2021 Water Quality Report

U.S. Army Corps of Engineers
Saint Louis District

Lake Shelbyville Water Quality Conditions: 1984-2021

December 2022

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Prepared for

United States Army Corps of Engineers
Saint Louis District
1222 Spruce Street
Saint Louis, MO 63103-2833

Prepared by:

Ben Greeling
Environmental Specialist

EXECUTIVE SUMMARY

The United States Army Corps of Engineers (USACE) commitment to environmental compliance and protection of estuaries, rivers, lakes, and navigable waters arises from the national policy and directives expressed in Federal Statutes, Executive Orders, and internal regulations. These regulations were designed to minimize pollution, maximize recreation, protect aesthetics, preserve natural resources, and promote the comprehensive planning and use of water bodies to enhance the public interest rather than private gain; therefore, USACE, in the design, construction, management, operation, and maintenance of its facilities, will exert leadership within existing authorities and appropriations in the nationwide effort to protect, enhance, and sustain the quality of the nation's resources. It is USACEs policy to comply with requirements of the Clean Water Act and not to degrade existing water quality conditions to the maximum extent that is practicable, consistent with project authorities, Federal legal and regulatory requirements, the public interest, and water control manuals.

The United States Army Corps of Engineers, Saint Louis District (CEMVS), implemented a water quality monitoring program during the 1970s to evaluate how its civil projects may be affecting water resources. Data collected from this effort serves as an invaluable tool for evaluating the significance of annual water quality measurements and tracking long-term trends. Water quality data is provided to the Missouri Department of Natural Resources and the Illinois Environmental Protection Agency to be used as a screening mechanism for the Missouri and Illinois Water Quality Report which is required every two years by the Clean Water Act Sections 303(d) and 305(b).

The National Water Quality Inventory Report to Congress (305(b) report) is the primary vehicle for informing law makers and the public about general water quality conditions in the United States. This document characterizes our water quality, identifies widespread water quality problems of national significance and describes various programs implemented to restore and protect our waters. Currently the Illinois Environmental Protection Agency (IEPA, 2020) has listed Lake Shelbyville impaired for total suspended solids, total phosphorus, and mercury. The impairments upstream of the lake include pesticides, mercury, PCBs, chloride, dissolved oxygen, bacteria, pH, and sedimentation. The impairments immediately downstream of the lake in the Kaskaskia River include pesticides, mercury, and bacteria. The lists of sources for these impairments are runoff, crop production, shore modifications, and recreational pollution.

Water quality sampling in 2021 revealed the following concerns at Lake Shelbyville: total phosphorus, nitrate, iron, Atrazine, bacteria, temperature, and pH.

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INTRODUCTION

Lake Shelbyville is located in Shelby and Moultrie Counties of east-central Illinois with the dam site approximately one-half mile east of Shelbyville. Two rivers, the West Okaw and the Kaskaskia, drain into Lake Shelbyville. The Kaskaskia River begins in Champaign County, while the West Okaw headwaters drain farmland from Piatt County southward. At normal recreation pool, the 11,100 acre lake is approximately 20 miles long, varying in width from one-quarter to one mile. Average depth is 19 feet, with depths much deeper in the original river channel. The Kaskaskia River is an important and prominent natural feature in Central and Southwestern Illinois. The watershed, primarily agricultural, is the second largest river system within Illinois, originating in Champaign County and flowing in a southwesterly direction for approximately 292 miles, where it unites with the Mississippi River in Randolph County. The Kaskaskia River Watershed encompasses an area of 5,746 square miles (10.2% of the entire state). The CEMVS manages and operates two large reservoirs on the Kaskaskia River, Lake Shelbyville and Carlyle Lake, as well as the 36 mile long navigable channel and lock and dam at the Kaskaskia River Project.

Shelbyville Lake is managed and operated by the CEMVS for the authorized purposes of flood risk management, recreation, water supply, navigation, and fish and wildlife conservation. The lake serves as a heavy recreational usage lake. The land surrounding the lake is used predominately for agriculture. Surrounding communities have existing industrial/commercial operations and residents which discharge wastewater into municipal wastewater treatment plants that ultimately discharge treated water into the Kaskaskia River basin. Agricultural runoff and municipal wastewater treatment facilities are the primary potential source of pollution into the Lake Shelbyville watershed. Additional sources are marinas, recreational watercraft discharges and wildlife fecal material runoff.

Water quality is of paramount importance for sustaining ecological integrity and services provided by the Kaskaskia River and Lake Shelbyville. Water quality is influenced by a range of both point and nonpoint pollution sources, which may include natural processes, industrial and municipal effluents, and surface runoff from agricultural arenas.

The Saint Louis District USACE has implemented a Water Quality Management Plan (WQMP) as part of the operation and maintenance activities associated with managing USACEs' civil works projects throughout the District which includes, among other reservoirs and rivers, the Kaskaskia River and Lake Shelbyville. The WQMP addresses surface water quality management issues and adheres to the guidance and requirements specified by Clean Water Act (CWA), as well as the self-imposed Engineering Regulation (ER) 1110-2-8154, "Water Quality and Environmental Management for USACE Civil Works Projects" (USACE, 2018). Water quality monitoring is implemented to fulfill five primary objectives that drive the CEMVS WQMP:

1) Establish baseline conditions, identify significant water quality trends, and document problems and accomplishments.
2) Ensure that surface water quality, as affected by CEMVS projects, is suitable for project purposes, existing water uses, public health and safety, and in compliance with applicable state and federal water quality standards.
3) Provide support to water control, project operations, and navigation for regulations and modifications.
4) Investigate special problems, design, and implement modifications, and improve water management procedures
5) Establish and maintain strong working partnerships and collaborations with appropriate entities within and outside USACE regarding water quality.

This report is intended to document and assess water quality conditions occurring at Lake Shelbyville. The report describes conditions observed in 2021, as well as baseline data collected from 1984-2020. Data are available upon request.

LAKE SHELBYVILLE WQMP COVERAGE

The WQMP for Lake Shelbyville includes water samples taken at the following locations: major tributaries (SBV-12 and SBV-13), main body of the lake (SBV-2, SBV-4, SBV-11, and the marinas), and just downstream of the dam (SBV-1). See Table 1 and Figure 1 for site coordinates and a site map.

Sample Location Summary Table

Table 1: Sample Location Summary and Geographic Location (NAD 1983)

Sample Location Type	Abbreviation	Site Name	Latitude	Longitude
Major Tributary	TRIB	SBV-13	39.59417	-88.72651
	TRIB	SBV-12	39.57170	-88.55345
Main Reservoir Surface	RS	SBV-2	39.40947	-88.77614
	RS	SBV-4	39.53397	-88.60528
	RS	SBV-11	39.55269	-88.70556
	RS	SBV-FIN	39.52388	-88.70820
	RS	SBV-LS	39.42802	-88.75728
	RS	SBV-SUL	39.53635	-88.60675
Reservoir Benthic	RB	SBV-2-10	39.40947	-88.77614
Tail Race (below dam)	TR	SBV-1	39.40823	-88.78124

Samples at Marinas are not always taken in the exact same location.

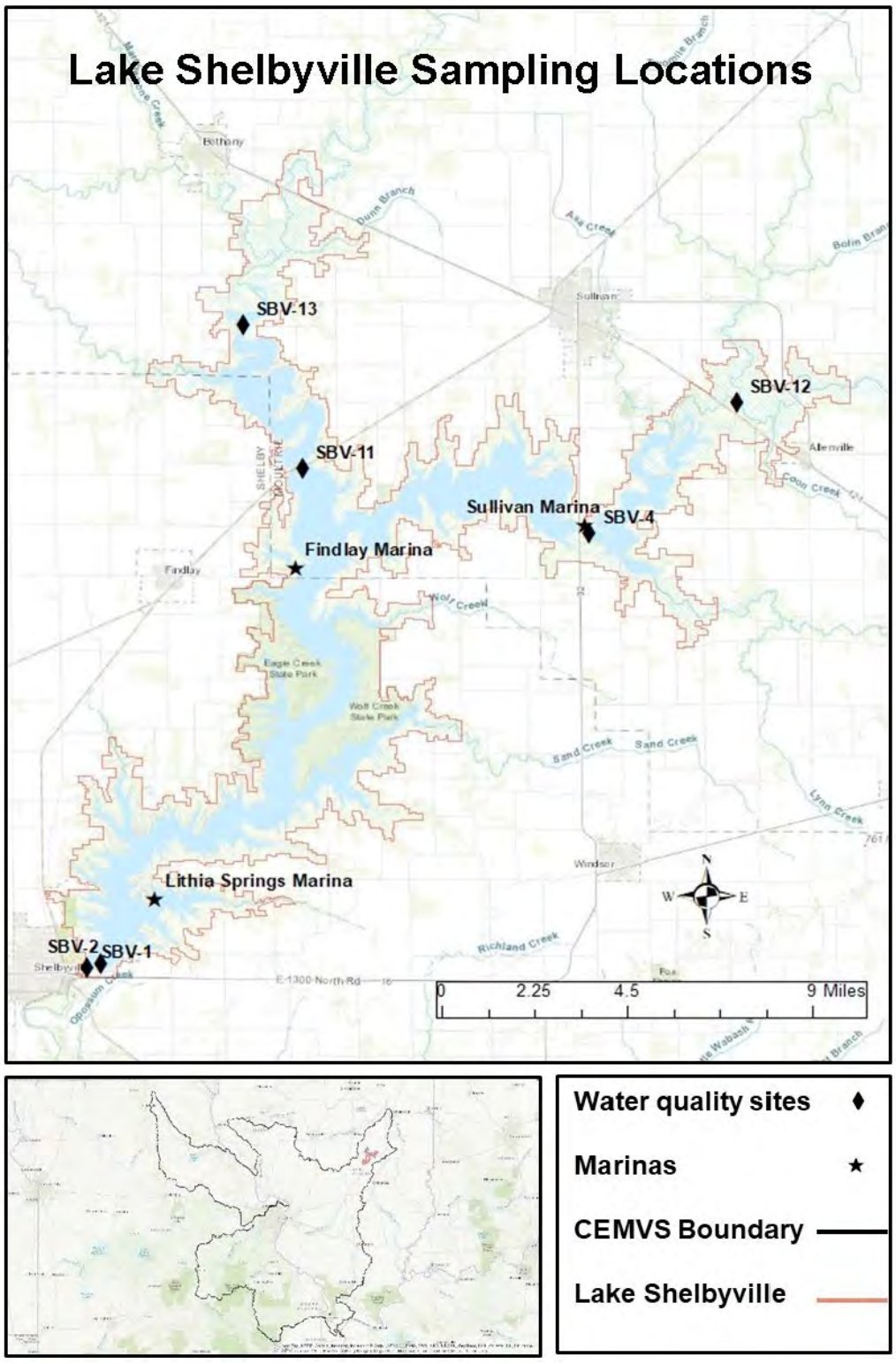


Figure 1. CEMVS District and Lake Shelbyville sampling locations.

METHODS AND ANALYSIS: WATER QUALITY

Data Collection and Historical Reference Data

During 2021, water quality samples were collected and analyzed for 10 locations during four separate sampling events (n=40; Table 1). One duplicate sample was also collected during each sampling event for quality control purposes. Samples were collected from the upper one meter of the water column, preserved, and transported to the Applied Research and Development Laboratory (ARDL) in Mount Vernon, Illinois for analysis.

For the purpose of this report, historical reference data refers to water quality data collected during the previous years ranging as far back as 1984 (parameter dependent) at Lake Shelbyville. Historical reference data are intended to represent the current condition of Lake Shelbyville.

Statistical Summary and Comparison to Applicable Water Quality Standards

Statistical analyses were performed on water quality monitoring data collected for 10 locations, and classified as TRIB (n= 2), RS (n=3), RB (n=1), and TR (n=1). Descriptive statistics were calculated to describe central tendencies and boxplots created to illustrate comparisons between groups. Monitoring results were compared to applicable water quality standard criteria established by the appropriate state agencies pursuant to the Federal Clean Water Act. If a state water quality standard criteria was not available, recommended criteria from the literature were considered.

Seasonal data are classified as: Winter (December 01 - March 14), Spring (March 15 – May 31), Summer (June 1 – September 15), Fall (September 16 – November 30).

Quality Assurance

The United States Army Corps of Engineers, Saint Louis District quality assurance procedures considers two primary focus areas: (1) those that involve laboratory analysis of samples, and (2) those concerning the collection and processing of the water samples in the field.

Since 2012, ARDL has analyzed water quality samples for CEMVS. Their quality assurance program includes the use of quality control charts, check standards, field and in-house matrix spikes, laboratory blanks and performance evaluation samples. In addition, one blind duplicate sample is submitted for at least every 20 samples, or, in this case, every sampling event (one event/day at Lake Shelbyville has 6 samples and one duplicate).

Internal checks are also used for field sampling. This includes adherence to operating procedures for data collection and periodic evaluation of sampling personnel. Field sampling equipment and multimeters are calibrated/serviced in accordance with factory recommendations.

Water Quality Parameters and Criteria

Parameters used to characterize water quality have been generally accepted criteria for assessing aquatic life and human health include:

Temperature (Temp) is important because it controls several aspects of water quality. Colder water holds more dissolved oxygen which is required by aquatic organisms. Plants grow more rapidly and use more oxygen in warmer water. Decomposition of organic matter which uses oxygen is accelerated in warmer water. Temperature can also determine the availability of toxic compounds such as ammonia. Since aquatic organisms are cold blooded, water temperature regulates their metabolism and ability to survive. The number and kinds of organisms that are found in streams or lakes is directly related to temperature. Certain organisms require a specific temperature range, such as Salmonids, which require water temperatures below 20^{o}C. Water temperature criteria for warm water bodies in Illinois is within 2.8^{o}C of the seasonal norm.

Dissolved Oxygen (DO) refers to the measurement of free oxygen molecules (O_2) that are not bonded to any other elements; thus, oxygen bonded in water (H_2O) would not be considered in a measurement of dissolved oxygen. Oxygen is dissolved in surface waters through interactions with the atmosphere and as a waste product of photosynthesis ($CO_2 + H_2O$ (CH_2O) + O_2) from phytoplankton and aquatic vegetation. Additional factors influencing DO include temperature, pressure, and salinity.

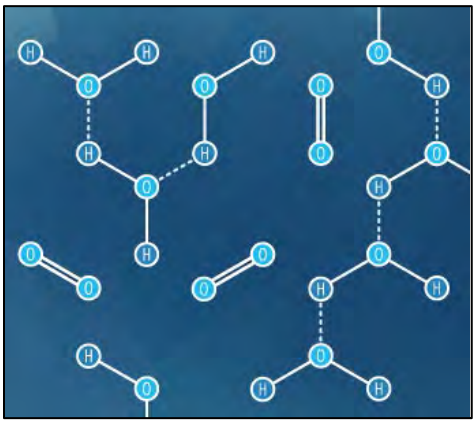


Figure 1: Dissolved oxygen (O_2) vs oxygen bonded in water (H_2O).

Dissolved oxygen is required for most aquatic life including fish, invertebrates, bacteria, and plants. Fish and invertebrates utilize DO for respiration through gills and cutaneous breathing, and plants require dissolved oxygen for respiration when photosynthesis is not possible. Smaller microbes and bacteria utilize DO for decomposition of organic material; a process essential for nutrient cycling. Bottom feeders such as worms and mussels can persist when DO is $\geq$1mg/L, while most inland fish species require a minimum DO of 4mg/L. The DO water quality criteria for Illinois is $\geq$5mg/L.

Potential of Hydrogen (pH) is a measure of how acidic or basic water is. Potential of Hydrogen is reported on a logarithmic scale ranging from 0 – 14, with 7.0 being neutral. As pH increases from 7.0, water increases in alkalinity, whereas a decrease from 7.0

indicates an increase in acidity. Since pH is measured on a logarithmic scale, every one-unit change in pH indicates a 10-fold change in acidity; thus, a pH of 6.0 is ten times more acidic than a pH of 7.0 and a pH of 4.0 would be one-thousand times more than a pH of 7.0.

The pH of water varies considerably beyond the local level. Natural variation in bedrock and soil composition through which water moves has been reported as one of the most influential factors. Additional factors include decomposition of organic materials, acidity of local precipitation, discharge of effluents and chemicals, and mining operations.

Most freshwater streams and rivers have a natural pH ranging from 6 to 8. As pH approaches 5 (acidic), less tolerant fish and aquatic invertebrate assemblages may be extirpated, and a pH below 4.5 would be without most desired aquatic life. Conversely, when pH exceeds 9.5 (alkaline), aquatic fish and invertebrates begin to rapidly decrease and beyond 10, fish become extirpated. The pH water quality criteria for Illinois ranges from 6.5 – 9.0.

Conductivity is a measure of water's ability to conduct electrical current. In its purist form, water has a *near* neutral charge, indicating that it is an inefficient conductor of electrical current. Thus, the ability to carry electrical current is driven by water soluble ions (atoms and molecules with a charge) such as salts and other inorganic materials. Conductivity is also influenced by water temperature; as temperature increases, conductivity increases. For this reason, conductivity is commonly reported as Specific Conductivity (SpCond), which is the measurement of conductivity at 25 degrees Celsius.

Conductivity in streams and rivers is affected by the geology of the area. Streams running through granite tend to have lower conductivity due to granite being composed of inert material; materials that do not ionize or dissolve into ionic compounds in water. Conversely, streams that run through areas of limestone or clay soils tend to have higher conductivity readings because of the presence of materials that ionize. Conductivity is useful as a general measure of water quality. A stream tends to have a relatively constant range of conductivity that, once established, can be used as a baseline. Significant changes, either increases or decreases, might indicate a source of pollution has been introduced into the water. The pollution source could be a treatment plant, which raises the conductivity, or an oil spill, which would lower the conductivity. In general, there are no water quality criteria for SpCond. The District threshold of 500 µS/cm is a rule of thumb value that is often associated with some form of biological impairment.

Oxidation Reduction Potential (ORP) is a measurement of the net status of all the oxidation and reduction reactions in a given water sample. Oxidation involves an exchange of electrons between 2 atoms. The atom that loses an electron is oxidized and the one that gains an electron is reduced. Oxidation reduction potential sensors measure the electrochemical potential between the solution and a reference electrode. Readings are expressed in millivolts. Positive readings indicate increased oxidizing

potential and negative readings increased reduction. Oxidation reduction potential values are used much like pH values to determine water quality. While pH readings characterize the state of a system relative to the receiving or donating hydrogen ions (base or acid), ORP readings characterize the relative state of losing or gaining electrons. Generally, ORP readings above 400mV are harmful to aquatic life; however, ORP is a non-specific measurement, which is a reflection of a combination of effects of all the dissolved materials in the water. Therefore, the measurement of ORP in relatively clean water has only limited utility unless a predominant redox-active material is known to be present.

Total Suspended Solids (TSS) concentrations, which cause the photosynthetic activity to be reduced by more than 10% from the seasonably established norm, can have a detrimental effect on aquatic life. Soil particles, organic material, and other debris comprise suspended solids in the water column. **Turbidity (FNU)** measurements are inverse to suspended solid measurements. As TSS increases, the FNU or water transparency decreases. Total suspended solids can be an important indicator of the type and degree of FNU. Total Suspended Solids measurements represent a combination of **Volatile Suspended Solids (VSS)**, which consist of organic material, and **Nonvolatile Suspended Solids (NVSS)**, which is comprised of inorganic mineral particles in the water. In order to more accurately determine the types and amounts of suspended solids, VSS are analyzed. Volatile suspended solid concentration represents the organic portion of the total suspended solids. Organic material often includes plankton, and additional plant and animal debris present in water. Total VSS indicates the presence of organics in suspension; and, therefore, show additional demand levels of oxygen. The Illinois Environmental Protection Agency suggests that generally NVSS above 15 mg/L could highly impair recreational lake use while NVSS of 3 to 7 mh/L may cause slight impairment (Hudson, 1998).

