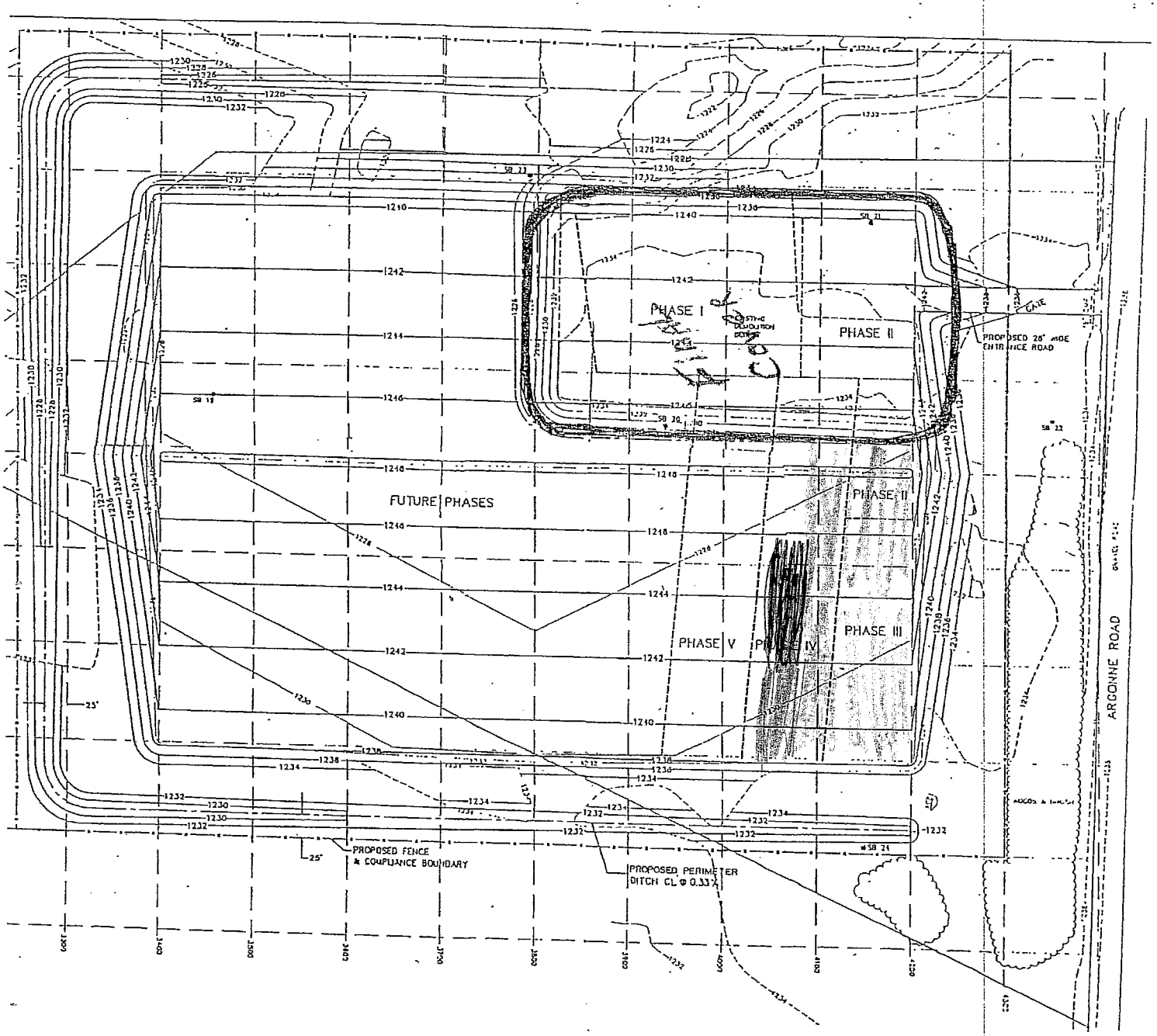
UMH

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2016

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
Lundy	2MAR	1000	1100	3	Plywood / Shelves	TACC	JT
Lundy	3MAR	0930	1000	2	Plywood / Boxes	TACC	JT
Rds.	16MAR	0830	1000	5	Wood / Roofing	Rds.	JT
X	3-22	X	X	3	Pallets / Plywood	Refuse / Recyc.	TP
NyReen	23MAR	0830	2:50 pm	4	TARGETS	ATS	JT
	3-28			10	Refuse / Recyc. Shipping Boxes	C/R	TP
				27 x 400 = 10,800 lbs			



SCALE 1" = 50'

LEGEND

- EXISTING CONTOUR
- GRID LINE
- SURVEY CONTROL BOUNDARY
- SURVEY CONTROL MONUMENT
- TREE LINE
- PROPOSED FENCE & COMPLIANCE BOUNDARY
- MW 33 MONITORING WELL
- SB 18 SOIL BORING
- EXISTING DEBRIS BOUNDARY LINE
- PROPOSED PHASE BOUNDARY
- 1232 PROPOSED FINAL CONTOUR
- 1228 PROPOSED BASE CONTOUR

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 29 APR 16

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

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 42 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Tukner

Signature: Jesse Tukner

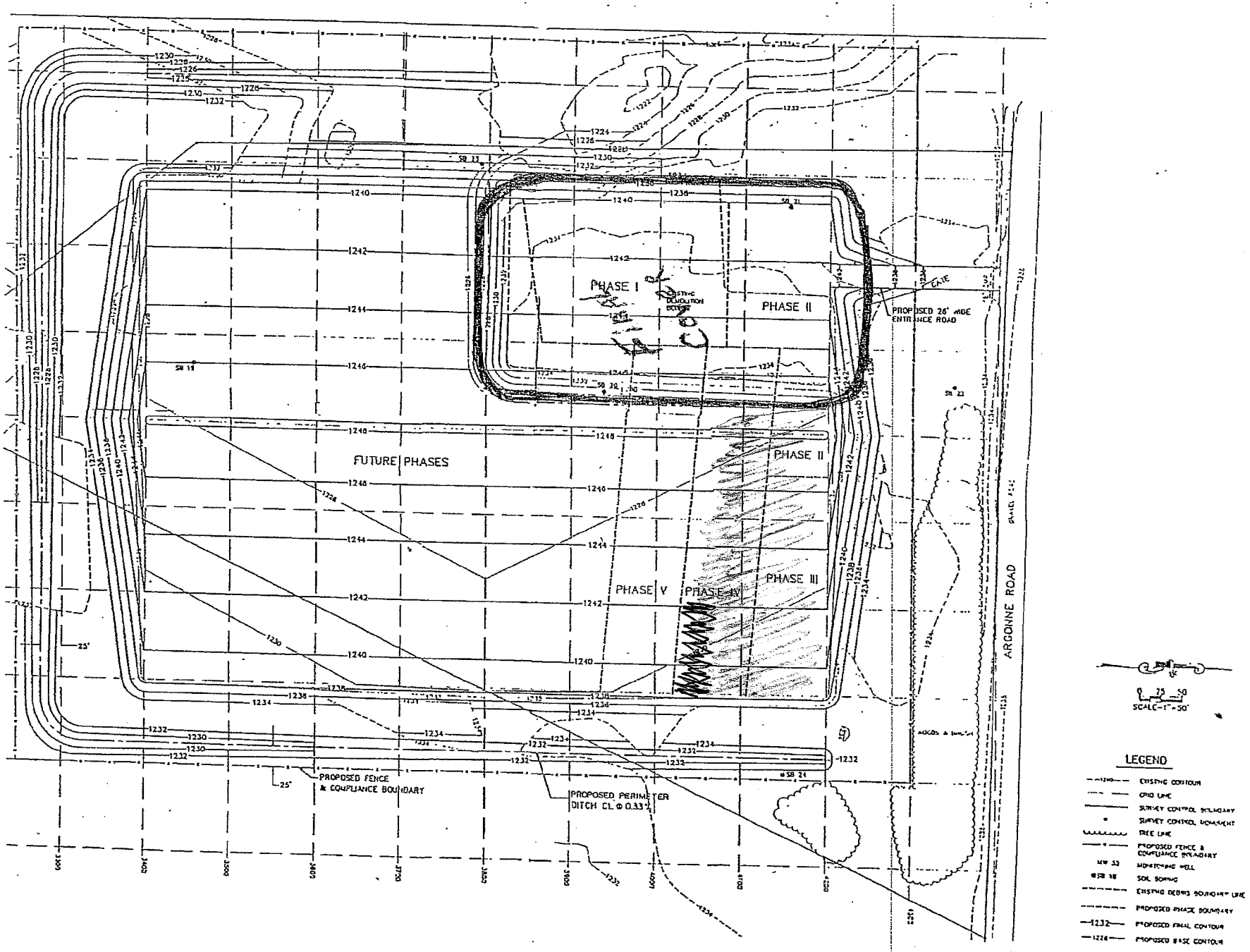
Unit

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

2016

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
CMA-S	6APR	1300	1400	10	Crates	CMA-S	JT
CMA-S	7APR	1330	1430	5	Crates	CMA-S	JT
EMS/Anderl	11APR	1330	1515	5	Pallets/Crates	CMA-N	JT
11	12APR	0900	0945	4	Pallets/Crates	CMA-N	JT
	13APR	1300	1330	4	Pallets/Boards	Transfer Station	JT
Arens	14APR	1000	1100	5	Pallets/shelving	S+S	JT
Swan	15APR	0830		4	Pallets/Boards	Rds	JT
CMA Cent	21APR	1100	1145	5	Pallets+Crates	CMA Cent.	dws
				42 x 200 lbs = 8,400 lbs			


PHASE I
PHASE II
PHASE II
PHASE III
PHASE IV
PHASE V
FUTURE PHASES
PROPOSED 26' WIDE ENTRANCE ROAD
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
25'
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
GRID LINE
SURVEY CONTROL BOUNDARY
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MONITORING WELL
SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
PROPOSED FINAL CONTOUR
PROPOSED BASE CONTOUR

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 MAY 16

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

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 439 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