Total Organic Carbon (TOC) is a measure of the amount of organic carbon in a water body. In addition to natural organic substances, TOC includes insecticides and herbicides, as well as domestic and industrial waste. Industrial waste effluent may include carbon-containing compounds with various toxicity levels. Further, a high organic content means an increase in the growth of microorganisms which contribute to the depletion of oxygen supplies.

Currently, there are no state or federal water quality standard criteria set for TOC. Because carbon occurs naturally, its concentration varies based on physical and chemical attributes in a watershed; thus, this study relies on historical reference conditions to identify unfavorable conditions.

Metals Iron (TFe) and Manganese (TMn) (T=total) are nutrients for both plants and animals. Living organisms require trace amounts of metals. However, excessive amounts can be harmful to the organism. Heavy metals exist in surface waters in three forms, colloidal, particulate, and dissolved. Water chemistry determines the rate of adsorption and desorption of metals to and from sediment. Metals are desorbed from the sediment if the water experiences increases in salinity, decreases in redox potential,

or decreases in pH. Metals in surface waters can be from natural or human sources. Metal levels in surface water may pose a health risk to humans and the environment.

Pesticides are commonly used throughout much of the agricultural landscape that the Big Muddy River flows. This study considers one insecticide and seven herbicides. Atrazine and Alachlor herbicides are commonly used agricultural chemicals which can be readily transported by rainfall runoff. Both compounds are suspected of causing cancer; and therefore, were monitored for the protection of human and aquatic health. Herbicides which are pesticides used to kill vegetation are the most widely used and sampled. Two of the most widely used herbicides are Atrazine and Alachlor. Atrazine is a preemergence or postemergence herbicide use to control broadleaf weeds and annual grasses. Atrazine is most commonly detected in ground and surface water due to its wide use, and its ability to persist in soil and move in water. Alachlor is a Restricted Use Pesticide (RUP) due to the potential to contaminate groundwater. The water quality standards for the pesticides sampled are located in Table 2.

Nitrogen occurs naturally in water through several forms including nitrogen (N2), nitrite (NO2-N), nitrate (NO3-N), ammonia (NH3), and ammonium (NH4). Nitrates are the most commonly reported form of nitrogen and may have a meaningful influence on a water body's trophic status. Algae and other plants use NO3-N as a food source, thus excess levels of NO3-N can promote increases in algae production and hypereutrophic conditions.

In general, NO3-N does not have a *direct* effect on fish or aquatic insects. Illinois has set criteria standards for NO3-N to 10 mg/L to accommodate safe drinking waters for human and livestock; however, this threshold likely exceeds the concentration that is appropriate for assessing ecosystem health.

Total Ammonia Nitrogen (TAN) includes NH3 and NH4. Total ammonia nitrogen is a colorless gas with a strong pungent odor. Ammonia occurs naturally and is a biological requirement for aquatic life, however elevated concentrations can be toxic to freshwater organisms. Unnatural sources of ammonia include, accidental releases of ammonia rich fertilizer, effluent from sewage treatment plants, improper disposal of ammonia products, and livestock waste.

Toxic concentrations for freshwater organisms range from 0.53 – 22.8 mg/L, and are strongly dependent on both pH and temperature. In general, an increase in pH and/or temperature corresponds with an increase in toxicity. Additional information regarding the relationship between pH, temperature, and ammonia, as it relates to toxicity, can be reviewed in Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater (USEPA 2013).

Total Phosphorus (TP) is analyzed as phosphorus and has been monitored due to the potential for uptake by nuisance algae. Levels of phosphate can indicate the potential for rapid growth of algae (algae bloom) which can cause serious oxygen depletion during the algae decay process. Phosphorous is typically the limiting nutrient in a water

body; therefore, any addition of phosphorous to the ecosystem stimulates the growth of plants and algae. Phosphorous is delivered to lakes and streams by way of runoff from agricultural fields and urban environments. Other sources of phosphorous are anaerobic decomposition of organic matter, leaking sewer systems, and point source pollution. The general Illinois standard for phosphorous is (shall not exceed) 0.05 mg/L. Dissolved phosphorous, also called **Orthophosphate (PO_4-P)** is generally found in much smaller concentrations than total phosphorous and is readily available for algal uptake. Orthophosphate concentrations in a water body vary widely over short periods of time as plants take it up and release it.

Chlorophyll a (CHL_a) is a measure of the amount of algae growing in a waterbody, and therefore can be used to classify trophic status. Although algae are a natural part of freshwater ecosystems, too much algae can cause aesthetic problems such as green scums and bad odors and can result in decreased levels of DO.

Pheophytin a (PHEO a) is a natural degradation product or digestion of CHL_a. The ratio of PHEO_a to CHL_a can provide an indication of the decline or growth in eukaryotic algae and cyanobacteria populations.

Trophic Status is determined using a modified **Trophic State Index (TSI)**, as described by Carlson (1977). Trophic State Index is calculated from secchi-depth transparency, total phosphorus, and chlorophyll-a measurements. Values for these three parameters are converted to an index number ranging from 0-100 according to the following equations:

TSI (Secchi Depth) = 10(6 - (ln SD/ln 2))
TSI (Chlorophyll-*a*) = TSI(Chl) = 10(6 - ((2.04 - 0.68 ln Chl)/ln 2))
TSI (Total Phosphorus) = TSI(TP) = 10(6 – (ln (48/TP)/ln 2))

where ln indicates the Natural Logarithm

A TSI average value, calculated as the average of the three individually determined TSI metrics, is used as an overall indicator of a water body's trophic state. The relationship between TSI and trophic condition according to the IEPA is defined as follows:

TSI	Trophic Condition
0-40	Oligotrophic
40-50	Mesotrophic
50-70	Eutrophic
70-100	Hypereutrophic

Laboratory Methods and Water Quality Criteria Summary Table

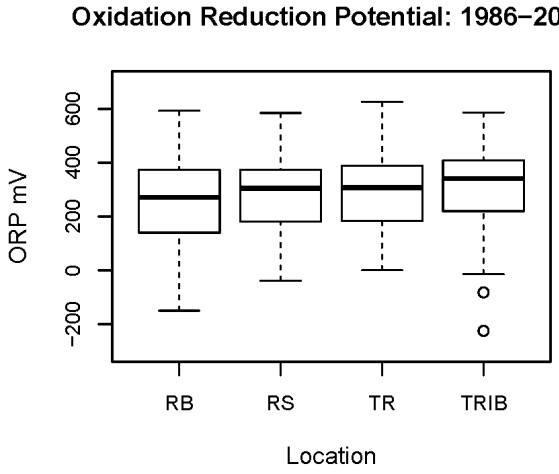
Table 2: Metrics, Methods, and Water Quality Criteria Used for Evaluating Water Quality

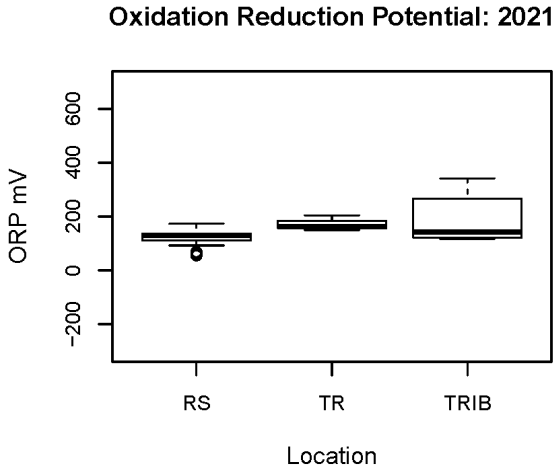
Metric	Abbreviation	Analysis Method	Water Quality Criteria	Source
Alachlor		EPA Method 8270C	< 2µg/L PWS or <1100 µg/L: aquatic life	Illinois EPA
Ammonia Nitrogen	NH_3	EPA Method 350.1	<15 mg/L	Illinois EPA
Atrazine	Atrazine	EPA Method 8270C	9 µg/L: Chronic or 82 µg/L: Acute or 3 µg/L DWS	Illinois EPA
Bacteria: E. Coliform	E Col	EPA Method 1604	< 235 E. Col per 100/mL for single sample	Illinois EPA
Chlorophyll a	Chl_a	SM Method 10200H	< 25mg/cm^3 (Eutrophic Upper Limit)	Carlson 1977
Cyanazine		EPA Method 8270C	< 30 µg/L: chronic or < 370 µg/L acute (aquatic life)	Illinois EPA
Depth	Depth	Multiparameter Meter	Measurements reported at ~1 meter	-----
Dissolved Oxygen	DO	Multiparameter Meter	Greater than 5.0mg/L	Illinois EPA
Metolachlor		EPA Method 8270C	30.4 µg/L: Chronic or 380 µg/L: Acute	Illinois EPA
Metribuzin		EPA Method 8270C	8.4 mg/L: aquatic life or 8.3 mg/L: human health	Illinois EPA
Nitrate as Nitrogen	NO_3	Green Method	< 10 mg/L	Illinois EPA
Non-Volatile Suspended Solids	NVSS	TSS - VSS	-----	-----
Orthophosphate	Ortho	EPA Method 365.2	-----	-----
Pendmethalin		EPA Method 8270C	< 30 µg/L: chronic or < 350 µg/L acute (aquatic life)	Illinois EPA
Pheophytin a	Phpy_a	SM Method 10200H	-----	-----
Potential of Hydrogen	pH	Multiparameter Meter	Range: 6.5 – 9.0pH	Illinois EPA
Specific Conductivity	SpCond	Multiparameter Meter	500 uS/cm	-----
Temperature	Temp	Multiparameter Meter	Less than rise of 2.8°C above normal seasonal temperature	Illinois EPA
Total Dissolved Solids	TDS	Multiparameter Meter	< 500 mg/L	Illinois EPA
Total Manganese	TMn	EPA Method 6010C	< 1 mg/L	Illinois EPA
Total Organic Carbon	TOC	EPA Method 415.1	-----	-----

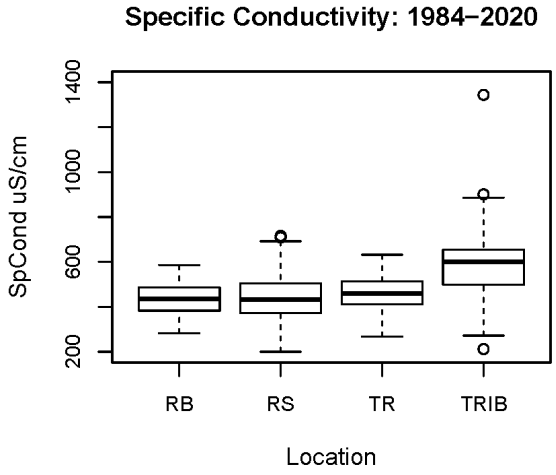
Metric	Abbreviation	Analysis Method	Water Quality Criteria	Source
Total Iron	TFe	EPA Method 6010C	< 1 mg/L	Illinois EPA
Total Phosphorus	TP	EPA Method 365.2	Less than 0.05 mg/L	Illinois EPA
Total Suspended Solids	TSS	EPA Method 160.2	-----	-----
Trifluralin		EPA Method 8270C	< 1.1 µg/L: chronic or < 26 µg/L acute (aquatic life)	Illinois EPA
Turbidity	Turb	Multiparameter Meter	-----	-----
Volatile Suspended Solids	VSS	EPA Method 160.4	-----	-----

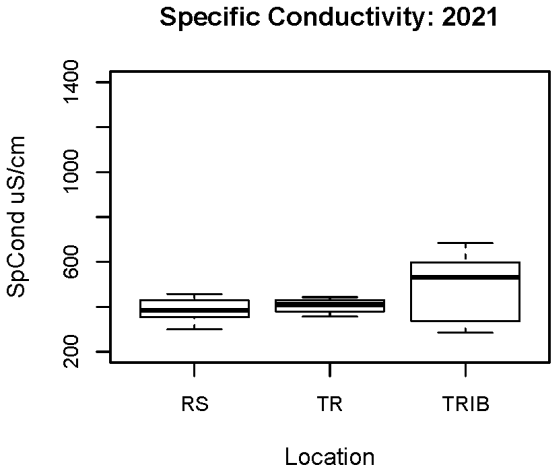
**1 mg/L is equivalent to 1 drop in two bathtubs and 1 ug/L is equivalent to 1 drop in an Olympic size swimming pool. PWS is public water supply. DWS is drinking water standard. WBC is whole body contact recreation. SCR is secondary contact recreation. USEPA* refers to the Federal EPA reference nutrient conditions for level III ecoregion 72 lakes and rivers.*

RESULTS AND SUMMARY STATISTICS: WATER QUALITY



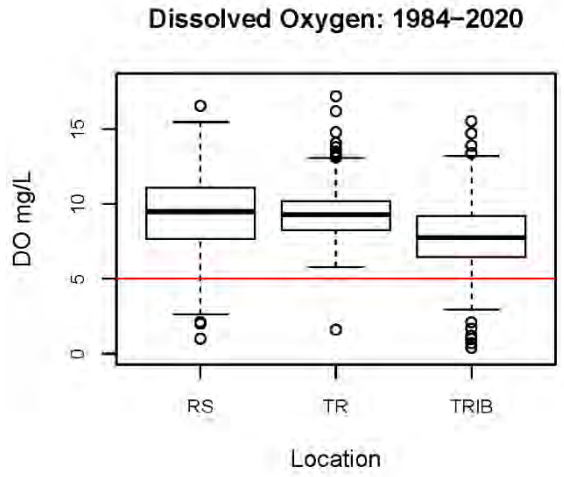


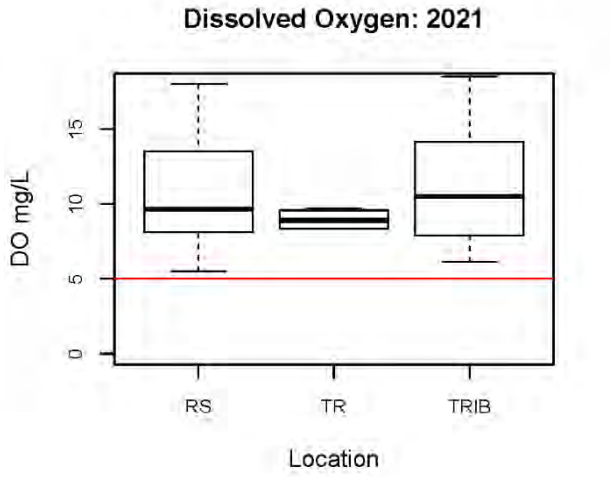


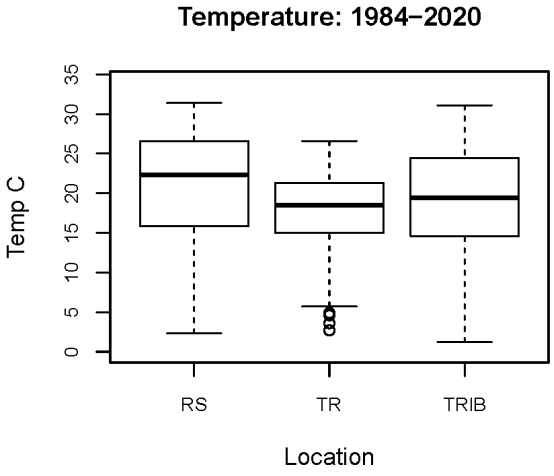


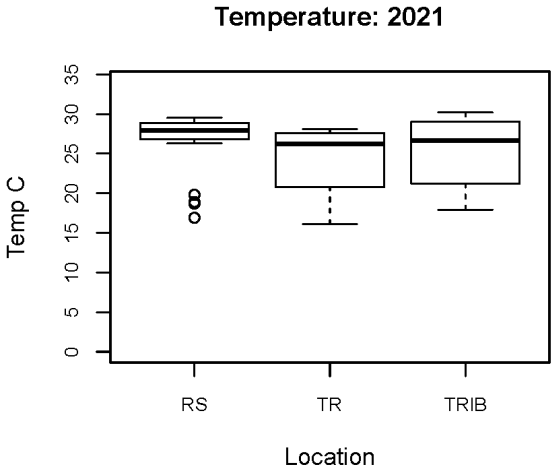
	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
ORP	RB	259.07	271.50	94	----	----	----
	RS	281.38	305.00	304	121.15	128.60	17
	TR	286.16	307.50	126	172.63	163.50	3
	TRIB	314.13	341.00	190	188.65	142.60	6
SpCond	RB	436.54	435.00	99	----	----	----
	RS	444.33	433.00	324	387.73	383.50	23
	TR	455.44	458.50	142	405.00	410.15	4
	TRIB	579.31	600.00	199	487.49	530.80	8

**This report does not acknowledge a water quality criteria for SpCond or ORP.*





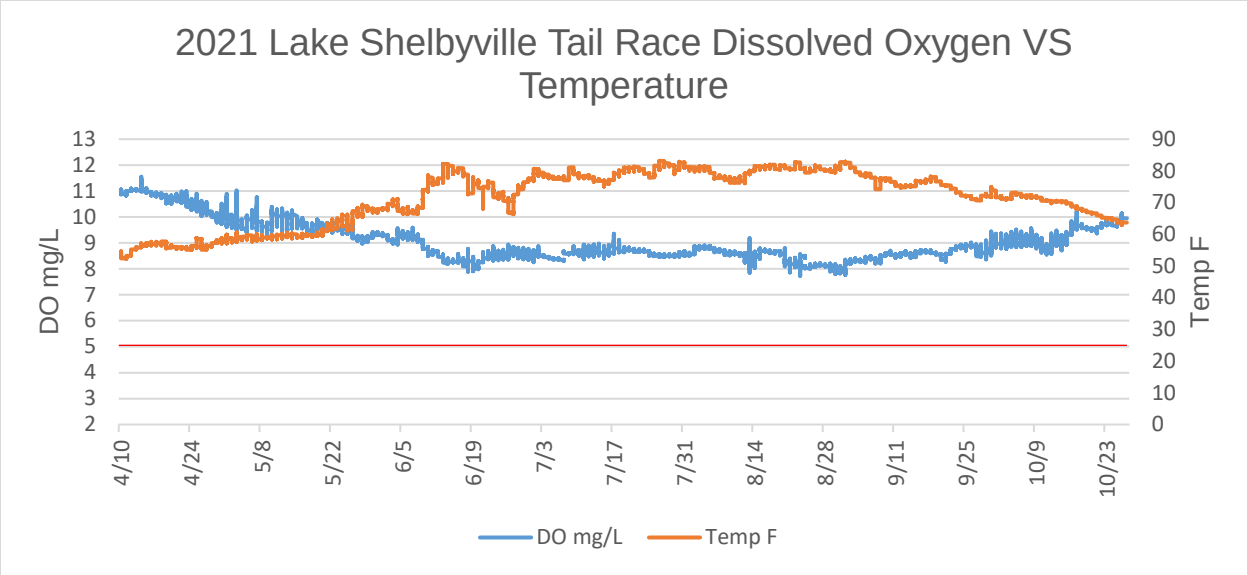




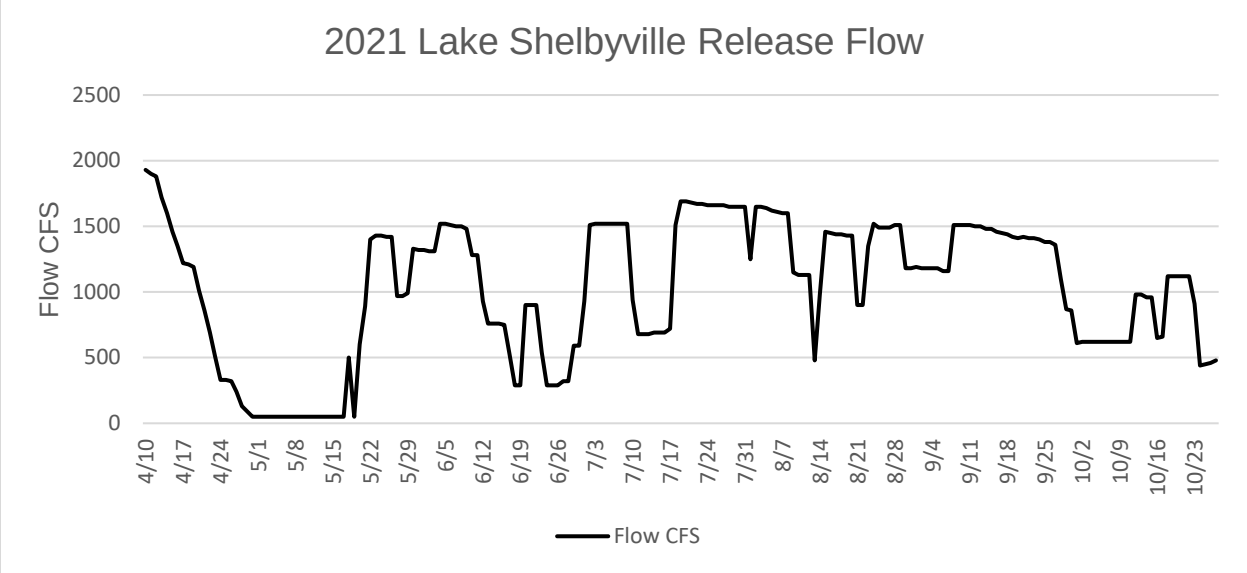
Red line placed at the 5 mg/L level for DO.