Unit

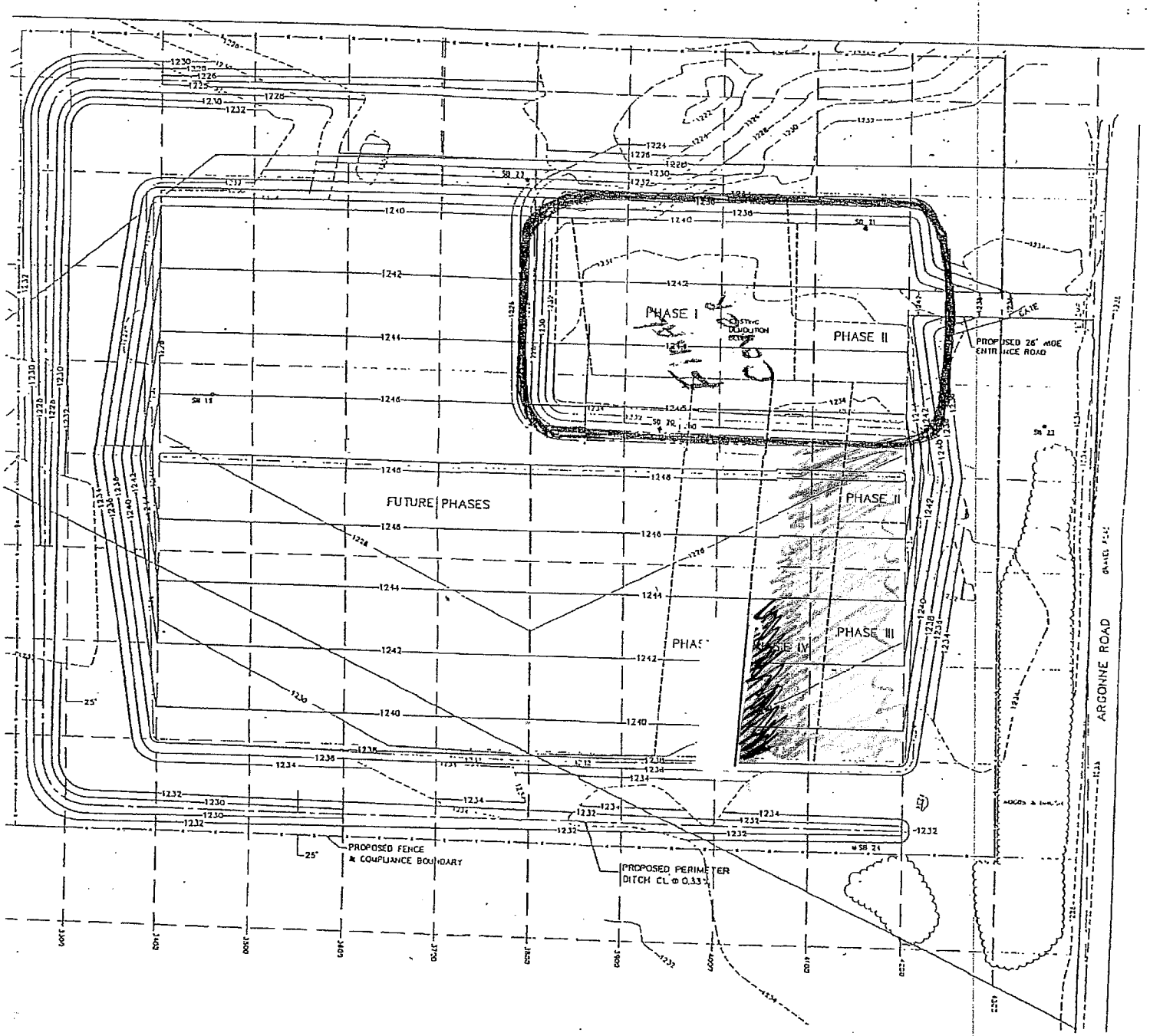
CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

DAILY OPERATIONAL REPORT

2016

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
Headley	5 MAY	1330	1530	75	Wood - Shingles - Concrete	AREA 5	JT
	10 MAY			65	wood - Shingles - Concrete	AREA 5	JT
	11 MAY			60	wood - Shingles - Asphalt	AREA 5	JT
	12 MAY			20	Wood	CMA 5.	JT
	13 MAY			30	Dirt - wood Concrete	AREA 5	JT
Headley	13 MAY	1210	1530	160	wood - Shingles Concrete	AREA 7	JT
	16 MAY			5	wood	Trasfer Station	JT
	17 MAY			5	wood	Transfer Station	JT
Engr.	18 MAY	0900	1430	15	Dirt - wood Concrete	AREA 7	JT
Bill	19 MAY	1000	1330		Hydro seed		JT
Shlangen	20 MAY	1055	1400	4	crates	ENGR	JT
				439 = total			
				405 @	2000 = 810,000		
				34 @	400 = 13,600		

823,600 lbs


PHASE I
EXISTING DEVIATION DITCH
PHASE II
PROPOSED 26' WIDE ENTRANCE ROAD
FUTURE PHASES
PHASE II
PHASE III
PHASE IV
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
25'
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
OHU LINE
SURVEY CONTROL BOUNDARY
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MONITORING WELL
SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
PROPOSED FINAL CONTOUR
PROPOSED BASE CONTOUR

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 30 June 16

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

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 9 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

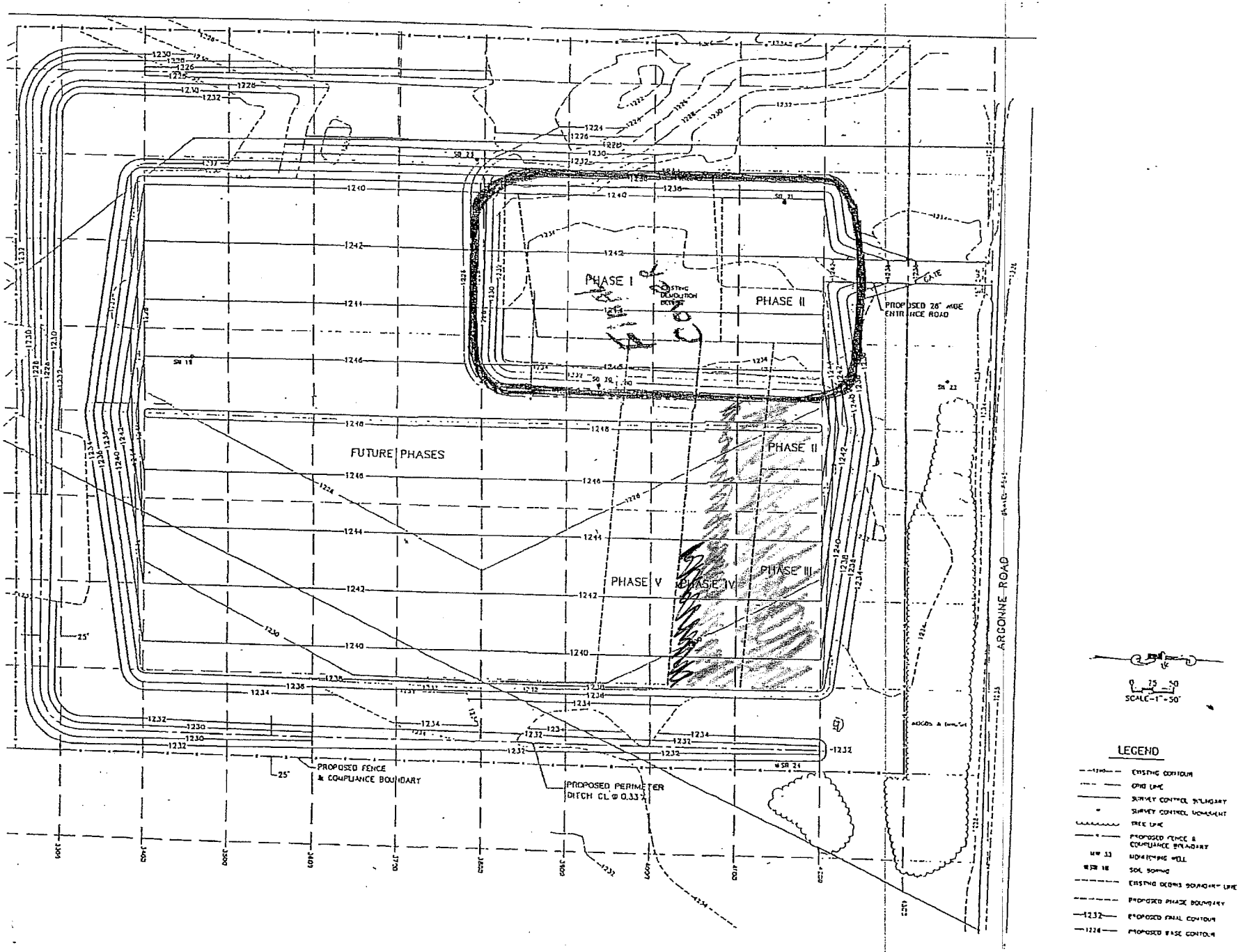
Unit

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

2016

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
CMA-N	8 June	1400	1430	4	Pallets/crates	CMA-N	JT
	8 Jun			5	Pallets/Boards	Refused Recycling	tus
				9 @ 400 = 3600 lbs			


PHASE I
EXISTING DEMOLITION DEBRIS
PHASE II
PROPOSED 26' WIDE ENTRANCE ROAD
FUTURE PHASES
PHASE II
PHASE V
PHASE IV
PHASE III
ARGONNE ROAD
25'
25'
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
GRID LINE
SURVEY CONTROL BENCHMARK
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MONITORING WELL
SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
PROPOSED FINAL CONTOUR
PROPOSED BASE CONTOUR

UMH

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 29 July 16

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

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 0 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

2016
July

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials

No Activity this month

Lynn
FMO

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 Aug 16

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

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 29 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