	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
DO	RS	9.41	9.49	315	10.92	9.66	23
	TR	9.49	9.29	142	8.97	8.92	4
	TRIB	7.87	7.78	196	11.22	10.52	8
Temp	RS	20.57	22.30	327	26.17	27.90	23
	TR	17.63	18.50	145	24.18	26.25	4
	TRIB	18.99	19.40	204	25.23	26.65	8

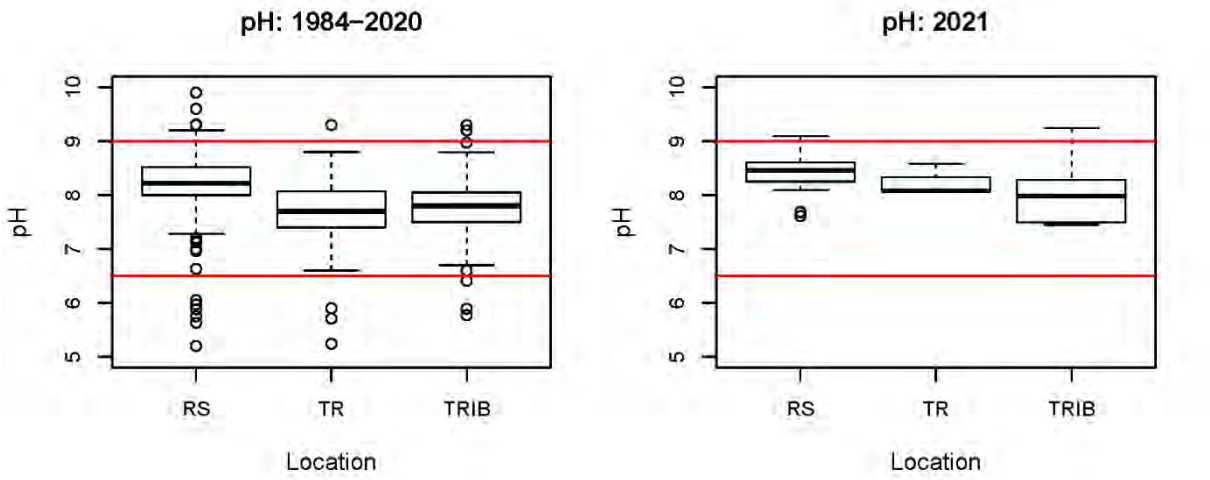
** During the four sampling events the DO standard was not exceeded. In 2021 temperature was recorded above the standard (rise of 2.8° C above the natural temperatures) for all locations except SBV-2. The historical average temperature by season per class was used as the natural temperature.*



**Data recorded by multi-parameter sonde at Lake Shelbyville Dam. Red line placed at the standard of 5 mg/L level. There were no DO exceedances in 2021.*



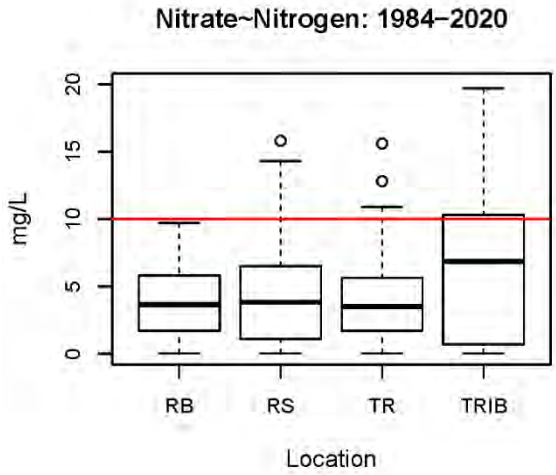
**Daily average flow in cubic feet per second (CFS).*

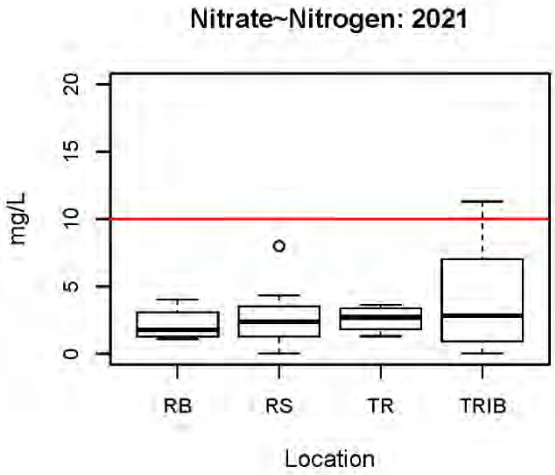


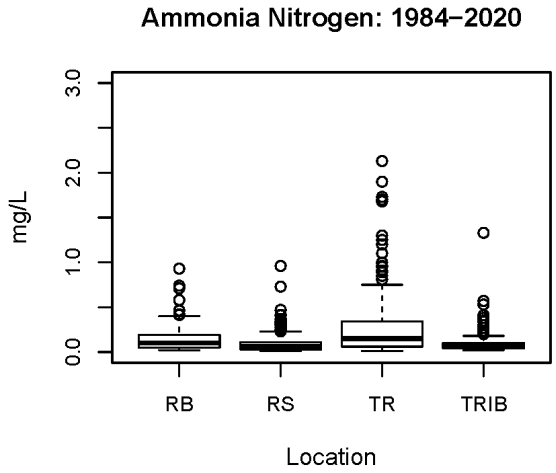
**Red lines indicate the upper and lower water quality criteria standards (between 6.5 and 9).*

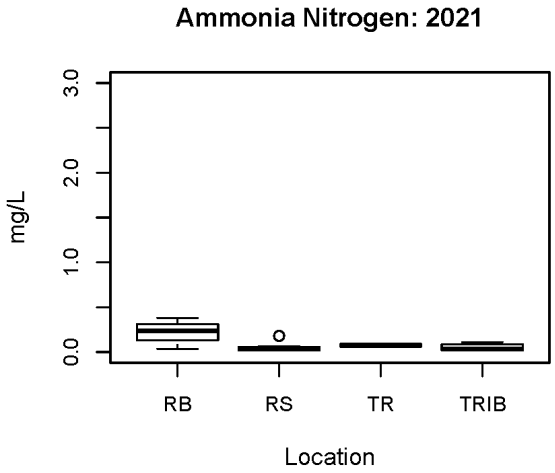
	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
pH	RS	8.20	8.22	324	8.38	8.46	17
	TR	7.71	7.70	142	8.24	8.08	3
	TRIB	7.78	7.80	202	8.07	7.99	6

**The pH standard of 9 was exceeded in August at SBV-11 in the lake and at the tributary site SBV-13.*



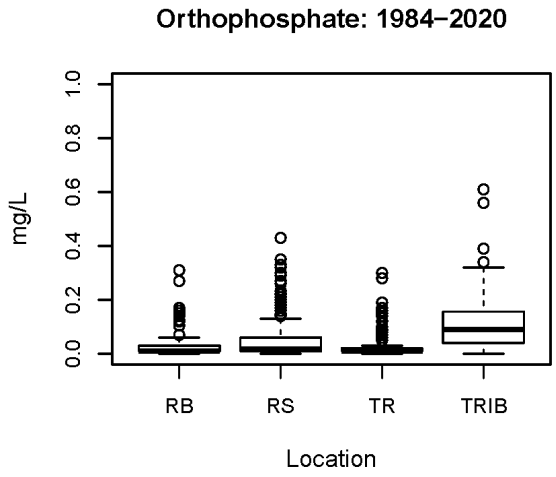


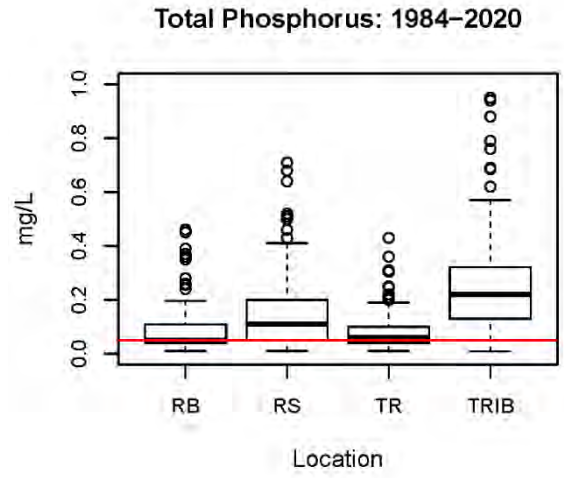


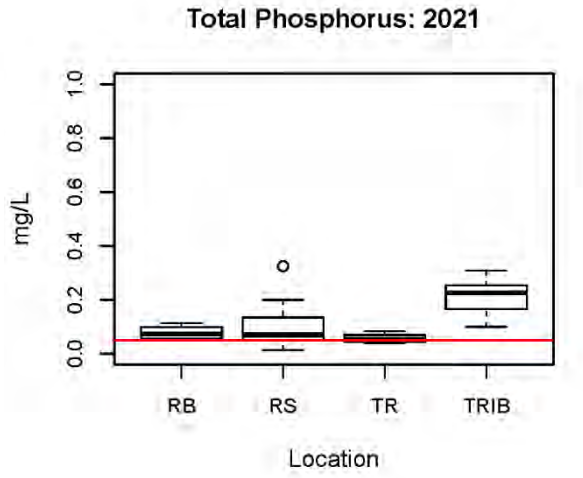


	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
NO3-N	RB	3.86	3.65	106	2.18	1.79	4
	RS	4.23	3.84	333	2.67	2.37	12
	TR	3.90	3.50	156	2.58	2.71	4
	TRIB	6.32	6.85	222	4.11	2.84	8
NH3N	RB	0.15	0.10	106	0.22	0.24	4
	RS	0.09	0.06	331	0.05	0.04	12
	TR	0.30	0.15	158	0.07	0.07	4
	TRIB	0.09	0.06	222	0.05	0.04	8

**The nitrate standard of 10 mg/L was exceeded once at the tributary site SBV-13 in May. All observations of ammonia nitrogen were within the water quality standard during 2021.*



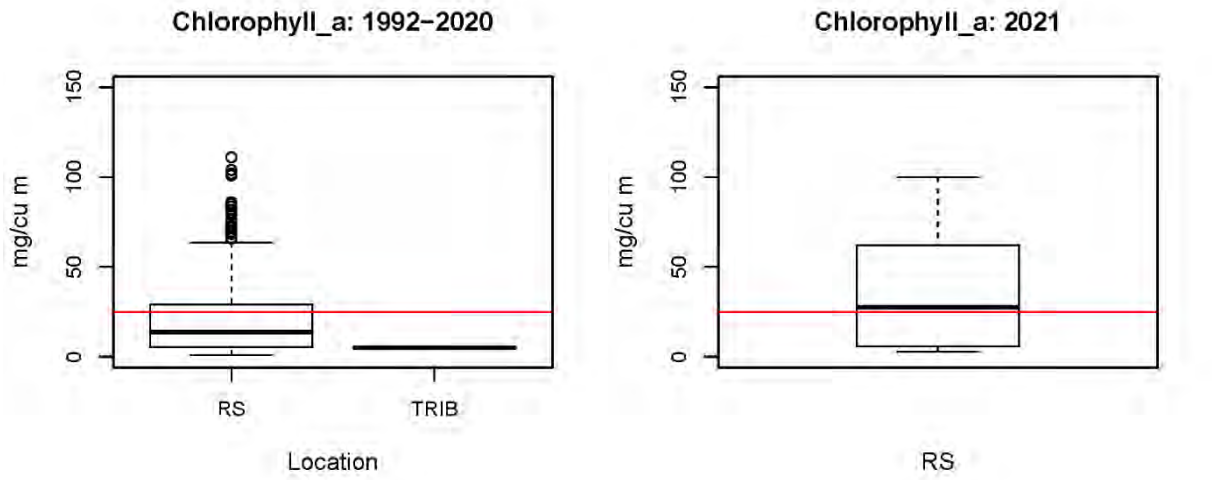




**Red line indicates the TP water quality screening value of 0.05 mg/L.*

	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
PO4	RB	0.03	0.01	106	----	----	----
	RS	0.05	0.02	333	----	----	----
	TR	0.03	0.01	157	----	----	----
	TRIB	0.11	0.09	226	----	----	----
TP	RB	0.09	0.05	107	0.08	0.07	4
	RS	0.14	0.11	337	0.11	0.07	12
	TR	0.08	0.06	158	0.06	0.05	4
	TRIB	0.25	0.22	226	0.21	0.23	8

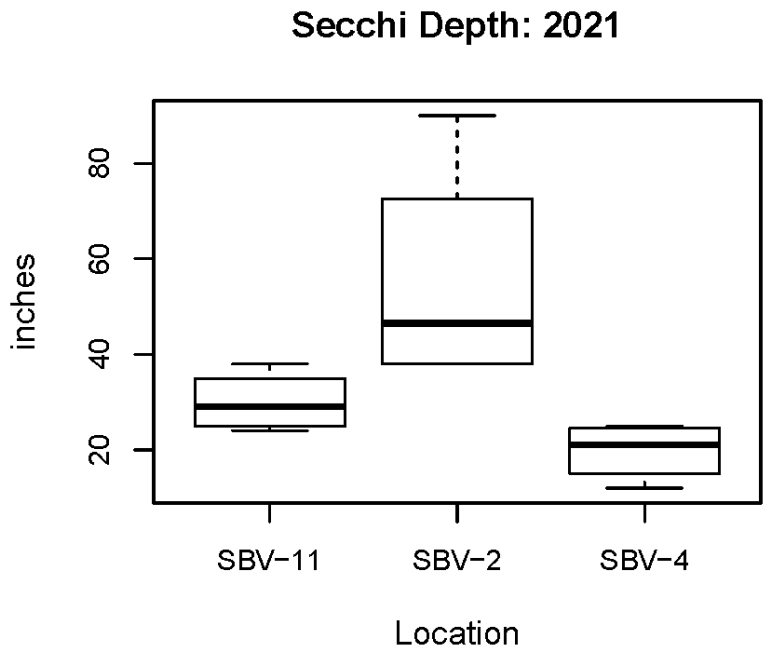
**TP exceeded the standard of 0.05 mg/L at all locations during multiple events in 2021. This study does not acknowledge a water quality standard for PO4. PO4 was not sampled in 2021.*

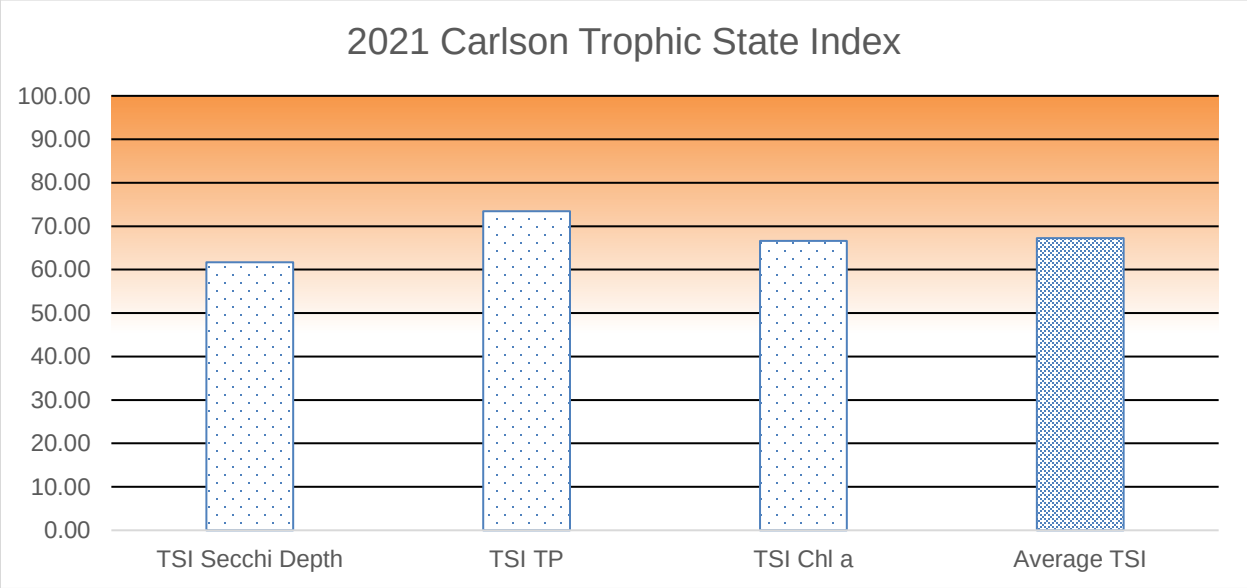


**Red line indicates the reference standard of 25 mg/cu m.*

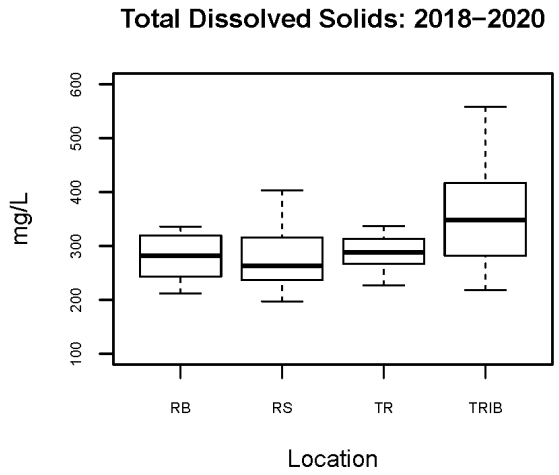
	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
Chl_a	RB	----	----	----	----	----	----
	RS	21.41	13.60	309	35.60	27.70	12
	TR	----	----	----	----	----	----
	TRIB	5.00	5.00	1	----	----	----