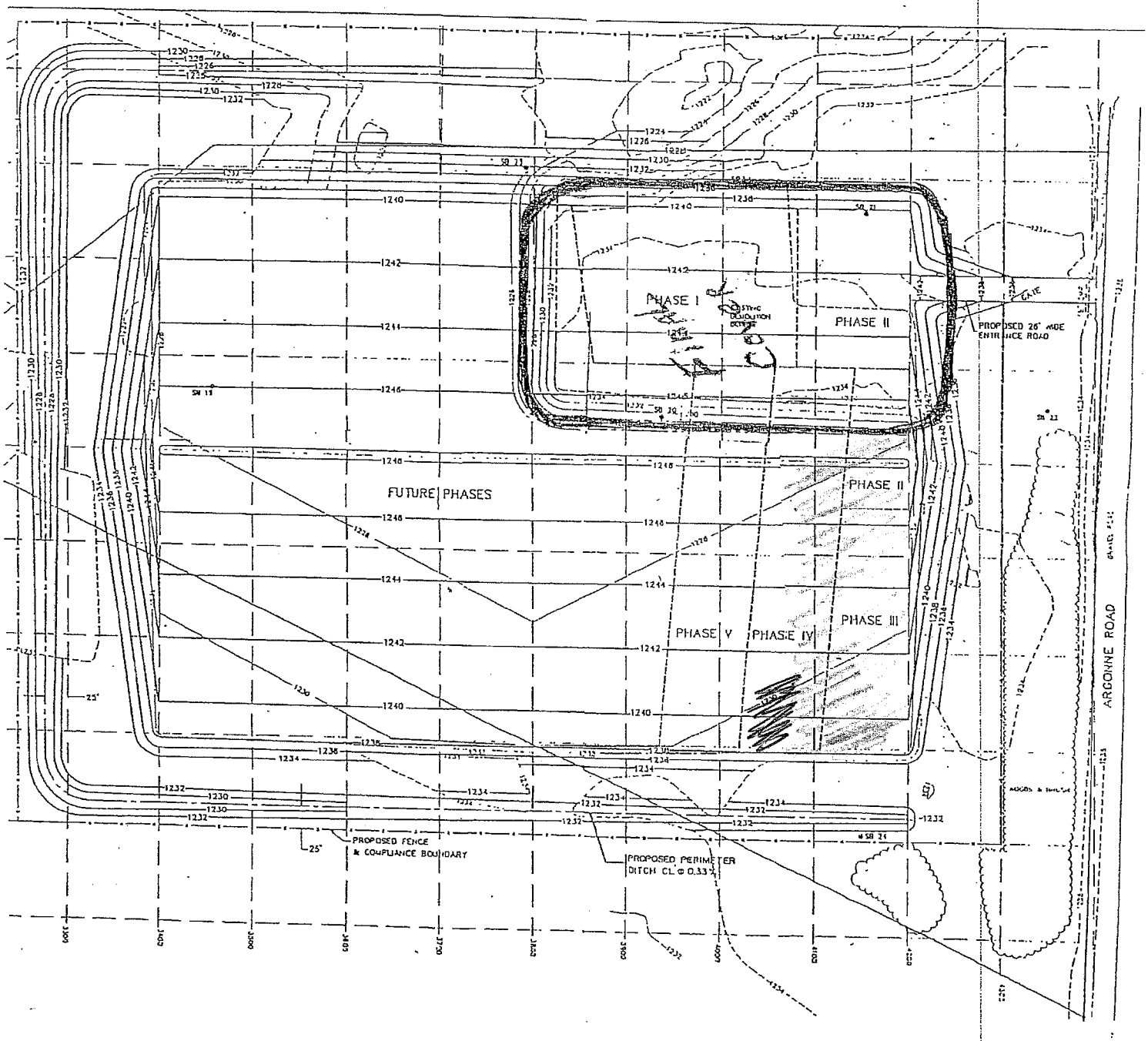
UMH

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

2016 Aug

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
Housing	8/05	2:45	3:30	4 yds	Wooden Boxes	Housing Waldsavet	JT
ATS	9 Aug	1015	1030	1	P/4 Wood	ATS	JT
Housing	10 Aug	1400	1500	6	wooden CRATES	Housing	JT
USPFO	11 Aug	1100	1130	10	CRATES / PALLETS	USPFO	JT
	12 Aug			4	BOARDS	TRANSFER STATION	JT
	25 Aug			4	BOARDS / PALLETS	TRANSFER STATION	JT
				9 @ 400 = 3,600 lbs			
				20 @ 200 = 4,000 lbs			
					7,600 lbs		


PHASE I
EXISTING DEMOLITION DEBRIS
PHASE II
PROPOSED 26' WIDE ENTRANCE ROAD
FUTURE PHASES
PHASE II
PHASE V
PHASE IV
PHASE III
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
25'
SCALE: 1" = 50'
LEGEND
EXISTING CONTOUR
GRID LINE
SURVEY CONTROL BOUNDARY
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MONITORING WELL
SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
PROPOSED FINAL CONTOUR
PROPOSED BASE CONTOUR

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 30 Sept 16

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

3. Intermediate cover used: 700 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 380 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY

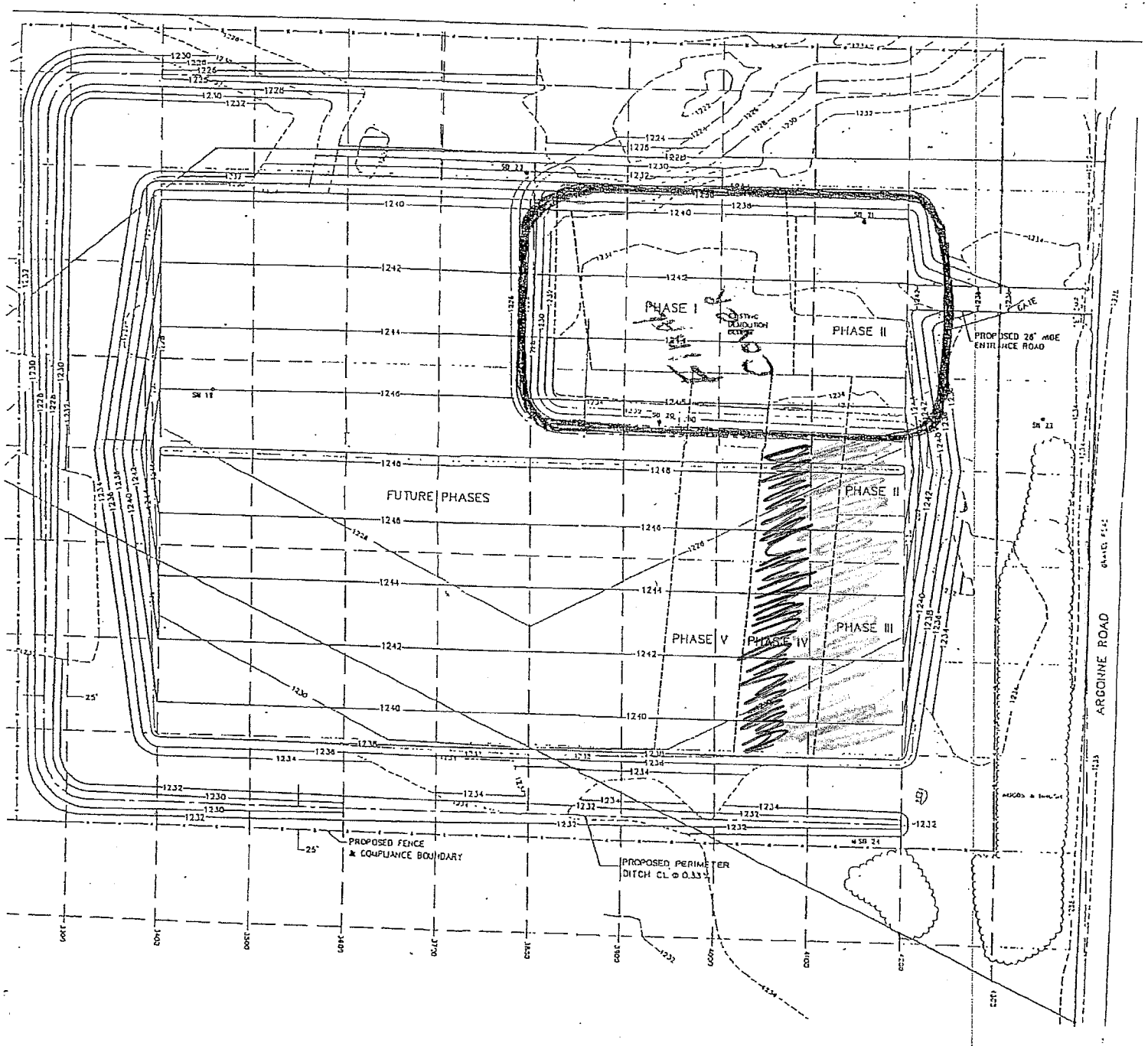
PERMIT NO. SW-359

Unit

DAILY OPERATIONAL REPORT

2016

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
	9 Sept			100	Wood, Tin, Shingles, Insulation	AREA 7	JT
	12 Sept			160	Wood, Tin, Shingles, Insulation	AREA 7	JT
	14 Sept			85	Wood, Shingles Tin, Insulation	AREA 7	JT
	15 Sept			400	Dirt, Cover	Demo Pit	JT
	16 Sept			300	Dirt, Cover	Demo Pit	JT
Dean P.	22 Sept	0800	1430	20	Wood, Tin	Down Range	JT
Ron H	30 Sept	0800	1430	15	wood, Tin	Down Range	JT
				380 @	400 = 152,000		


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

UMH

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 31 Oct 16

2. Area presently being filled (Phase No. from plans): 4+5

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 591 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

7. Remarks or comments: _____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

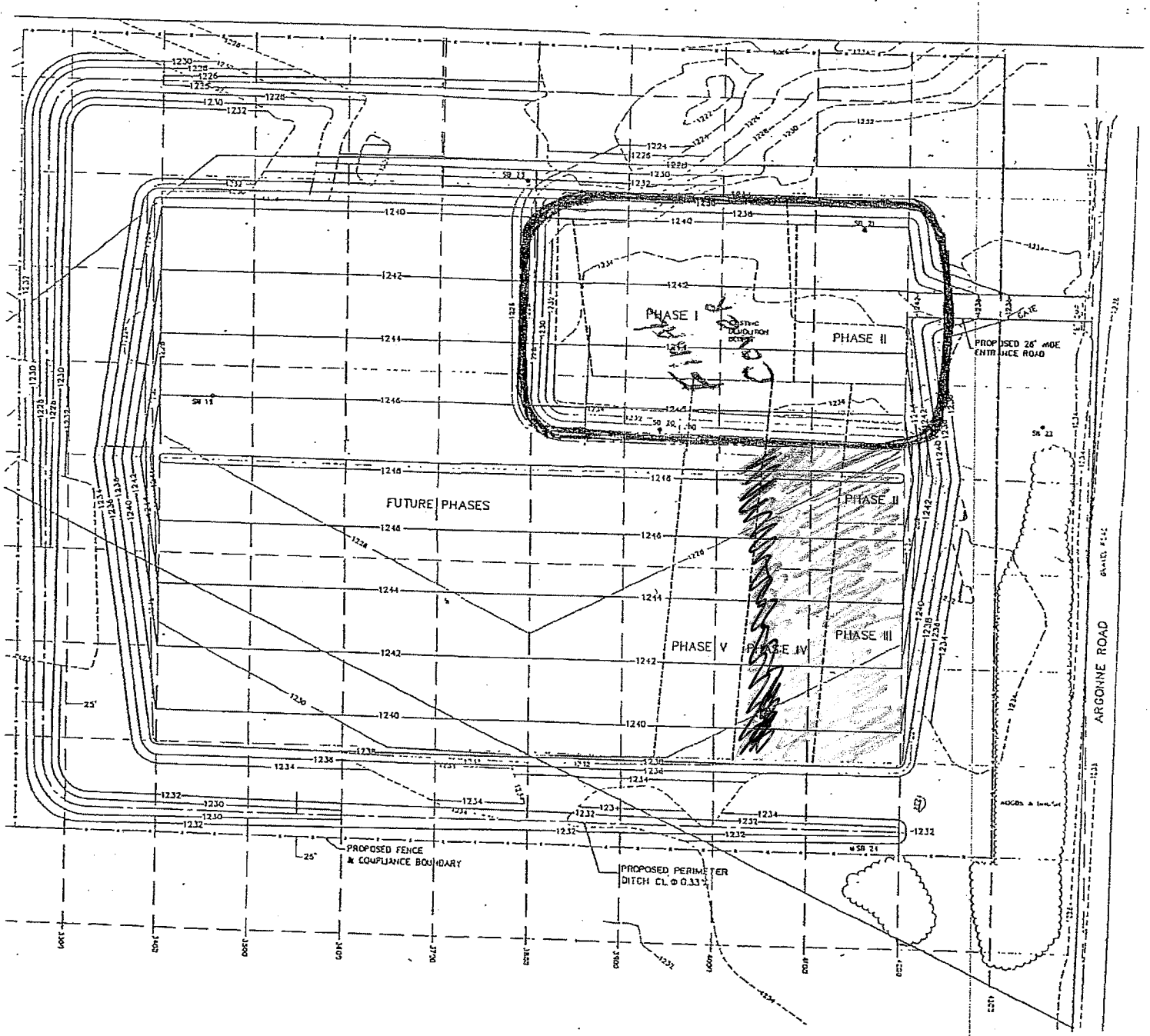
CAMP RIPLEY DEMOLITION DISPOSAL FACILITY