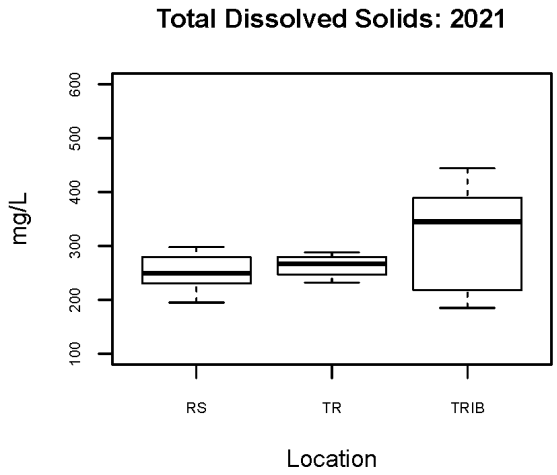
**The reference standard of 25 mg/cu m was exceeded on multiple occasions in the lake throughout 2021. Chl_a was only measured in the lake in 2021.*

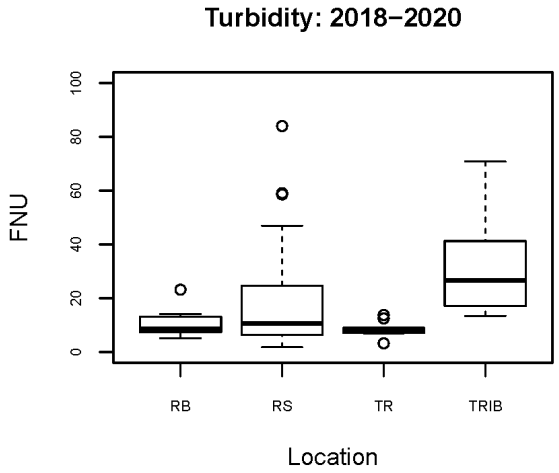


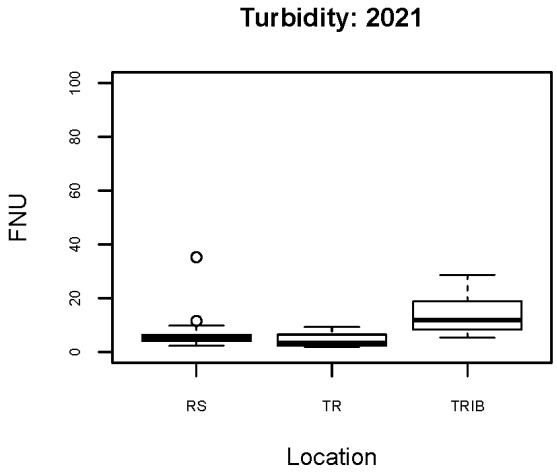


<40 = Oligotrophic __ 40-50 = Mesotrophic __ 50-70 = Eutrophic __ >70 Hypereutrophic



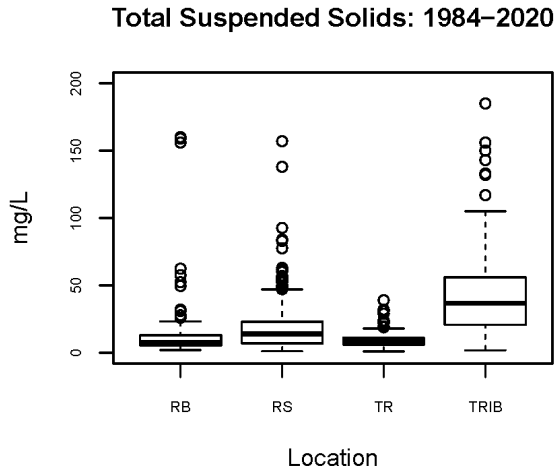


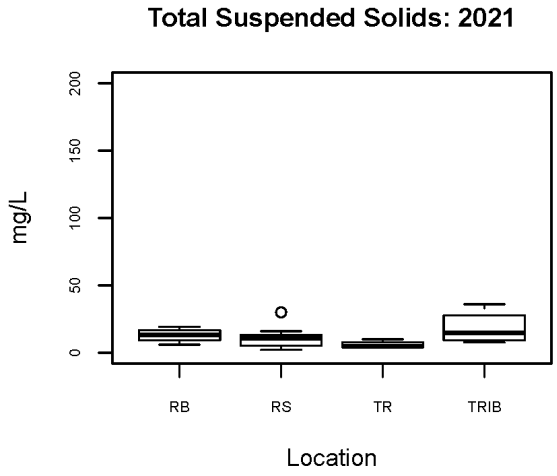




	Historical Reference 2018-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
TDS	RB	279.87	281.50	12	----	----	----
	RS	282.52	263.52	61	252.04	249.00	23
	TR	287.61	288.00	12	263.25	266.50	4
	TRIB	352.07	348.50	24	316.75	345.00	8
FNU	RB	10.42	8.69	12	----	----	----
	RS	18.17	10.68	61	6.85	5.28	23
	TR	8.35	7.69	12	4.43	3.23	4
	TRIB	31.42	26.57	24	14.00	11.95	8

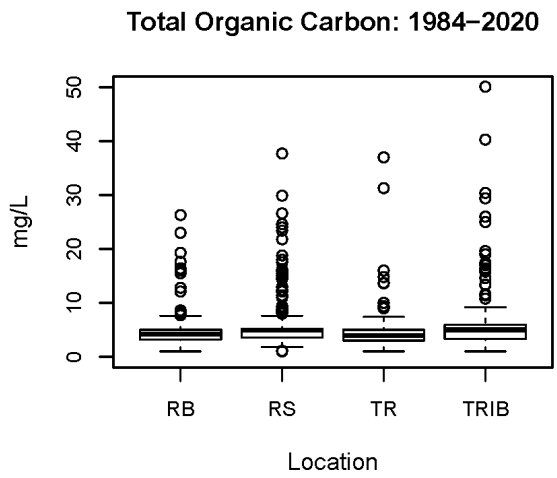
* *All TDS observations were below the standard in 2021. This study does not recognize a standard for turbidity.*

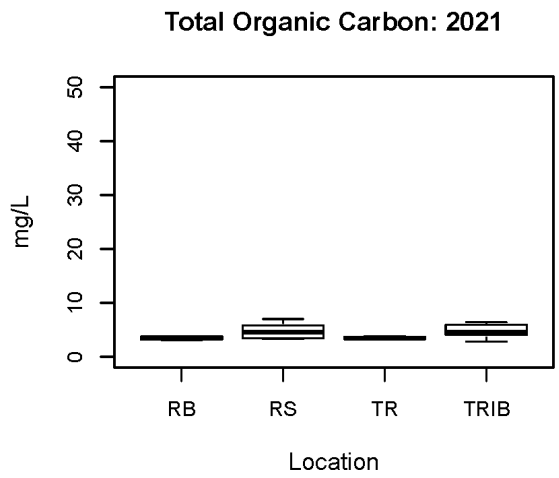




	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
TSS	RB	18.63	7.90	100	13.00	13.40	4
	RS	19.10	14.00	337	10.80	10.80	12
	TR	9.38	8.00	156	5.83	4.80	4
	TRIB	43.35	36.70	222	18.33	14.60	8

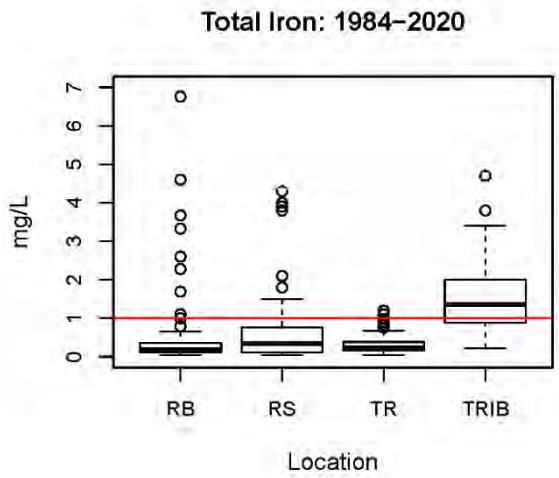
** This study does not recognize a standard for TSS*

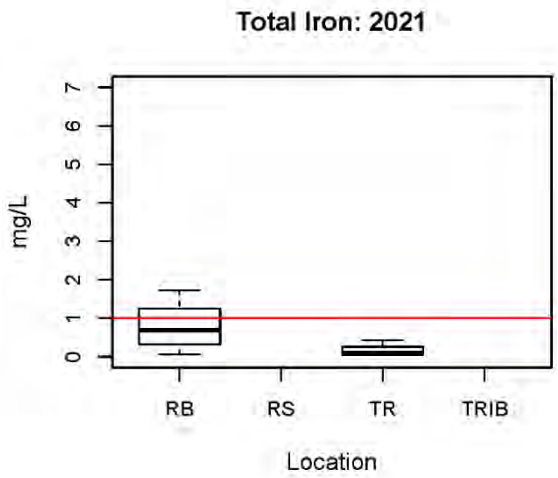




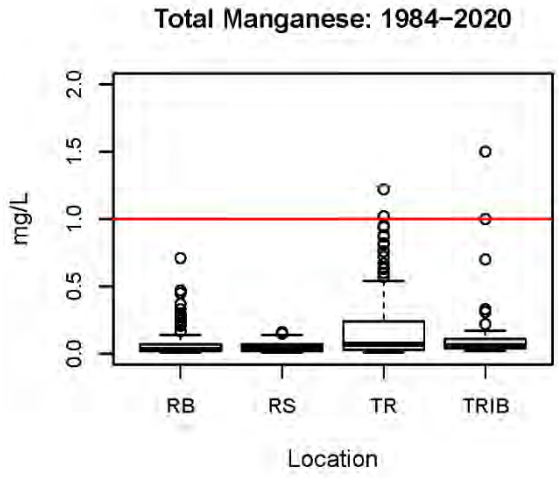
	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
TOC	RB	5.27	4.20	107	3.45	3.45	4
	RS	5.52	4.90	337	4.73	4.55	12
	TR	4.65	3.95	158	3.50	3.45	4
	TRIB	5.95	5.00	225	4.78	4.55	8

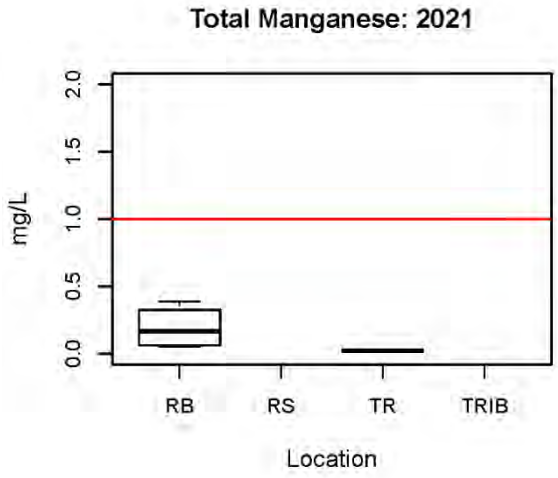
**This study does not recognize a standard for TOC.*





**Red line indicates the water quality standard of 1 mg/L.*

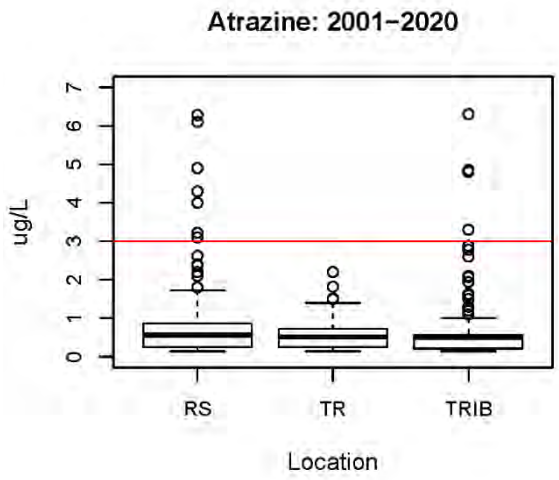


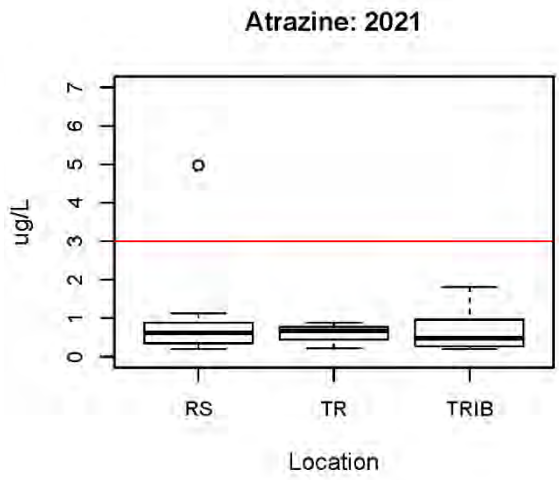


**Red line indicates the standard for manganese of 1 mg/L.*

	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
TFe	RB	0.46	0.19	106	0.79	0.69	4
	RS	0.64	0.34	100	----	----	----
	TR	0.30	0.24	156	0.16	0.09	4
	TRIB	1.49	1.35	68	----	----	----
TMn	RB	0.08	0.03	106	0.19	0.17	4
	RS	0.05	0.04	95	----	----	----
	TR	0.19	0.07	156	0.02	0.02	4
	TRIB	0.13	0.06	68	----	----	----

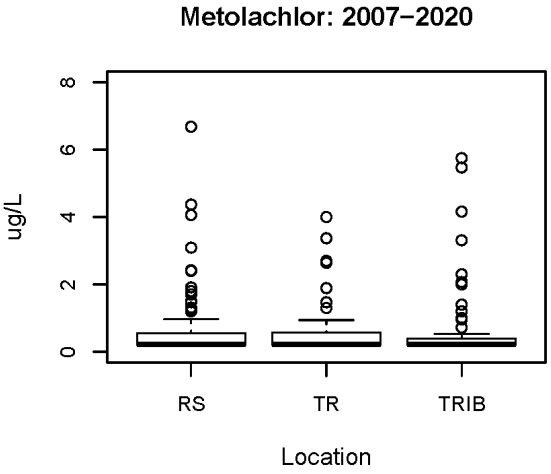
**Fe exceeded the standard of 1 mg/L near the lake bottom in front of the dam once in May of 2021. The standard for Mn was not exceeded in 2021.*

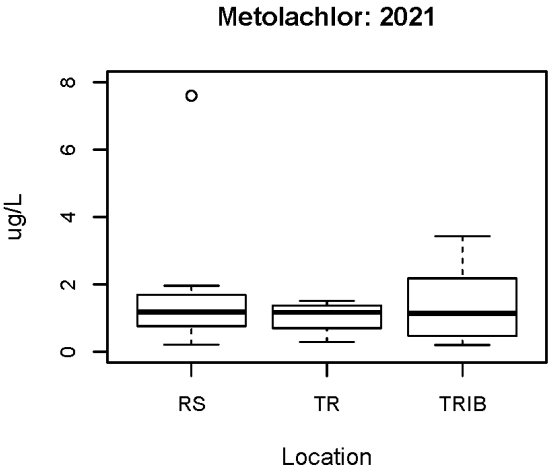




	Historical Reference 1996-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
Atrazine	RS	0.77	0.56	201	0.98	0.63	12
	TR	0.59	0.52	68	0.62	0.68	4
	TRIB	0.70	0.50	129	0.68	0.48	8

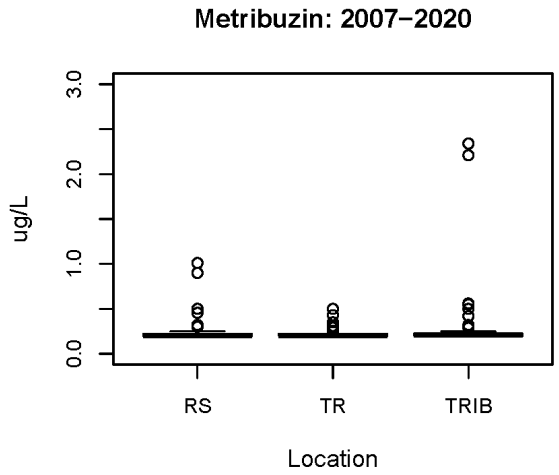
**The standard of 3 ug/L for Atrazine was exceeded once at SBV-4 in 2021.*

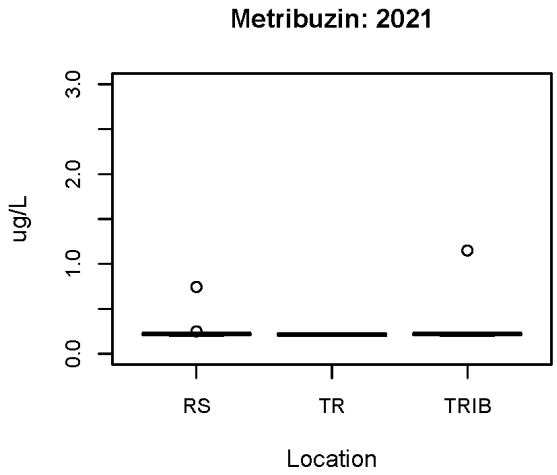




	Historical Reference 1984-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
Metolachlor	RS	0.61	0.22	124	1.65	1.18	12
	TR	0.69	0.22	41	1.03	1.17	4
	TRIB	0.60	0.22	80	1.40	1.14	8

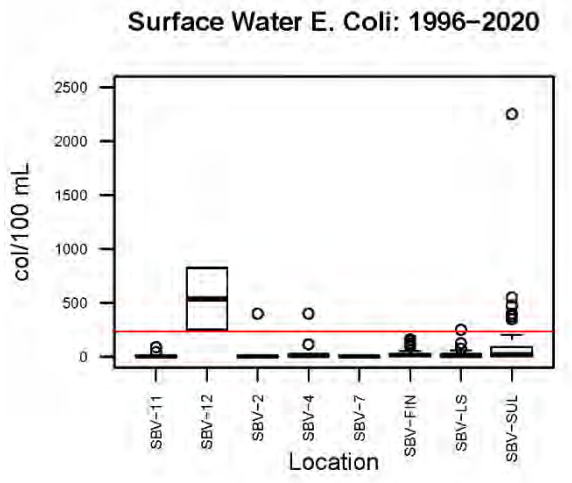
**The standard of 30.4 ug/L for Metolachlor was not exceeded in 2021.*

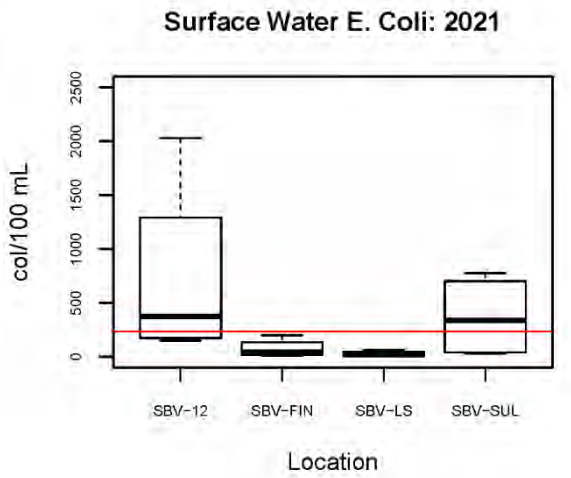




	Historical Reference 2007-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
Metribuzin	RS	0.24	0.20	121	0.26	0.22	12
	TR	0.23	0.20	41	0.21	0.21	4
	TRIB	0.29	0.21	79	0.33	0.22	8

**The standard of 8300 ug/L for Metribuzin was not exceeded in 2021.*





**The standard <235 colonies/100 mL is indicated with a red line.*

	Historical Reference 2001-2020				2021		
	Location	Mean	Median	n	Mean	Median	n
E col	SBV-11	15.91	3.00	11	----	----	----
	SBV-12	537.50	537.50	2	732.50	375.00	4
	SBV-2	40.00	3.00	11	----	----	----
	SBV-4	48.62	13.00	13	----	----	----
	SBV-7	4.00	4.00	1	----	----	----
	SBV-FIN	30.17	15.50	52	74.75	45.00	4
	SBV-LS	22.90	10.00	51	26.50	18.00	4
	SBV-SUL	128.12	20.00	49	369.25	337.50	4

**Bacteria levels exceed the standard of 235 colonies/100 mL at SBV-12 and the Sullivan Marina in 2021.*

2021 Lake Shelbyville Swimming Beach Bacteria Levels (E. Coli / 100 mL)

Date	Dam West		Lithia Springs		Sullivan Beach	
	Shallow	Deep	Shallow	Deep	Shallow	Deep
5/11/2021	3	1	1	1	----	----
5/24/2021	39.9	26.2	7.5	8.5	7.3	5.2
6/8/2021	1	2	1	1	3.1	3.1
6/22/2021	3.1	1	1	1	5.2	7.5
7/6/2021	3.1	1	2	1	5.2	5.2
7/21/2021	2	1	2	2	1	1
8/2/2021	1	1	1	1	2	2
8/18/2021	1	1	1	1	1	1
9/1/2021	----	----	3.1	2	1	2

**Beach bacteria levels did not exceed the standard during 2021.*

DISCUSSION: WATER QUALITY

Water quality metrics assessed by CEMVS can be sporadic and highly variable from year to year, thus long-term data collection using consistent and comparable methodology is critical to identify trends or patterns. In general, conditions observed during 2021 did not deviate far from conditions observed during the reference period (1984-2020); nevertheless, concerns regarding TP, NO3, TFe, Atrazine, bacteria, temperature, and pH were evident. In addition, CHL_a and subsequent TSI levels were indicative of a eutrophic system.