PERMIT NO. SW-359

2016

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
	30ct			120	wood, concrete shingles	AREA 24	JT
	40ct			200	wood, concrete shingles	AREA 24	JT
	50ct			150	wood, concrete shingles	AREA 24	JT
	140ct			110	concrete/metal Polystyrene	AREA 7	JT
CMA N.	240ct	1300	1500	6	crates/pallets	CMA N.	JT
CMA S.	250ct	1230	1330	5	crates/pallets	CMA S.	JT
Erickson	310ct	0800	0900		open gate well water insp.		JT
				470 @ 1000 = 470,000			
				110 @ 3000 = 330,000			
				11 @ 400 = 4400			
					804,400 lbs		


PHASE I
EXISTING EXCAVATION BOUNDARY
PHASE II
PROPOSED 26' WIDE ENTRANCE ROAD
GATE
FUTURE PHASES
PHASE II
PHASE V
PHASE IV
PHASE III
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
GRID LINE
SURVEY CONTROL BOUNDARY
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MONITORING WELL
SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
PROPOSED FINAL CONTOUR
PROPOSED BASE CONTOUR

Lmtt

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 30 Nov 16

2. Area presently being filled (Phase No. from plans): 4+5

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 17 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Tukker

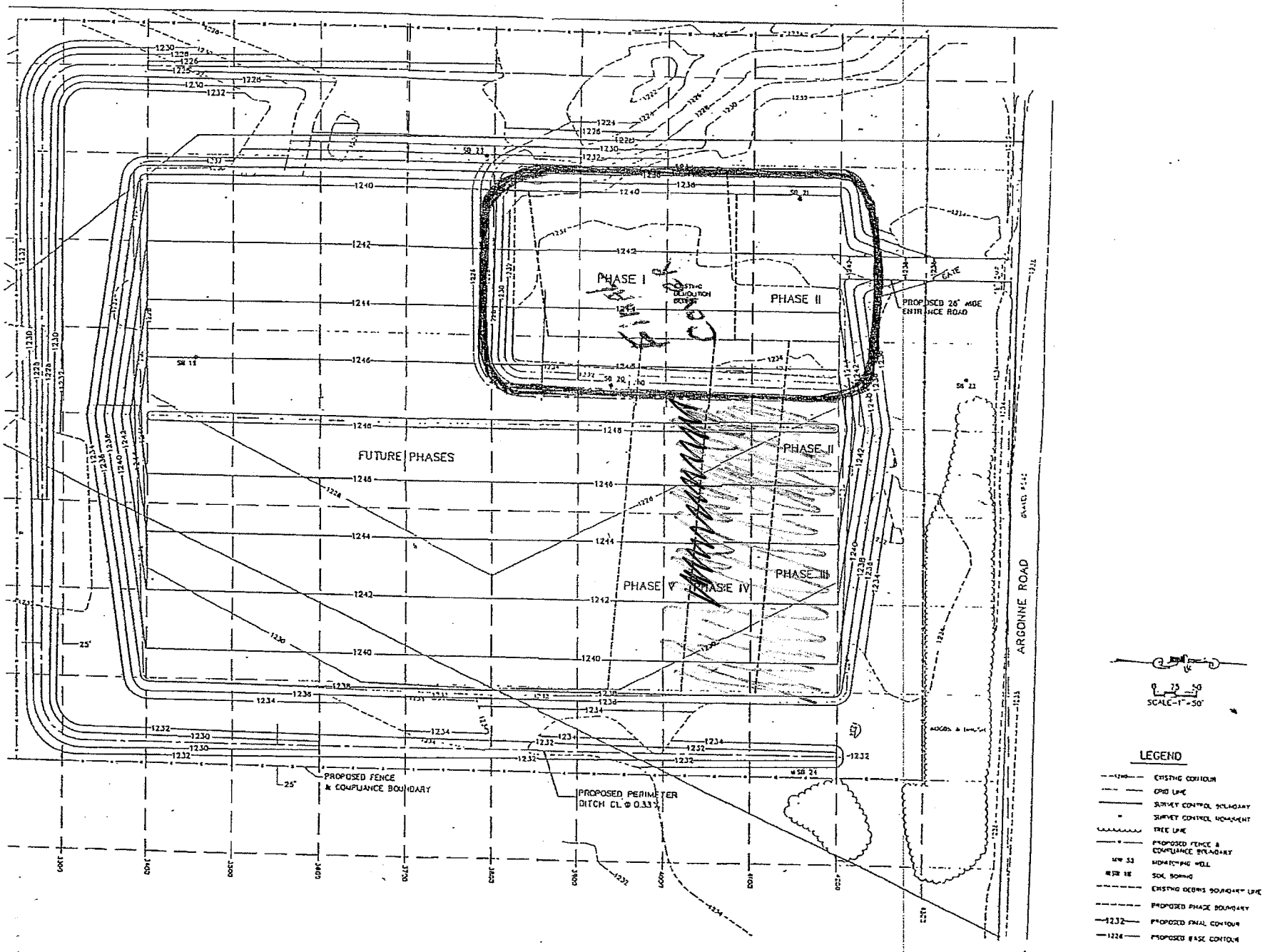
Signature: Jesse Tukker

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

2016

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
	11/04			3	Plywood / pallets	Trans-station	TP
	16 NOV			4	Plywood / Pallets metal	TRANSFER STATION	JT
ATS	29 NOV	1300	1500	8	Plywood	ATS	JT
ATS	30 NOV	1000		2	BOARDS	ATS	JT


PHASE I
PHASE II
PHASE II
PHASE III
PHASE IV
PHASE V
FUTURE PHASES
PROPOSED 26' WIDE ENTRANCE ROAD
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
25'
25'
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
GRID LINE
SURVEY CONTROL BOUNDARY
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MW 33 MONITORING WELL
SB 18 SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
1232 PROPOSED FINAL CONTOUR
1224 PROPOSED BASE CONTOUR