TP levels have surpassed the 0.05 mg/L criterion for several years. In 2021 the TP criterion was exceeded at all locations with a mean concentration across all sites of 0.113 mg/L, which is 20.7% lower than the historical average of 0.143 mg/L. The NO3-N standard of 10 mg/L was exceeded once at a tributary in May of 2021. Mean NO3-N levels in 2021 (2.88 mg/L) were 37% lower than the historical average of 4.58 mg/L. This standard for NO3-N has been set for drinking water due to its potential to be harmful to infants between three and six months. Phosphorus is a limiting nutrient for primary producers (algae and plants) due to its relatively low amount in the environment. Higher inputs of TP and NO3-N into the lake contribute to a highly productive environment which stimulates algal growth that can lead to blooms that deplete the oxygen levels during die off. In addition, blooms can sometimes contain toxins which may be harmful to humans and wildlife.

Living organisms require trace amounts of metals, excessive levels can be harmful. TFe exceeded the criterion of 1 mg/L one time at the bottom reservoir location in front of the dam in 2020 with a concentration of 6.76 mg/L. The 2020 mean TFe was 1.29 mg/L compared to 0.60 mg/L for the historical mean (54% greater). Iron cycling is a function of oxidation-reduction processes. Elevated levels of iron near the bottom of a lake is not immediately detrimental to the overall lake system. Iron oxidizes relatively rapidly (minutes to hours); therefore, any iron released through the spillway will be oxidized in a short period of time.

Atrazine is a commonly used agricultural herbicide readily transported by rainfall runoff. Atrazine is a preemergence or postemergence herbicide used to control broadleaf weeds and annual grasses and is most commonly detected in ground and surface water due to its wide use, and its ability to persist in soil and move in water. Along with other pesticides, Atrazine is suspected to cause cancer and is therefore monitored for the protection of human and aquatic health. In May 2021, the water quality standard (3 ug/L) for Atrazine was exceeded once in the lake at site SBV-4 with a value of 4.97 ug/L. Mean 2021 levels were 0.76 ug/L compared to the historical value of 0.69 ug/L. The mean 2021 Atrazine concentration was 9% greater than the mean historical concentration.

Fecal coliform bacteria is monitored for the protection of human health as it relates to full body contact of recreational waters. People can be exposed to disease-causing organisms, such as bacteria, viruses and protozoa in beach and recreational waters mainly through accidental ingestion of contaminated water or through skin contact. These organisms, called pathogens, usually come from the feces of humans and other warm-blooded animals. If taken into the body, pathogens can cause various illnesses and on rare occasions, even death. Waterborne illnesses include diseases resulting from bacterial infection such as cholera, salmonellosis, and gastroenteritis, viral infections such as hepatitis, gastroenteritis, and intestinal diseases, and protozoan infections such as amoebic dysentery and giardiasis. The most commonly monitored recreational water indicator organisms are fecal coliform, Escherichia coli, (E. coli) and enterococci. Fecal coliform are bacteria that live in the intestinal tracts of warm-blooded animals. The Environmental Protection Agency (EPA) currently recommends E. coli or enterococci as an indicator organism for fresh waters. The standard for E. coli is less than 235 colonies per 100ml per single sample water or geometric mean of 126 colonies per 100ml. Swimming beaches (monitored by Lake Shelbyville staff) and surface water in the lake and in some of the tributaries are monitored for E. coli. In 2021 the water quality standard was exceeded at Sullivan Marina and SBV-12. Sampling at SBV-12 was added in 2020 to get a better understanding of bacteria levels coming into the lake. Recent investigations in this arm of the lake suggest an increasing trend for bacteria and recent observations reinforce this finding (see Asa Creek Impacts below).

Temperature is important because it controls several aspects of water quality. Colder water holds more dissolved oxygen which is required by aquatic organisms. Plants grow more rapidly and use more oxygen in warmer water. Decomposition of organic matter which uses oxygen is accelerated in warmer water. Temperature can also determine the availability of toxic compounds such as ammonia. Water temperature criteria for warm water bodies in Illinois is within 2.8^{o}C of the seasonal norm. Observations in 2021 were compared to the USACE seasonal historical means. This comparison revealed multiple instances across most sampling locations of the temperature observed greater than 2.8 ^{o}C. Similarly, the means for the 2021 overall sampling year were all greater than the corresponding historical means.

Most freshwater streams and rivers have a natural pH ranging from 6 to 8. As pH approaches 5 (acidic), less tolerant fish and aquatic invertebrate assemblages may be extirpated, and a pH below 4.5 would be without most desired aquatic life. Conversely, when pH exceeds 9.5 (alkaline), aquatic fish and invertebrates begin to rapidly decrease and beyond 10, fish become extirpated. The pH water quality criteria for Illinois ranges from 6.5 – 9.0. There were two observations pH was greater than 9.0 on 24 August 2021 at on site in the lake and one tributary. Means of pH observations were greater overall than historical data.

Although there is not a state criterion for CHL_a, the proposed standard of 25 ug/L was exceeded at multiple locations in the lake throughout 2021. The 2021 mean CHL_a concentration of 35.60 ug/L is 39.9 % greater than the historical mean of 21.41 ug/L. CHL_a is an indicator of the abundance of phytoplankton. Any water environment with a

level recorded above 25 ug/L is considered to be eutrophic (nutrient enrichment increases algal and plant growth and negative effects). The 2021 TSI level, an average of the individual trophic state indexes for secchi depth, CHL_a, and TP, for Lake Shelbyville is 67.25. Lake Shelbyville is considered eutrophic based on this TSI level. This does not necessarily mean the water quality is poor, but that its trophic level indicates nutrient levels are abundant, which can support an abundance of plants and algae. Long term monitoring and analyses are important to assess changes over time.

Total suspended solids can affect water quality by increasing temperature through the absorption of sunlight by suspended particles in the water column, and consequently reduce DO. Total suspended solids are also strongly correlated with water clarity and the presence of Macrophytes. Though there are no numeric water quality standards for TSS, Lake Shelbyville is listed by IEPA as impaired by TSS. The 2020 TSS levels were comparable to the historical levels and show the same spatial patterns by occurring in higher concentrations in the tributaries and trending down near the dam and discharge. Mean 2020 TSS levels were 22.1 mg/L compared to 24.6 mg/L historical levels.

All remaining parameters evaluated during the 2021 water quality monitoring effort were within designated criteria or within historical reference norms.

ASA CREEK IMPACTS

A limited investigation was started in October 2017 into the possibility of potential negative impacts to the Asa Creek arm of Lake Shelbyville and continued through 2019. As described in the 2018 Shelbyville Lake Annual Water Quality Report, the Corps was made aware of a concern of potential degradation of the Asa Creek tributary just downstream of the City of Sullivan wastewater treatment plant (WTP). In addition to taking in-situ ambient water quality readings, water quality personnel took fecal coliform grab samples at the location where Asa Creek enters USACE waters and directly from the WTP effluent during the 2019 season. Data is available upon request. Low levels of DO was recorded at multiple locations from 2017-2019. Fecal coliform levels were high at the locations mentioned above.

Communications with the local Illinois Environmental Protection Agency Bureau of Water Division of Water Pollution Control has revealed that IEPA is aware and has been in contact with the WTP regarding the situation. In December 2019 a teleconference meeting occurred with USACE, IEPA, and the City of Sullivan to discuss the findings. As a result of the discussion, USACE and Sullivan shared recent data and conducted a joint sampling for fecal coliform in January 2020. Two samples were taken from each of the 15 locations upstream and downstream of the WTP in Asa Creek. One sample went to a lab Sullivan used, while the other was analyzed at the USACE contracted lab. The results were shared between USACE and Sullivan. While the results from the two labs weren't identical, there was a clear trend of high bacteria levels at the WTP effluent as well as downstream of it. The Sullivan NPDES permit does not require bacteria monitoring except during the period May through October. IEPA has been made aware of all the latest findings. USACE water quality staff will continue to investigate as needed and coordinate with Lake Shelbyville Project, IEPA, and affected landowners. As of December 2022, no further monitoring has been conducted in Asa Creek by USACE.

Historical (2001-2018) average bacteria levels are three times higher at the Sullivan Marina, located just downstream of the confluence of Asa Creek, when compared to the other two marinas in the lake (Findlay & Lithia Springs). The public beach located near Sullivan Marina has also had a higher number of closings due to unsafe bacteria levels. If current trends of high bacteria continue, negative impacts to beneficial uses are likely.

MONITORING PROGRAM RECOMMENDATIONS

In accordance with EM-1110-2-1201, sediment samples should be taken to monitor and assess potential impacts to aquatic and human health. Sediment sampling and analyses occurred at Lake Shelbyville in 2018, and prior to that in 2007. During these last analyses multiple exceedances over the recommended criteria were observed. Identifying trends over time is much more achievable with more consistent data. Contaminated sediments may have negative impacts on ecological processes. It is recommended to sample and analyze for sediment metals and nutrients, as well as grain size analyses yearly or every two years.

Given the eutrophic status of Lake Shelbyville it is recommended that Total Nitrogen (TN), which is a strong indicator of trophic status, is evaluated.

CHL_a has routinely been high at Lake Shelbyville in the lake, but there is no data for CHL_a in the tributaries or the tail race. It is recommended to add this analysis to the tributaries and tail race to get a more complete understanding of algal activity upstream and downstream of the lake.

Given the above-mentioned high bacteria levels observed in Asa Creek and near Sullivan Marina and public beach, it is recommended to add routine bacteria sampling to both tributary sites (SBV-12, SBV-13) as well as just downstream of Asa Creek. This would aid in isolating any further degradation in that section of the lake.

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APPENDIX A: FIELD DATA

Date	Site	Depth (m)	DO (mg/L)	pH	ORP (mV)	Temp (C)	Sp Cond (µS/cm)	TDS (mg/L)	Turbidity (FNU)	Secchi (in)
5/20/2021	SBV-1	1.999	9.71	8.07	163.5	16.1	443.1	288	9.31	
5/20/2021	SBV-2	1.125	8.35	8.25	128.6	16.9	440.6	286	6.22	38
5/20/2021	SBV-2	2.059	8.15	8.22	128.7	16.6	440.7	286	6.53	
5/20/2021	SBV-2	3.081	7.92	8.19	128.6	16.2	441.4	287	6.41	
5/20/2021	SBV-2	4.059	7.6	8.13	129.7	15.8	442.5	288	6.86	
5/20/2021	SBV-2	5.1	7.15	8.07	130.6	15.5	443.9	289	7.36	
5/20/2021	SBV-2	6.984	6.31	7.94	133.1	15.1	442.7	288	9.65	
5/20/2021	SBV-2	8.062	6	7.88	134.3	15	437.3	284	15.16	
5/20/2021	SBV-4	0.899	7.43	7.61	113	18.8	442.2	287	35.24	12
5/20/2021	SBV-4	1.969	7.36	7.55	114.6	18.4	441.4	287	36.41	
5/20/2021	SBV-11	0.912	12.62	8.52	92.5	19.8	457.8	298	9.5	26
5/20/2021	SBV-11	2.092	12.25	8.48	94.7	19.5	459	298	9.81	
5/20/2021	SBV-11	3.087	12.07	8.46	95.9	19.5	458.2	298	9.66	
5/20/2021	SBV-11	4.113	11.1	8.32	99.2	18.6	446.4	290	14.4	
5/20/2021	SBV-11	5.041	10.11	8.14	103.3	18.3	439	285	17.48	
5/20/2021	SBV-11	6.048	7.83	7.73	112	17.4	406.1	264	36.73	
5/20/2021	SBV-11	7.034	7.16	7.6	115.3	17.1	394.4	256	44.87	
5/20/2021	SBV-11	7.952	7.06	7.54	117.6	17.1	394.5	256	44.32	
5/20/2021	SBV-12	1.076	8.25	7.75	116.9	18.3	597	388	23.46	
5/20/2021	SBV-13	0.362	7.51	7.45	123.2	17.9	537	349	28.66	
5/20/2021	SBV-FIN	1.127	9.66	8.25	124.9	18.7	453.7	295	11.57	
5/20/2021	SBV-FIN	4.707	7.6	7.68	90.9	17.8	430.3	280	26.89	
5/20/2021	SBV-LS	1.114	8.89	8.3	134.7	18.9	433.1	282	9.77	
5/20/2021	SBV-LS	5.154	7.09	8.01	113.3	16.1	431.6	281	14.3	
5/20/2021	SBV-LS	11.346	5.81	7.9	112.3	15	439.4	286	16.83	
7/7/2021	SBV-1	1.532	8.37	NA	NA	25.4	417.3	271	2.75	
7/7/2021	SBV-2	1.123	7.32	NA	NA	26.3	413.9	269	3.16	55
7/7/2021	SBV-2	2.192	5.6	NA	NA	25.8	416.1	270	2.34	
7/7/2021	SBV-2	3.156	4.33	NA	NA	25.5	417.2	271	2.43	
7/7/2021	SBV-2	4.154	2.99	NA	NA	25.2	418.7	272	2.45	
7/7/2021	SBV-2	5.185	2.01	NA	NA	24.9	418.4	272	2.41	
7/7/2021	SBV-2	6.082	1.02	NA	NA	24.3	423.4	275	2.04	
7/7/2021	SBV-2	7.129	0.62	NA	NA	23.8	425.7	277	2.06	
7/7/2021	SBV-2	8.197	0.16	NA	NA	22.4	431.2	280	2.28	
7/7/2021	SBV-2	9.179	0.14	NA	NA	21.6	436.6	284	2.39	
7/7/2021	SBV-2	10.161	0.12	NA	NA	20	445.6	290	8.48	
7/7/2021	SBV-2	11.156	0.11	NA	NA	18.7	452.9	294	10.32	
7/7/2021	SBV-2	12.068	0.1	NA	NA	16.9	453.4	295	8.29	
7/7/2021	SBV-2	13.215	0.1	NA	NA	16.1	451.9	294	10.28	
7/7/2021	SBV-2	14.001	0.1	NA	NA	15.7	451.6	294	8.57	
7/7/2021	SBV-4	1.078	17.4	NA	NA	27.3	401.5	261	4.07	25
7/7/2021	SBV-4	2.234	9.96	NA	NA	25.3	485.8	316	4.66	

Date	Site	Depth (m)	DO (mg/L)	pH	ORP (mV)	Temp (C)	Sp Cond (µS/cm)	TDS (mg/L)	Turbidity (FNU)	Secchi (in)
7/7/2021	SBV-4	3.458	4.06	NA	NA	23.7	508.1	330	18.28	
7/7/2021	SBV-11	1.19	16.48	NA	NA	29.5	360.3	234	4.72	32
7/7/2021	SBV-11	2.096	16.45	NA	NA	29.1	355.7	231	4.52	
7/7/2021	SBV-11	3.03	14.62	NA	NA	28.2	367.6	239	4.56	
7/7/2021	SBV-11	4.15	4.5	NA	NA	25.6	362.9	236	4.46	
7/7/2021	SBV-11	5.085	2.53	NA	NA	25	361.2	235	4.39	
7/7/2021	SBV-11	6.116	0.8	NA	NA	24.3	369.5	240	6.95	
7/7/2021	SBV-11	7.101	1.4	NA	NA	24	408.3	265	7.13	
7/7/2021	SBV-11	8.163	0.61	NA	NA	23.3	476.9	310	20.06	
7/7/2021	SBV-12	0	11.15	NA	NA	25.5	600.4	390	6.81	
7/7/2021	SBV-13	0.027	18.51	NA	NA	29.1	315.2	205	9.75	
7/7/2021	SBV-FIN	1.059	13.2	NA	NA	27.8	382.4	249	5.44	
7/7/2021	SBV-FIN	3.274	4.41	NA	NA	26.1	412.6	268	7.34	
7/7/2021	SBV-FIN	6.406	0.4	NA	NA	24	420.2	273	10.08	
7/7/2021	SBV-LS	0.998	12.11	NA	NA	29.2	389.5	253	2.99	
7/7/2021	SBV-LS	7.15	0.78	NA	NA	24.2	420.5	273	3.12	
7/7/2021	SBV-LS	14.216	0.4	NA	NA	15.3	457.8	298	11.1	
7/7/2021	SUL MAR	1.103	18.01	NA	NA	27.5	397.6	258	4.08	
7/7/2021	SUL MAR	2.276	9.46	NA	NA	25.2	487.1	317	4.89	
7/7/2021	SUL MAR	4.251	4.22	NA	NA	23.6	509.4	331	22.56	
7/28/2021	SBV-1	1.048	8.33	8.08	204.8	27.1	403	262	1.94	
7/28/2021	SBV-2	1.063	8.07	8.44	132.3	28.2	383.5	249	2.75	90
7/28/2021	SBV-2	2.164	4.72	8.03	147	27.2	391	254	2.9	
7/28/2021	SBV-2	3.256	0.93	7.64	157.4	26.2	395.9	257	2.63	
7/28/2021	SBV-2	4.102	0.25	7.57	159.4	25.7	398.5	259	2.62	
7/28/2021	SBV-2	5.111	0.19	7.53	161.2	24.5	401.3	261	2.08	
7/28/2021	SBV-2	6.037	0.17	7.51	156.7	23.6	412.3	268	2.1	
7/28/2021	SBV-2	7.064	0.16	7.52	144.8	22.6	424.7	276	3.03	
7/28/2021	SBV-2	8.053	0.15	7.51	68.2	21.3	433.6	282	9.75	
7/28/2021	SBV-2	9.177	0.14	7.51	64.5	19.6	444.2	289	19.67	
7/28/2021	SBV-2	10.156	0.14	7.57	63	17.5	455.1	296	8.59	
7/28/2021	SBV-2	11.107	0.14	7.6	65.2	16.2	452.7	294	5.48	
7/28/2021	SBV-2	12.091	0.13	7.6	65.8	15.7	453.1	295	3.54	
7/28/2021	SBV-2	13.063	0.12	7.58	69.5	15.3	454.8	296	3.65	
7/28/2021	SBV-2	14.037	0.13	7.51	76.8	14.9	458.7	298	4.21	
7/28/2021	SBV-2	15.072	0.12	7.44	69	14.6	461.7	300	10.37	
7/28/2021	SBV-4	1.044	6.51	7.68	165.9	27.6	424	276	7.47	24
7/28/2021	SBV-4	2.076	1.17	7.38	163.9	25.8	361.6	235	30.13	
7/28/2021	SBV-11	1.103	8.18	8.46	136	28.2	346.7	225	4.5	38
7/28/2021	SBV-11	2.133	2.14	7.68	152.3	27.3	368	239	3.3	
7/28/2021	SBV-11	3.15	0.32	7.54	148	26.1	389.8	253	3.33	
7/28/2021	SBV-11	4.143	0.22	7.48	137.2	25.4	433.1	282	8.61	

Date	Site	Depth (m)	DO (mg/L)	pH	ORP (mV)	Temp (C)	Sp Cond (µS/cm)	TDS (mg/L)	Turbidity (FNU)	Secchi (in)
7/28/2021	SBV-11	5.078	0.19	7.5	124	24.8	419.1	272	7.1	
7/28/2021	SBV-11	6.064	0.18	7.47	118.7	24.2	426.1	277	10.17	
7/28/2021	SBV-11	7.066	0.17	7.43	115.3	23.9	433.4	282	22.49	
7/28/2021	SBV-12	0.875	6.14	7.49	342.1	24.1	524.6	341	12.98	
7/28/2021	SBV-13	0.769	11.69	8.28	266.4	28.9	356.9	232	5.3	
7/28/2021	SBV-FIN	1.206	5.53	8.09	61.2	27.9	359.2	233	5.17	
7/28/2021	SBV-FIN	2.534	1.4	7.66	23.5	27	375.9	244	4.09	
7/28/2021	SBV-FIN	5.156	0.31	7.45	-84.9	25	408.1	265	14.19	
7/28/2021	SBV-LS	1.064	9.15	8.62	55.8	29.3	374.3	243	2.31	
7/28/2021	SBV-LS	7.236	0.2	7.55	-43.2	23.2	414.2	269	5.47	
7/28/2021	SBV-LS	13.875	0.37	7.52	40	15.4	466.1	303	64.49	
7/28/2021	SUL MAR	1.04	6.11	7.69	67.7	27.7	442.5	288	6.75	
7/28/2021	SUL MAR	1.589	3.31	7.52	32	26.8	420.7	273	9.68	
7/28/2021	SUL MAR	2.888	1.2	7.41	-31.5	25.8	367.9	239	29.51	
8/24/2021	SBV-1	1.118	9.46	8.58	149.6	28.1	356.6	232	3.7	
8/24/2021	SBV-2	1.169	9.5	8.59	151.5	28	356.2	232	3.81	38
8/24/2021	SBV-2	2.109	7.69	8.43	162.7	27.6	362.3	236	3.46	
8/24/2021	SBV-2	3.143	4.31	7.98	168.3	27.2	371.5	241	3.47	
8/24/2021	SBV-2	4.423	2.96	7.82	173.8	26.9	376.9	245	2.83	
8/24/2021	SBV-2	5.34	1	7.66	176.9	26.6	381.5	248	2.73	
8/24/2021	SBV-2	6.758	0.27	7.63	175.1	26.1	388.4	252	2.02	
8/24/2021	SBV-2	8.137	0.21	7.5	171.7	24.8	404.1	263	2.28	
8/24/2021	SBV-2	9.23	0.17	7.47	168.6	22.1	432.9	281	6.96	
8/24/2021	SBV-2	10.668	0.15	7.47	164.6	19.9	450.5	293	6.13	
8/24/2021	SBV-2	12.485	0.13	7.5	162.7	17.1	466	303	4.45	
8/24/2021	SBV-2	14.068	0.11	7.5	159.4	16.1	467.6	304	3.79	
8/24/2021	SBV-2	15.52	0.1	7.45	160.2	15.2	474.3	308	4.8	
8/24/2021	SBV-4	1.035	13.37	8.61	152.2	29.1	351.1	228	6.14	18
8/24/2021	SBV-4	2.144	7.71	8.14	168.3	28.2	396	257	7.54	
8/24/2021	SBV-4	3.084	0.99	7.6	78.6	27.3	444.4	289	13.37	
8/24/2021	SBV-11	1.376	15.2	9.09	128.4	29.3	299.5	195	5.28	24
8/24/2021	SBV-11	2.258	14.16	9	151	29.1	300.8	196	5.56	
8/24/2021	SBV-11	3.384	6.39	8.23	166.5	27.8	326.2	212	4.91	
8/24/2021	SBV-11	4.412	2.4	7.84	174.1	27.4	334.7	218	4.48	
8/24/2021	SBV-11	5.117	0.55	7.62	149.3	26.6	348.5	227	4.02	
8/24/2021	SBV-11	6.186	0.35	7.51	-18.5	26.1	356.7	232	7.44	
8/24/2021	SBV-11	6.758	0.29	7.43	-117.6	25.8	365.1	237	14.61	
8/24/2021	SBV-12	1.224	9.88	8.22	162	27.8	683.5	444	14.14	
8/24/2021	SBV-12	1.228	9.87	8.22	162.8	27.8	683.7	444	13.99	
8/24/2021	SBV-13	0.722	16.61	9.24	121.3	30.2	285.3	185	10.91	
8/24/2021	SBV-13	0.732	16.68	9.23	124.7	30.3	285.5	186	10.77	
8/24/2021	SBV-FIN	1.419	13.91	8.96	173.4	28.6	311.6	203	6.02	

Date	Site	Depth (m)	DO (mg/L)	pH	ORP (mV)	Temp (C)	Sp Cond (µS/cm)	TDS (mg/L)	Turbidity (FNU)	Secchi (in)
8/24/2021	SBV-LS	2.052	10.43	8.53	110.2	28.1	352.3	229	4.56	
8/24/2021	SUL MAR	1.193	13.64	8.79	131.2	29.2	344.2	224	6.04	

APPENDIX B: LABORATORY DATA

ARDL Inc.
Environmental | Analytical | Management | Safety

PO Box 1566
400 Aviation Drive
Mt. Vernon, IL 62864
618-244-3235
www.ardlinc.com

Customer Name: SLCOE **Date: 6/24/21**

Project Name: Shelbyville Lake/Kaskaskia River **Lab Name: ARDL, Inc.**

Samples Received at ARDL: 5/20/21 **ARDL Report No.: 8701**

CASE NARRATIVE

Customer Sample No.	Date Collected	Lab ID Number	Analyses Requested
SVL-1	05/20/21	8701-01	NP Pesticides, Metals(1), Inorganics(2)
SVL-2	05/20/21	8701-02	NP Pesticides, Inorganics(2)(3)
SVL-2-10	05/20/21	8701-03	Metals(1), Inorganics(2)
SVL-4	05/20/21	8701-04	NP Pesticides, Inorganics(2)(3)
SVL-12	05/20/21	8701-05	NP Pesticides, Inorganics(2), E. Coli
SVL-13	05/20/21	8701-06	NP Pesticides, Inorganics(2)
SVL-11	05/20/21	8701-07	NP Pesticides, Inorganics(2)(3)
SVL-15	05/20/21	8701-08	NP Pesticides, Inorganics(2)(3)
KAS-3	05/20/21	8701-09	Inorganics(2)(3)(4), E. Coli
LS Marina	05/20/21	8701-10	E. Coli
FIN Marina	05/20/21	8701-11	E. Coli
SUL Marina	05/20/21	8701-12	E. Coli

(1) Including iron and manganese.
(2) Including ammonia, nitrate, total phosphorus, TOC, TSS and TVSS.
(3) Including chlorophyll-a and pheophytin-a.
(4) Including nitrite and TKN.

The quality control data are summarized as follows:

NP PESTICIDE FRACTION – METHOD 8270-SIM

HOLDING TIME
Samples were prepared and analyzed within method specified holding times.

INITIAL CALIBRATION
The initial calibration passed criteria.

CONTINUING CALIBRATION
The continuing calibration verification (CCV) passed criteria for all analytes.

PREPARATION BLANK
The blank met acceptance criteria.

LABORATORY CONTROL SAMPLE
The LCS analyses met recovery criteria.

MATRIX SPIKE
The matrix spike and matrix spike duplicate met recovery criteria.

CASE NARRATIVE (Continued)

DUPLICATE
Duplicate analyses are reported as MS/MSD. RPD of the duplicate analyses met criteria.

INTERNAL STANDARDS
All internal standard criteria were met.

SURROGATES
All surrogate recovery criteria were met.

INORGANIC FRACTION

TOC analyses were subcontracted to Eurofins - TestAmerica Laboratory Network.

PREPARATION BLANK
Results of the preparation blanks were undetected.

LABORATORY CONTROL SAMPLE
Percent recoveries of all LCS analyses were within control limits.

MATRIX SPIKE
Percent recoveries of all matrix spikes and matrix spike duplicates were within control limits except 1 of 1 for TKN. The parent sample has been flagged appropriately with a 'J' qualifier.

DUPLICATE
All duplicate analyses are reported as MS/MSD except chlorophyll-a, pheophytin-a, TSS and TVSS.
RPD on all duplicate analyses were within control limits except for pheophytin-a and TKN. The associated samples have been flagged appropriately with a 'J' qualifier.

DATA REPORTING QUALIFIERS

The following data reporting qualifiers are used as required:

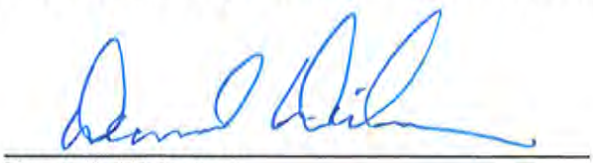
ND - Indicates parameter was analyzed for but not detected.

J - Indicates an estimated value. This flag is used either when estimating a concentration or this flag indicates analyte(s) associated with a DOD-QSM specified non-compliance pertaining to matrix QC criteria.

REPORT ORGANIZATION

The data in this report appear by sample type (Field sample, preparation blank, laboratory control sample / spike blank, matrix spike /spike duplicate and sample duplicate). Within each sample type the data appear in the order that the analytical methods were discussed in this case narrative. Sample receipt information follows the analytical data.

Release of the data contained in this package has been authorized by the Technical Services Manager or his designee as verified by the following signature.



Dean S. Dickerson
Technical Services Manager

Sample & QC Results

Including as appropriate:

- Field Sample Results
- Batch QC
  - Prep Blank
  - LCS/Spike Blank
- Matrix QC
  - MS/MSD
  - Sample Duplicate

ARDL Data Package 8701

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-1	ARDL Lab No.:	008701-01
Desc/Location:	SHELBYVILLE LAKE/KASKASKIA	Lab Filename:	E0602114
Sample Date:	05/20/2021	Received Date:	05/20/2021
Sample Time:	1015	Prep. Date:	05/25/2021
Matrix:	WATER	Analysis Date:	06/02/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11338
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	ND		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	0.289		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	73%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-01 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SVL-1 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1015

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		0.428	MG/L	3010A	6010C	05/24/21	05/25/21	P7518
(a) Manganese	0.00400	0.00500		0.0305	MG/L	3010A	6010C	05/24/21	05/25/21	P7518
Ammonia Nitrogen	0.020	0.030		0.070	MG/L	NONE	350.1	NA	05/26/21	05275909
Nitrate as Nitrogen	0.0950	0.100		3.62	MG/L	NONE	GREEN	NA	05/21/21	05245896
Phosphorus	0.00800	0.0100		0.083	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	2.50	2.50		10.0	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	2.50	2.50		ND	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		3.4	MG/L	NONE	415.1	NA	05/26/21	05285911

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Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-2	ARDL Lab No.:	008701-02
Desc/Location:	SHELBYVILLE LAKE/KASKASKIA	Lab Filename:	E0602117
Sample Date:	05/20/2021	Received Date:	05/20/2021
Sample Time:	1130	Prep. Date:	05/25/2021
Matrix:	WATER	Analysis Date:	06/02/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11338
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.200	0.200	ND		UG/L	1
Atrazine	0.200	0.200	ND		UG/L	1
Metribuzin	0.200	0.200	ND		UG/L	1
Alachlor	0.200	0.200	ND		UG/L	1
Metolachlor	0.200	0.200	0.210		UG/L	1
Chlorpyrifos	0.200	0.200	ND		UG/L	1
Cyanazine	0.200	0.200	ND		UG/L	1
Pendimethalin	0.200	0.200	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

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Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-02 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SVL-2 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1130

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.020	0.030		0.053	MG/L	NONE	350.1	NA	05/26/21	05275909
Chlorophyll-a, Correcte	1.0	1.0		2.7	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Nitrate as Nitrogen	0.0950	0.100		3.69	MG/L	NONE	GREEN	NA	05/21/21	05245896
Pheophytin-a	1.0	1.0		ND	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Phosphorus	0.00800	0.0100		0.0571	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	2.13	2.13		3.83	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	2.13	2.13		ND	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		3.3	MG/L	NONE	415.1	NA	05/26/21	05285911

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Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-03 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SVL-2-10 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1145

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		1.73	MG/L	3010A	6010C	05/24/21	05/25/21	P7518
(a) Manganese	0.00400	0.00500		0.0772	MG/L	3010A	6010C	05/24/21	05/25/21	P7518
Ammonia Nitrogen	0.020	0.030		0.035	MG/L	NONE	350.1	NA	05/26/21	05275909
Nitrate as Nitrogen	0.0950	0.100		4.03	MG/L	NONE	GREEN	NA	05/21/21	05245896
Phosphorus	0.00800	0.0100		0.113	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	4.0	4.00		12.4	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	4.0	4.00		ND	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		3.7	MG/L	NONE	415.1	NA	05/26/21	05285911

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Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-4	ARDL Lab No.:	008701-04
Desc/Location:	SHELBYVILLE LAKE/KASKASKIA	Lab Filename:	E0602118
Sample Date:	05/20/2021	Received Date:	05/20/2021
Sample Time:	1430	Prep. Date:	05/25/2021
Matrix:	WATER	Analysis Date:	06/02/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11338
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	4.97		UG/L	1
Metribuzin	0.222	0.222	0.744		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	7.60		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	68%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-04 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SVL-4 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1430

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.020	0.030		0.18	MG/L	NONE	350.1	NA	05/26/21	05275909
Chlorophyll-a, Correcte	1.0	1.0		4.5	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Nitrate as Nitrogen	0.0950	0.100		7.99	MG/L	NONE	GREEN	NA	05/21/21	05245896
Pheophytin-a	1.0	1.0		ND	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Phosphorus	0.00800	0.0100		0.325	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	6.67	6.67		30.0	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	6.67	6.67		ND	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		4.9	MG/L	NONE	415.1	NA	05/26/21	05285911

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Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-12	ARDL Lab No.:	008701-05
Desc/Location:	SHELBYVILLE LAKE/KASKASKIA	Lab Filename:	E0602119
Sample Date:	05/20/2021	Received Date:	05/20/2021
Sample Time:	1545	Prep. Date:	05/25/2021
Matrix:	WATER	Analysis Date:	06/02/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11338
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	1.07		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.49		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

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Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-05 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SVL-12 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1545

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.020	0.030		0.030	MG/L	NONE	350.1	NA	05/26/21	05275909
E. Coliform	1.0	1.00		550	COL/100 ML	NONE	1604	NA	05/20/21	05245893
Nitrate as Nitrogen	0.0950	0.100		9.16	MG/L	NONE	GREEN	NA	05/21/21	05245896
Phosphorus	0.00800	0.0100		0.195	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	4.0	4.00		36.0	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	4.0	4.00		ND	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		2.8	MG/L	NONE	415.1	NA	05/26/21	05285911

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Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-13	ARDL Lab No.:	008701-06
Desc/Location:	SHELBYVILLE LAKE/KASKASKIA	Lab Filename:	E0602120
Sample Date:	05/20/2021	Received Date:	05/20/2021
Sample Time:	1245	Prep. Date:	05/25/2021
Matrix:	WATER	Analysis Date:	06/02/2021
Amount Used:	800 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11338
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.250	0.250	ND		UG/L	1
Atrazine	0.250	0.250	1.81		UG/L	1
Metribuzin	0.250	0.250	1.15		UG/L	1
Alachlor	0.250	0.250	ND		UG/L	1
Metolachlor	0.250	0.250	3.43		UG/L	1
Chlorpyrifos	0.250	0.250	ND		UG/L	1
Cyanazine	0.250	0.250	ND		UG/L	1
Pendimethalin	0.250	0.250	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	66%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

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Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-06 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SVL-13 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1245

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.020	0.030		0.10	MG/L	NONE	350.1	NA	05/26/21	05275909
Nitrate as Nitrogen	0.190	0.200		11.3	MG/L	NONE	GREEN	NA	05/21/21	05245896
Phosphorus	0.00800	0.0100		0.252	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	4.0	4.00		29.6	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	4.0	4.00		4.4	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		4.2	MG/L	NONE	415.1	NA	05/26/21	05285911

(a) DOD and/or NELAC Accredited Analyte.

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Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-11	ARDL Lab No.:	008701-07
Desc/Location:	SHELBYVILLE LAKE/KASKASKIA	Lab Filename:	E0602121
Sample Date:	05/20/2021	Received Date:	05/20/2021
Sample Time:	1400	Prep. Date:	05/25/2021
Matrix:	WATER	Analysis Date:	06/02/2021
Amount Used:	800 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11338
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.250	0.250	ND		UG/L	1
Atrazine	0.250	0.250	0.863		UG/L	1
Metribuzin	0.250	0.250	ND		UG/L	1
Alachlor	0.250	0.250	ND		UG/L	1
Metolachlor	0.250	0.250	1.81		UG/L	1
Chlorpyrifos	0.250	0.250	ND		UG/L	1
Cyanazine	0.250	0.250	ND		UG/L	1
Pendimethalin	0.250	0.250	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	67%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-07 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SVL-11 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1400

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.020	0.030		ND	MG/L	NONE	350.1	NA	05/26/21	05275909
Chlorophyll-a, Correcte	1.0	1.0		43.6	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Nitrate as Nitrogen	0.0950	0.100		4.33	MG/L	NONE	GREEN	NA	05/21/21	05245896
Pheophytin-a	1.0	1.0	J	9.2	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Phosphorus	0.00800	0.0100		0.109	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	4.0	4.00		16.0	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	4.0	4.00		5.2	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		3.3	MG/L	NONE	415.1	NA	05/26/21	05285911

(a) DOD and/or NELAC Accredited Analyte.