CAMP RIPLEY DEMOLITION DEBRIS DISPOSAL FACILITY

PERMIT NO. SW-359

MONTHLY INSPECTION REPORT

1. Date Inspected: 30 Dec 16

2. Area presently being filled (Phase No. from plans): 4+5

3. Intermediate cover used: 0 yd^3

4. Final cover used: 0 yd^3

5. Demolition debris received: 9 yd^3

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

6. Results of inspection:

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

Explain "Yes" responses: _____

_____

_____

_____

7. Remarks or comments: _____

_____

8. Operator Name: Jesse Turner

Signature: Jesse Turner

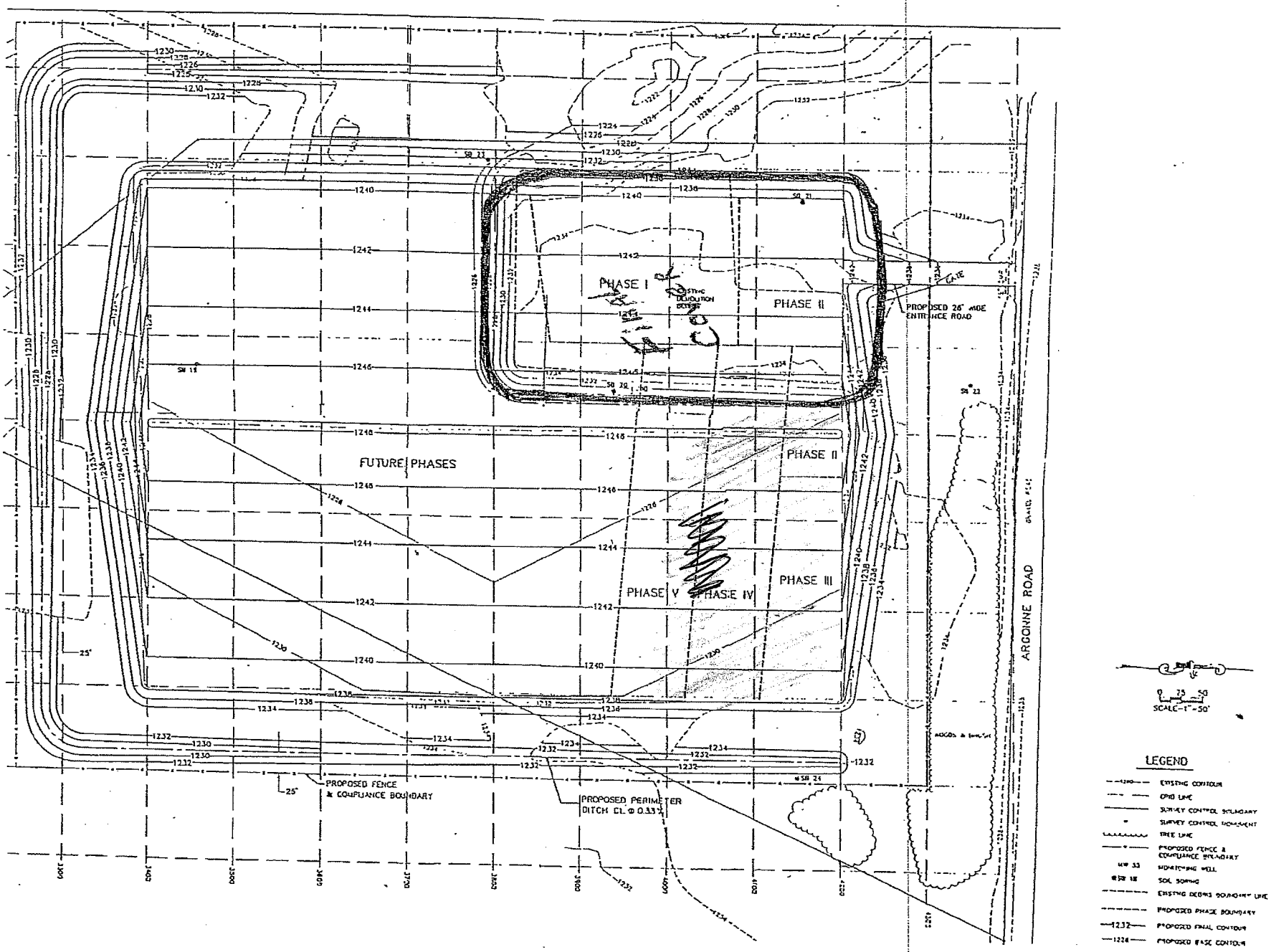
CMH

CAMP RIPLEY DEMOLITION DISPOSAL FACILITY
PERMIT NO. SW-359

2016

DAILY OPERATIONAL REPORT

Key	Date	Time Out	Time In	Estimated Cubic Yards	Type of Debris Material	Source	Operator's Initials
	20 Dec			5	Boards / Pallets Tin	Transfer Station	JT
	21 Dec			4	Crates	Transfer Station	JT
				5 @ 200 = 1000			
				4 @ 400 = 1600			
					2600 lbs		


PHASE I
PHASE II
PHASE II
PHASE III
PHASE IV
PHASE V
FUTURE PHASES
PROPOSED 26' WIDE ENTRANCE ROAD
ARGONNE ROAD
PROPOSED FENCE & COMPLIANCE BOUNDARY
PROPOSED PERIMETER DITCH CL @ 0.33%
SCALE-1"=50'
LEGEND
EXISTING CONTOUR
GRID LINE
SURVEY CONTROL BENCHMARK
SURVEY CONTROL MONUMENT
TREE LINE
PROPOSED FENCE & COMPLIANCE BOUNDARY
MONITORING WELL
SOIL BORING
EXISTING DEBRIS BOUNDARY LINE
PROPOSED PHASE BOUNDARY
PROPOSED FINAL CONTOUR
PROPOSED BASE CONTOUR