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Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-15	ARDL Lab No.:	008701-08
Desc/Location:	SHELBYVILLE LAKE/KASKASKIA	Lab Filename:	E0602122
Sample Date:	05/20/2021	Received Date:	05/20/2021
Sample Time:	1415	Prep. Date:	05/25/2021
Matrix:	WATER	Analysis Date:	06/02/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11338
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.733		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.60		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	65%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-08 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SVL-15 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1415

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.020	0.030		0.060	MG/L	NONE	350.1	NA	05/26/21	05275909
Chlorophyll-a, Correcte	1.0	1.0		49.9	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Nitrate as Nitrogen	0.0950	0.100		4.49	MG/L	NONE	GREEN	NA	05/21/21	05245896
Pheophytin-a	1.0	1.0		4.1	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Phosphorus	0.00800	0.0100		0.105	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	4.0	4.00		16.0	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	4.0	4.00		5.2	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		5.3	MG/L	NONE	415.1	NA	05/25/21	05285912

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-09 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: KAS-3 Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 0845

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.020	0.030		0.14	MG/L	NONE	350.1	NA	06/03/21	06035926
Chlorophyll-a, Correcte	1.0	1.0		6.8	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
E. Coliform	1.0	1.00		3280	COL/100 ML	NONE	1604	NA	05/20/21	05245893
Kjeldahl Nitrogen	0.38	0.40	J	5.8	MG/L	351.2	351.2	06/04/21	06/10/21	06115931
Nitrate as Nitrogen	0.0950	0.100		6.0	MG/L	NONE	GREEN	NA	05/21/21	05245896
Nitrite as Nitrogen	0.0200	0.0200		0.078	MG/L	NONE	354.1	NA	05/21/21	05245895
Pheophytin-a	1.0	1.0		ND	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905
Phosphorus	0.00800	0.0100		0.247	MG/L	365.2	365.2	06/01/21	06/02/21	06035925
Solids, Total Suspended	10.0	10.0		163	MG/L	NONE	160.2	NA	05/25/21	06015914
Solids, Volatile Suspen	10.0	10.0		13.0	MG/L	NONE	160.4	NA	05/25/21	06015915
Total Organic Carbon	0.500	1.00		7.1	MG/L	NONE	415.1	NA	05/25/21	05285912

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008701-10
Field ID: LS MARINA
Received: 05/20/2021

Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER
Sampling Date: 05/20/2021
Sampling Time: 1140

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.0	1.00		66.0	COL/100 ML	NONE	1604	NA	05/20/21	05245893

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008701-11
Field ID: FIN MARINA
Received: 05/20/2021

Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER
Sampling Date: 05/20/2021
Sampling Time: 1350

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.0	1.00		200	COL/100 ML	NONE	1604	NA	05/20/21	05245893

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008701-12 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SUL MARINA Sampling Date: 05/20/2021 Moisture: NA
Received: 05/20/2021 Sampling Time: 1440

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.0	1.00		775	COL/100 ML	NONE	1604	NA	05/20/21	05245893

(a) DOD and/or NELAC Accredited Analyte.

METHOD BLANK REPORT

ARDL, Inc. 400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008701 Report Date: 06/04/2021

Project Name:	SHELBYVILLE LAKE/KAS	Analysis:	NP PESTICIDES (8270SIM-MOD)
Project No.:		Analytical Method:	8270C
NELAC Certified - IL100308		Prep Method:	3510C

Field ID:	NA	ARDL Lab No.:	008701-01B1
Desc/Location:	NA	Lab Filename:	E0602112
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	05/25/2021
Matrix:	QC Material	Analysis Date:	06/02/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11338
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units
Trifluralin	0.200	0.200	ND		UG/L
Atrazine	0.200	0.200	ND		UG/L
Metribuzin	0.200	0.200	ND		UG/L
Alachlor	0.200	0.200	ND		UG/L
Metolachlor	0.200	0.200	ND		UG/L
Chlorpyrifos	0.200	0.200	ND		UG/L
Cyanazine	0.200	0.200	ND		UG/L
Pendimethalin	0.200	0.200	ND		UG/L

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	80%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

BLANK SUMMARY REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	LOD	LOQ	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number
(a) Iron	0.040	0.050	ND	MG/L	3010A	6010C	05/24/21	05/25/21	P7518	008700-01B1
(a) Manganese	0.004	0.005	ND	MG/L	3010A	6010C	05/24/21	05/25/21	P7518	008700-01B1
Ammonia Nitrogen	0.020	0.030	ND	MG/L	NONE	350.1	NA	06/03/21	06035926	008703-01B1
Ammonia Nitrogen	0.020	0.030	ND	MG/L	NONE	350.1	NA	05/26/21	05275909	008701-01B1
Chlorophyll-a, Corre	1.0	1.0	ND	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905	008701-07B1
Kjeldahl Nitrogen	0.19	0.20	ND	MG/L	351.2	351.2	06/04/21	06/10/21	06115931	008700-10B1
Nitrate as Nitrogen	0.019	0.020	ND	MG/L	NONE	GREEN	NA	05/21/21	05245896	008701-01B1
Nitrite as Nitrogen	0.020	0.020	ND	MG/L	NONE	354.1	NA	05/21/21	05245895	008701-09B1
Pheophytin-a	1.0	1.0	ND	MG/CU.M.	10200H	10200H	05/21/21	05/24/21	05265905	008701-07B1
Phosphorus	0.008	0.010	ND	MG/L	365.2	365.2	06/01/21	06/02/21	06035925	008701-02B1
Solids, Total Suspen	1.0	1.0	ND	MG/L	NONE	160.2	NA	05/25/21	06015914	008701-04B1
Solids, Volatile Sus	1.0	1.0	ND	MG/L	NONE	160.4	NA	05/25/21	06015915	008701-04B1
Total Organic Carbon	0.50	1.0	ND	MG/L	NONE	415.1	NA	05/26/21	05285911	008700-01B1
Total Organic Carbon	0.50	1.0	ND	MG/L	NONE	415.1	NA	05/25/21	05285912	008701-08B1

(a) DOD and/or NELAC Accredited Analyte

Inorganic Method Blanks for 008701

BLANK SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C
Project No.: Prep Method: 3510C

Matrix: QC Material QC Batch: B11338 Prep. Date: 05/25/2021
Amount Used: 1000 mL Level: LOW Analysis Date: 06/02/2021

Parameter	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits	RPD	RPD Limit
Trifluralin	3.18	4	80	--	--	--	30-130	--	--
Atrazine	3.12	4	78	--	--	--	30-130	--	--
Metribuzin	3.08	4	77	--	--	--	30-130	--	--
Alachlor	2.96	4	74	--	--	--	30-130	--	--
Metolachlor	3.05	4	76	--	--	--	30-130	--	--
Chlorpyrifos	2.88	4	72	--	--	--	30-130	--	--
Cyanazine	3.29	4	82	--	--	--	30-130	--	--
Pendimethalin	3.14	4	79	--	--	--	30-130	--	--

SURROGATE RECOVERIES:	Spike %R	Duplicate %R	%R Limits
Triphenylphosphate	83	--	30-130

(a) DOD-QSM Accredited Analyte.

'*' indicates a recovery outside of standard limits.

Spike Blanks for 008701-01, NP PESTICIDES (8270SIM-MOD)

LABORATORY CONTROL SAMPLE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	LCS 1 Result	LCS 1 Level	LCS 1 % Rec	LCS 2 Result	LCS 2 Level	LCS 2 % Rec	% Rec Limits	Mean % Rec	Analytical Run	QC Lab Number
(a) Iron	5.1	5.0	102	--	--	--	87-115	--	P7518	008700-01C1
(a) Manganese	0.80	0.75	106	--	--	--	90-114	--	P7518	008700-01C1
Ammonia Nitrogen	1.1	1.0	109	--	--	--	80-120	--	06035926	008703-01C1
Ammonia Nitrogen	1.1	1.0	110	--	--	--	80-120	--	05275909	008701-01C1
Kjeldahl Nitrogen	1.1	1.0	108	--	--	--	80-120	--	06115931	008700-10C1
Nitrate as Nitrogen	0.96	1.0	96	--	--	--	80-120	--	05245896	008701-01C1
Nitrite as Nitrogen	1.0	1.0	102	--	--	--	80-120	--	05245895	008701-09C1
Phosphorus	0.67	0.67	100	--	--	--	80-120	--	06035925	008701-02C1
Total Organic Carbon	19.5	20.0	98	--	--	--	76-120	--	05285911	008700-01C1
Total Organic Carbon	20.2	20.0	101	--	--	--	76-120	--	05285912	008701-08C1

NOTE: Any values tabulated above marked with an asterisk are outside of acceptable limits.

(a) DOD and/or NELAC Accredited Analyte

MATRIX SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008701 Report Date: 06/04/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C
Project No.: Prep Method: 3510C

Field ID:	SVL-1	Prep. Date:	05/25/2021	ARDL Lab No.:	008701-01
Desc/Location:	SHELBYVILLE LAKE/KASKASKI	Amount Used:	900 mL	Lab Filename:	
Sample Date:	05/20/2021	% Moisture:	NA	Received Date:	05/20/2021
Sample Time:	1015	QC Batch:	B11338	Analysis Date:	06/02/2021
Matrix:	WATER	Level:	LOW		

Parameter	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit
Trifluralin	ND	3.19	4.44	71.8	2.83	4.44	63.8	30-130	11.8	30
Atrazine	ND	3.01	4.44	67.8	2.88	4.44	64.8	30-130	4.5	30
Metribuzin	ND	2.82	4.44	63.5	2.67	4.44	60	30-130	5.7	30
Alachlor	ND	3.12	4.44	70.3	2.91	4.44	65.5	30-130	7	30
Metolachlor	0.289	3.32	4.44	68.3	3.26	4.44	66.8	30-130	2	30
Chlorpyrifos	ND	2.98	4.44	67	2.68	4.44	60.3	30-130	10.6	30
Cyanazine	ND	2.96	4.44	66.5	2.83	4.44	63.8	30-130	4.2	30
Pendimethalin	ND	3.1	4.44	69.8	2.92	4.44	65.8	30-130	5.9	30

SURROGATE RECOVERIES:	MS %R	MSD %R	%R Limits
Triphenylphosphate	71	67	30-130

(a) DOD-QSM Accredited Analyte.
'nc' indicates sample >4X spike level.
'*' indicates a recovery outside of standard limits.
Matrix Spikes for 008701-01, NP PESTICIDES (8270SIM-MOD)

MATRIX SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	Sample Matrix	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit	Run	QC Lab Number
(a) Iron	WATER	0.43	1.5	1.0	104	1.4	1.0	100	87-115	3	20	P7518	008701-01MS
(a) Manganese	WATER	0.031	0.56	0.50	106	0.55	0.50	103	90-114	2	20	P7518	008701-01MS
Ammonia Nitrogen	WATER	0.070	2.0	2.0	97	2.2	2.0	105	75-125	7	20	05275909	008701-01MS
Kjeldahl Nitrogen	WATER	5.8	3.1	0.80	18 *	3.8	0.80	111	75-125	22 *	20	06115931	008701-09MS
Nitrate as Nitrogen	WATER	3.6	4.6	1.0	93	4.5	1.0	93	75-125	0	20	05245896	008701-01MS
Phosphorus	WATER	0.057	0.87	0.83	98	0.89	0.83	101	75-125	2	20	06035925	008701-02MS
Total Organic Carbon	WATER	2.8	7.9	5.0	101	7.8	5.0	100	76-120	1	20	05285911	008701-05MS

NOTE: Values tabulated above marked with an asterisk are explained in the associated narrative.

(a) DOD and/or NELAC Accredited Analyte.

Inorganic Matrix Spikes for 008701

SAMPLE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008701 Report Date: 06/11/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	Sample Conc'n	First Duplicate	Second Duplicate	Units	Percent Diff	Mean (Smp,D1,D2)	Analytical Run	QC Lab Number
Chlorophyll-a, Corrected	43.6	44.5	--	MG/CU.M.	2	--	05265905	008701-07D1
Pheophytin-a	9.2	5.7	--	MG/CU.M.	47*	--	05265905	008701-07D1
Solids, Total Suspended	30.0	28.7	--	MG/L	5	--	06015914	008701-04D1
Solids, Volatile Suspend	ND	0	--	MG/L	NC	--	06015915	008701-04D1

* indicates that agreement between duplicates is greater than 20%. See Case Narrative for exceptions.
(a) DOD and/or NELAC Accredited Analyte

Sample Receipt Information

Including as appropriate:

- COCs
- Cooler Receipts
- Airbills
- Email Communication / Instructions from Customer

8701

ARDL, Inc.

P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864
(618) 244-3235 Phone (618) 244-1149 Fax

CHAIN OF CUSTODY RECORD

PROJECT: Shelbyville Lake

SAMPLERS: (Signature) Ben Breeling, Shawn Kempshaw

SAMPLE NUMBER	DATE	TIME	COMP	GRAB	NO. OF CONTAINERS	TSS, TVSS	Chloro/Pheo	* TOC, T-PO4	*NO2-N, TKN	* NO3-N, NH3-N	NP Pest	#T,Fe,T,Mn	E. coli	MS/MSD					REMARKS OR SAMPLE LOCATION	PRESERVATION ICED	PRESERVATION SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
SVL-1	5/20/21	1015		X		X		X		X	X	X		X						X	
SVL-2		1130		X		X	X	X		X	X									X	
SVL-2-10		1145		X		X		X		X		X								X	
SVL-4		1430		X		X	X	X		X	X									X	
SVL-12		1545		X		X		X		X	X		X							X	
SVL-13		1245		X		X		X		X	X									X	
SVL-11		1400		X		X	X	X		X	X									X	
SVL-15		1415		X		X	X	X		X	X									X	
KAS-3		0845		X		X	X	X	X	X			X							X	
LS Marina		1140		X									X							X	
FIN Marina		1350		X									X							X	
SUL Marina		1440		X									X							X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
	5/20/21	1725	Valerie Jenkins
Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Valerie Jenkins	5/20/21	1835	
Received for Laboratory by: (Signature)	Date	Time	Shipping Ticket No.
Patton Brenneman	05/20/21	1835	

REMARKS/SPECIAL INSTRUCTIONS:

*Preserved with H_2SO_4
#Preserved with HNO_3

PURCHASE ORDER NO: _____

COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8701 Cooler # Red 1

Number of Coolers in Shipment: 2

Project: Shelbyville Lake Kaskaskia River Date Received: 05/20/2021

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 05/21/2021 (Signature) DCB

1. Did cooler come with a shipping slip (airbill, etc.)? ... (YES) NO
   If YES, enter carrier name and airbill number here: ARDL Courier - Valerie
2. Were custody seals on outside of cooler? ... YES (NO) N/A
   How many and where? ____, Seal Date: ____, Seal Name: ____
3. Were custody seals unbroken and intact at the date and time of arrival? ... YES NO (NA)
4. Did you screen samples for radioactivity using a Geiger Counter? ... (YES) NO
5. Were custody papers sealed in a plastic bag? Hand delivered ... YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? ... YES NO N/A
7. Were custody papers signed in appropriate place by ARDL personnel? ... YES NO N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form ... YES NO N/A
9. Was a separate container provided for measuring temperature? YES ____ NO ✓ Observed Cooler Temp. 1.4 C Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 05/21/2021 (Signature) DCB

10. Describe type of packing in cooler: Loose Ice
11. Were all samples sealed in separate plastic bags? ... YES (NO) N/A
12. Did all containers arrive unbroken and were labels in good condition? ... (YES) NO
13. Were sample labels complete? ... (YES) NO
14. Did all sample labels agree with custody papers? See Note ... YES (NO)
15. Were correct containers used for the tests indicated? ... (YES) NO
16. Was pH correct on preserved water samples? ... (YES) NO N/A
17. Was a sufficient amount of sample sent for tests indicated? ... (YES) NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: ____ YES NO (N/A)
19. Was the ARDL project coordinator notified of any deficiencies? ... YES NO (N/A)

Comments and/or Corrective Action:
Bottles state SBV instead of SVL.
(By: Signature) DCB Date: 05/21/2021

Sample Transfer	
Fraction: All	Fraction:
Area #: Walk-In	Area #:
By: DCB	By:
On: 05/21/2021	On:

Chain-of-Custody # ____

M:\ADMIN\FORMS\COOLER RECEIPT REPORT.doc Rev. 02/22/17

COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8701 Cooler # Red 2

Number of Coolers in Shipment: 2

Project: Shelbyville Lake Kaskaskia River Date Received: 05/20/2021

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 05/21/2021 (Signature) DCB

1. Did cooler come with a shipping slip (airbill, etc.)? (YES) NO
   If YES, enter carrier name and airbill number here: ARDL Courier – Valerie
2. Were custody seals on outside of cooler? YES (NO) N/A
   How many and where? ——, Seal Date: ——, Seal Name: ——
3. Were custody seals unbroken and intact at the date and time of arrival? YES NO (NA)
4. Did you screen samples for radioactivity using a Geiger Counter? (YES) NO
5. Were custody papers sealed in a plastic bag? Hand delivered YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? (YES) NO N/A
7. Were custody papers signed in appropriate place by ARDL personnel? (YES) NO N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form (YES) NO N/A
9. Was a separate container provided for measuring temperature? YES____ NO✓ Observed Cooler Temp. 1.9 C Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 05/21/2021 (Signature) DCB

10. Describe type of packing in cooler: Loose Ice
11. Were all samples sealed in separate plastic bags? YES (NO) N/A
12. Did all containers arrive unbroken and were labels in good condition? (YES) NO
13. Were sample labels complete? (YES) NO
14. Did all sample labels agree with custody papers? See Note YES (NO)
15. Were correct containers used for the tests indicated? (YES) NO
16. Was pH correct on preserved water samples? (YES) NO N/A
17. Was a sufficient amount of sample sent for tests indicated? (YES) NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: ____ YES NO (N/A)
19. Was the ARDL project coordinator notified of any deficiencies? YES NO (N/A)

Comments and/or Corrective Action:
(By: Signature) Date:

Sample Transfer	
Fraction: All	Fraction:
Area #: Walk-In	Area #:
By: DCB	By:
On: 05/21/2021	On:

Chain-of-Custody # ——

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ARDL Inc.
Environmental | Analytical | Management | Safety

PO Box 1566
400 Aviation Drive
Mt. Vernon, IL 62864
618-244-3235
www.ardlinc.com

Customer Name: SLCOE **Date: 7/28/21**

Project Name: Shelbyville Lake/Kaskaskia River **Lab Name: ARDL, Inc.**

Samples Received at ARDL: 7/7/21 **ARDL Report No.: 8733**

CASE NARRATIVE

Customer Sample No.	Date Collected	Lab ID Number	Analyses Requested
SVL-1	7/07/21	8733-01	NP Pesticides, Metals(1), Inorganics(2)
SVL-2	7/07/21	8733-02	NP Pesticides, Inorganics(2)(3)
SVL-2-10	7/07/21	8733-03	Metals(1), Inorganics(2)
SVL-4	7/07/21	8733-04	NP Pesticides, Inorganics(2)(3)
SVL-12	7/07/21	8733-05	NP Pesticides, Inorganics(2), E. Coli
SVL-13	7/07/21	8733-06	NP Pesticides, Inorganics(2)
SVL-11	7/07/21	8733-07	NP Pesticides, Inorganics(2)(3)
SVL-15	7/07/21	8733-08	NP Pesticides, Inorganics(2)(3)
KAS-3	7/07/21	8733-09	Inorganics(2)(3)(4), E.Coli
LS Marina	7/07/21	8733-10	E. Coli
FIN Marina	7/07/21	8733-11	E. Coli
SUL Marina	7/07/21	8733-12	E. Coli
KAS-1	7/07/21	8733-13	Inorganics(2)(3)(4), E. Coli
KAS-2	7/07/21	8733-14	Inorganics(2)(3)(4), E. Coli

(1) Including iron and manganese.
(2) Including ammonia, nitrate, total phosphorus, TOC, TSS and TVSS.
(3) Including chlorophyll-a and pheophytin-a.
(4) Including nitrite and TKN.

The quality control data are summarized as follows:

NP PESTICIDE FRACTION – METHOD 8270-SIM

HOLDING TIME
Samples were prepared and analyzed within method specified holding times.

INITIAL CALIBRATION
The initial calibration passed criteria.

CONTINUING CALIBRATION
The continuing calibration verification (CCV) passed criteria for all analytes.

PREPARATION BLANK
The blank met acceptance criteria.

CASE NARRATIVE (Continued)

LABORATORY CONTROL SAMPLE
The LCS analyses met recovery criteria.

MATRIX SPIKE
The matrix spike and matrix spike duplicate met recovery criteria.

DUPLICATE
Duplicate analyses are reported as MS/MSD. RPD (30% limit) was exceeded for five of the target compounds with the remaining three within range. The MS had slightly lower surrogate recovery than the native sample while the MSD had slightly better surrogate recovery. This difference is believed to be the cause of the suboptimal precision data. The parent sample is flagged with J qualifier as appropriate.

INTERNAL STANDARDS
All internal standard criteria were met.

SURROGATES
All surrogate recovery criteria were met.

INORGANIC FRACTION

TOC analyses were subcontracted to Eurofins - TestAmerica Laboratory Network.

PREPARATION BLANK
Results of the preparation blanks were undetected.

LABORATORY CONTROL SAMPLE
Percent recoveries of all LCS analyses were within control limits.

MATRIX SPIKE
Percent recoveries of all matrix spikes and matrix spike duplicates were within control limits, except 1 of 2 for TKN. The parent sample has been flagged appropriately with a 'J' qualifier.

DUPLICATE
All duplicate analyses are reported as MS/MSD except chlorophyll-a, pheophytin-a, TSS and TVSS.
RPD on all duplicate analyses were within control limits.

DATA REPORTING QUALIFIERS

The following data reporting qualifiers are used as required:

ND - Indicates parameter was analyzed for but not detected.

J - Indicates an estimated value. This flag is used either when estimating a concentration or this flag indicates analyte(s) associated with a DOD-QSM specified non-compliance pertaining to matrix QC criteria.

CASE NARRATIVE (Continued)

REPORT ORGANIZATION

The data in this report appear by sample type (Field sample, preparation blank, laboratory control sample / spike blank, matrix spike /spike duplicate and sample duplicate). Within each sample type the data appear in the order that the analytical methods were discussed in this case narrative. Sample receipt information follows the analytical data.

Release of the data contained in this package has been authorized by the Technical Services Manager or his designee as verified by the following signature.

Dean S. Dickerson
Technical Services Manager

Sample & QC Results

Including as appropriate:

- Field Sample Results
- Batch QC
  - Prep Blank
  - LCS/Spike Blank
- Matrix QC
  - MS/MSD
  - Sample Duplicate

ARDL Data Package 8733

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-1	ARDL Lab No.:	008733-01
Desc/Location:	SHELBYVILLE LAKE/KASKASIA	Lab Filename:	E0721105
Sample Date:	07/07/2021	Received Date:	07/07/2021
Sample Time:	1045	Prep. Date:	
Matrix:	WATER	Analysis Date:	07/21/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11368
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.200	0.200	ND		UG/L	1
Atrazine	0.200	0.200	0.690	J	UG/L	1
Metribuzin	0.200	0.200	ND		UG/L	1
Alachlor	0.200	0.200	ND		UG/L	1
Metolachlor	0.200	0.200	1.22	J	UG/L	1
Chlorpyrifos	0.200	0.200	ND		UG/L	1
Cyanazine	0.200	0.200	ND		UG/L	1
Pendimethalin	0.200	0.200	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	63%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-01 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: SVL-1 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1045

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		0.0961	MG/L	3010A	6010C	07/19/21	07/20/21	P7553
(a) Manganese	0.00400	0.00500		0.0128	MG/L	3010A	6010C	07/19/21	07/20/21	P7553
Ammonia Nitrogen	0.0200	0.0300		0.0573	MG/L	NONE	350.1	NA	07/08/21	07086019
Nitrate as Nitrogen	0.0950	0.100		3.1	MG/L	NONE	GREEN	NA	07/20/21	07236080
Phosphorus	0.00800	0.0100		0.0571	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		4.4	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		ND	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		3.5	MG/L	NONE	415.1	NA	07/11/21	07166058

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Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-2	ARDL Lab No.:	008733-02
Desc/Location:	SHELBYVILLE LAKE/KASKASIA	Lab Filename:	E0721108
Sample Date:	07/07/2021	Received Date:	07/07/2021
Sample Time:	1145	Prep. Date:	07/12/2021
Matrix:	WATER	Analysis Date:	07/21/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11368
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.611		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	0.933		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	53%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-02 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: SVL-2 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1145

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300	J	0.0221	MG/L	NONE	350.1	NA	07/08/21	07086019
Chlorophyll-a, Correcte	1.0	1.00		6.8	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Nitrate as Nitrogen	0.0950	0.100		2.99	MG/L	NONE	GREEN	NA	07/20/21	07236080
Pheophytin-a	1.0	1.00		ND	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Phosphorus	0.00800	0.0100		0.0484	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		4.0	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		ND	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		3.6	MG/L	NONE	415.1	NA	07/11/21	07166058

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Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-03 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: SVL-2-10 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1145

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		0.599	MG/L	3010A	6010C	07/19/21	07/20/21	P7553
(a) Manganese	0.00400	0.00500		0.261	MG/L	3010A	6010C	07/19/21	07/20/21	P7553
Ammonia Nitrogen	0.0200	0.0300		0.23	MG/L	NONE	350.1	NA	07/08/21	07086019
Nitrate as Nitrogen	0.0950	0.100		2.11	MG/L	NONE	GREEN	NA	07/20/21	07236080
Phosphorus	0.00800	0.0100		0.0657	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		14.4	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		ND	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		3.1	MG/L	NONE	415.1	NA	07/11/21	07166058

(a) DOD and/or NELAC Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-4	ARDL Lab No.:	008733-04
Desc/Location:	SHELBYVILLE LAKE/KASKASIA	Lab Filename:	E0721109
Sample Date:	07/07/2021	Received Date:	07/07/2021
Sample Time:	1530	Prep. Date:	07/12/2021
Matrix:	WATER	Analysis Date:	07/21/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11368
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.367		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.36		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	44%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008733-04
Field ID: SVL-4
Received: 07/07/2021

Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER
Sampling Date: 07/07/2021
Sampling Time: 1530

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300	J	0.0263	MG/L	NONE	350.1	NA	07/08/21	07086019
Chlorophyll-a, Correcte	1.0	1.00		64.5	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Nitrate as Nitrogen	0.0950	0.100		3.36	MG/L	NONE	GREEN	NA	07/20/21	07236080
Pheophytin-a	1.0	1.00		8.0	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Phosphorus	0.00800	0.0100		0.20	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		12.4	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		9.6	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		7.0	MG/L	NONE	415.1	NA	07/11/21	07166058

(a) DOD and/or NELAC Accredited Analyte.

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Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-12	ARDL Lab No.:	008733-05
Desc/Location:	SHELBYVILLE LAKE/KASKASIA	Lab Filename:	E0721110
Sample Date:	07/07/2021	Received Date:	07/07/2021
Sample Time:	1630	Prep. Date:	07/12/2021
Matrix:	WATER	Analysis Date:	07/21/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11368
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.333		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.04		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	80%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-05 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: SVL-12 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1630

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300	J	0.0228	MG/L	NONE	350.1	NA	07/08/21	07086019
E. Coliform	1.0	1.00		150	COL/100 ML	NONE	1604	NA	07/07/21	07136039
Nitrate as Nitrogen	0.0950	0.100		4.86	MG/L	NONE	GREEN	NA	07/20/21	07236080
Phosphorus	0.00800	0.0100		0.234	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		7.6	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		ND	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		3.9	MG/L	NONE	415.1	NA	07/11/21	07166058

(a) DOD and/or NELAC Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-13	ARDL Lab No.:	008733-06
Desc/Location:	SHELBYVILLE LAKE/KASKASIA	Lab Filename:	E0721111
Sample Date:	07/07/2021	Received Date:	07/07/2021
Sample Time:	1350	Prep. Date:	07/12/2021
Matrix:	WATER	Analysis Date:	07/21/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11368
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.856		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	2.87		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	65%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-06 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: SVL-13 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1350

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.040	MG/L	NONE	350.1	NA	07/08/21	07086019
Nitrate as Nitrogen	0.0950	0.100		2.65	MG/L	NONE	GREEN	NA	07/20/21	07236080
Phosphorus	0.00800	0.0100		0.139	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		13.6	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		8.8	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		6.3	MG/L	NONE	415.1	NA	07/11/21	07166058

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-11	ARDL Lab No.:	008733-07
Desc/Location:	SHELBYVILLE LAKE/KASKASIA	Lab Filename:	E0721112
Sample Date:	07/07/2021	Received Date:	07/07/2021
Sample Time:	1502	Prep. Date:	07/12/2021
Matrix:	WATER	Analysis Date:	07/21/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11368
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	1.13		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.96		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	71%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-07 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: SVL-11 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1502

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0384	MG/L	NONE	350.1	NA	07/08/21	07086019
Chlorophyll-a, Correcte	1.0	1.00		31.8	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Nitrate as Nitrogen	0.0950	0.100		2.42	MG/L	NONE	GREEN	NA	07/20/21	07236080
Pheophytin-a	1.0	1.00		2.5	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Phosphorus	0.00800	0.0100		0.070	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		10.0	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		5.6	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		4.1	MG/L	NONE	415.1	NA	07/11/21	07166058

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Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-15	ARDL Lab No.:	008733-08
Desc/Location:	SHELBYVILLE LAKE/KASKASIA	Lab Filename:	E0721113
Sample Date:	07/07/2021	Received Date:	07/07/2021
Sample Time:	1502	Prep. Date:	07/12/2021
Matrix:	WATER	Analysis Date:	07/21/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11368
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.878		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.63		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	65%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-08 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: SVL-15 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1502

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.031	MG/L	NONE	350.1	NA	07/08/21	07086019
Chlorophyll-a, Correcte	1.0	1.00		32.7	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Nitrate as Nitrogen	0.0950	0.100		2.55	MG/L	NONE	GREEN	NA	07/20/21	07236080
Pheophytin-a	1.0	1.00		ND	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Phosphorus	0.00800	0.0100		0.083	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		8.4	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		5.6	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		4.2	MG/L	NONE	415.1	NA	07/11/21	07166059

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-09 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: KAS-3 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 0940

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0329	MG/L	NONE	350.1	NA	07/08/21	07086019
Chlorophyll-a, Correcte	1.0	1.00		8.2	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
E. Coliform	1.0	1.00		650	COL/100 ML	NONE	1604	NA	07/07/21	07136039
Kjeldahl Nitrogen	0.19	0.20	J	0.93	MG/L	351.2	351.2	07/08/21	07/19/21	07206073
Nitrate as Nitrogen	0.0950	0.100		2.94	MG/L	NONE	GREEN	NA	07/20/21	07236080
Nitrite as Nitrogen	0.0200	0.0200		0.072	MG/L	NONE	354.1	NA	07/08/21	07136040
Pheophytin-a	1.0	1.00		1.4	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Phosphorus	0.00800	0.0100		0.0917	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	4.00	4.00		53.2	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	4.00	4.00		4.0	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		3.5	MG/L	NONE	415.1	NA	07/11/21	07166059

(a) DOD and/or NELAC Accredited Analyte.

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-10 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: LS MARINA Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1215

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.0	1.00		11.0	COL/100 ML	NONE	1604	NA	07/07/21	07136039

(a) DOD and/or NELAC Accredited Analyte.

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-11 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: FIN MARINA Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1443

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.0	1.00		9.0	COL/100 ML	NONE	1604	NA	07/07/21	07136039

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-12 Sampling Loc'n: SHELBYVILLE LAKE/KASKASKIA RIVER Matrix: WATER
Field ID: SUL MARINA Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1635

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.0	1.00		27.0	COL/100 ML	NONE	1604	NA	07/07/21	07136039

(a) DOD and/or NELAC Accredited Analyte.

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-13 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: KAS-1 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1300

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0613	MG/L	NONE	350.1	NA	07/08/21	07086019
Chlorophyll-a, Correcte	1.0	1.00		47.7	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
E. Coliform	1.0	1.00		800	COL/100 ML	NONE	1604	NA	07/07/21	07136039
Kjeldahl Nitrogen	0.19	0.20		1.2	MG/L	351.2	351.2	07/08/21	07/19/21	07206073
Nitrate as Nitrogen	0.0190	0.0200		0.263	MG/L	NONE	GREEN	NA	07/20/21	07236080
Nitrite as Nitrogen	0.0200	0.0200		0.043	MG/L	NONE	354.1	NA	07/08/21	07136040
Pheophytin-a	1.0	1.00		9.5	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Phosphorus	0.00800	0.0100		0.386	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	5.56	5.56		70.6	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	5.56	5.56		10.0	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		6.1	MG/L	NONE	415.1	NA	07/11/21	07166059

(a) DOD and/or NELAC Accredited Analyte.

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Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008733-14 Sampling Loc'n: SHELBYVILLE LAKE/KASKASIA RIVER Matrix: WATER
Field ID: KAS-2 Sampling Date: 07/07/2021 Moisture: NA
Received: 07/07/2021 Sampling Time: 1452

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0346	MG/L	NONE	350.1	NA	07/08/21	07086019
Chlorophyll-a, Correcte	1.0	1.00		45.4	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
E. Coliform	1.0	1.00		950	COL/100 ML	NONE	1604	NA	07/07/21	07136039
Kjeldahl Nitrogen	0.19	0.20		1.7	MG/L	351.2	351.2	07/08/21	07/19/21	07206073
Nitrate as Nitrogen	0.0190	0.0200		0.165	MG/L	NONE	GREEN	NA	07/20/21	07236080
Nitrite as Nitrogen	0.0200	0.0200		0.020	MG/L	NONE	354.1	NA	07/08/21	07136040
Pheophytin-a	1.0	1.00		8.6	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046
Phosphorus	0.00800	0.0100		0.403	MG/L	365.2	365.2	07/20/21	07/21/21	07226079
Solids, Total Suspended	6.67	6.67		120	MG/L	NONE	160.2	NA	07/08/21	07136032
Solids, Volatile Suspen	6.67	6.67		12.0	MG/L	NONE	160.4	NA	07/08/21	07136033
Total Organic Carbon	0.500	1.00		5.1	MG/L	NONE	415.1	NA	07/11/21	07166059

(a) DOD and/or NELAC Accredited Analyte.

METHOD BLANK REPORT

ARDL, Inc. 400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	NA	ARDL Lab No.:	008733-01B1
Desc/Location:	NA	Lab Filename:	E0721103
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	07/12/2021
Matrix:	QC Material	Analysis Date:	07/21/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11368
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units
Trifluralin	0.200	0.200	ND		UG/L
Atrazine	0.200	0.200	ND		UG/L
Metribuzin	0.200	0.200	ND		UG/L
Alachlor	0.200	0.200	ND		UG/L
Metolachlor	0.200	0.200	ND		UG/L
Chlorpyrifos	0.200	0.200	ND		UG/L
Cyanazine	0.200	0.200	ND		UG/L
Pendimethalin	0.200	0.200	ND		UG/L

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	82%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

BLANK SUMMARY REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	LOD	LOQ	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number
(a) Iron	0.040	0.050	ND	MG/L	3010A	6010C	07/19/21	07/20/21	P7553	008732-01B1
(a) Manganese	0.004	0.005	ND	MG/L	3010A	6010C	07/19/21	07/20/21	P7553	008732-01B1
Ammonia Nitrogen	0.020	0.030	ND	MG/L	NONE	350.1	NA	07/08/21	07086019	008733-01B1
Chlorophyll-a, Corre	1.0	1.0	ND	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046	008733-13B1
Kjeldahl Nitrogen	0.19	0.20	ND	MG/L	351.2	351.2	07/08/21	07/19/21	07206073	008733-09B1
Nitrate as Nitrogen	0.019	0.020	ND	MG/L	NONE	GREEN	NA	07/20/21	07236080	008733-13B1
Nitrite as Nitrogen	0.020	0.020	ND	MG/L	NONE	354.1	NA	07/08/21	07136040	008733-09B1
Pheophytin-a	1.0	1.0	ND	MG/CU.M.	10200H	10200H	07/08/21	07/13/21	07146046	008733-13B1
Phosphorus	0.008	0.010	ND	MG/L	365.2	365.2	07/20/21	07/21/21	07226079	008732-07B1
Solids, Total Suspen	1.0	1.0	ND	MG/L	NONE	160.2	NA	07/08/21	07136032	008733-03B1
Solids, Volatile Sus	1.0	1.0	ND	MG/L	NONE	160.4	NA	07/08/21	07136033	008733-03B1
Total Organic Carbon	0.50	1.0	ND	MG/L	NONE	415.1	NA	07/10/21	07166058	008732-01B1
Total Organic Carbon	0.50	1.0	ND	MG/L	NONE	415.1	NA	07/11/21	07166059	008733-08B1

(a) DOD and/or NELAC Accredited Analyte

Inorganic Method Blanks for 008733

BLANK SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C
Project No.: Prep Method: 3510C

Matrix: QC Material QC Batch: B11368 Prep. Date: 07/12/2021
Amount Used: 1000 mL Level: LOW Analysis Date: 07/21/2021

Parameter	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits	RPD	RPD Limit
Trifluralin	3.38	4	85	--	--	--	30-130	--	--
Atrazine	3.54	4	89	--	--	--	30-130	--	--
Metribuzin	3.54	4	89	--	--	--	30-130	--	--
Alachlor	3.67	4	92	--	--	--	30-130	--	--
Metolachlor	3.49	4	87	--	--	--	30-130	--	--
Chlorpyrifos	3.36	4	84	--	--	--	30-130	--	--
Cyanazine	3.54	4	89	--	--	--	30-130	--	--
Pendimethalin	3.42	4	86	--	--	--	30-130	--	--

SURROGATE RECOVERIES:	Spike %R	Duplicate %R	%R Limits
Triphenylphosphate	87.3	--	30-130

(a) DOD-QSM Accredited Analyte.
'*' indicates a recovery outside of standard limits.
Spike Blanks for 008733-01, NP PESTICIDES (8270SIM-MOD)

LABORATORY CONTROL SAMPLE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	LCS 1 Result	LCS 1 Level	LCS 1 % Rec	LCS 2 Result	LCS 2 Level	LCS 2 % Rec	% Rec Limits	Mean % Rec	Analytical Run	QC Lab Number
(a) Iron	4.9	5.0	98	--	--	--	87-115	--	P7553	008732-01C1
(a) Manganese	0.76	0.75	102	--	--	--	90-114	--	P7553	008732-01C1
Ammonia Nitrogen	1.1	1.0	106	--	--	--	80-120	--	07086019	008733-01C1
Kjeldahl Nitrogen	0.85	1.0	85	--	--	--	80-120	--	07206073	008733-09C1
Nitrate as Nitrogen	0.98	1.0	98	--	--	--	80-120	--	07236080	008733-13C1
Phosphorus	0.68	0.67	101	--	--	--	80-120	--	07226079	008732-07C1
Total Organic Carbon	20.4	20.0	102	--	--	--	76-120	--	07166058	008732-01C1
Total Organic Carbon	20.3	20.0	102	--	--	--	76-120	--	07166059	008733-08C1

NOTE: Any values tabulated above marked with an asterisk are outside of acceptable limits.

(a) DOD and/or NELAC Accredited Analyte

MATRIX SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008733 Report Date: 07/22/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C
Project No.: Prep Method: 3510C

Field ID:	SVL-1	Prep. Date:	07/12/2021	ARDL Lab No.:	008733-01
Desc/Location:	SHELBYVILLE LAKE/KASKASIA	Amount Used:	1000 mL	Lab Filename:	
Sample Date:	07/07/2021	% Moisture:	NA	Received Date:	07/07/2021
Sample Time:	1045	QC Batch:	B11368	Analysis Date:	07/21/2021
Matrix:	WATER	Level:	LOW		

Parameter	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit
Trifluralin	ND	2.29	4	57.3	2.96	4	74	30-130	25.5	30
Atrazine	0.690	2.35	4	41.5	3.63	4	73.5	30-130	42.8 *	30
Metribuzin	ND	1.74	4	43.5	2.68	4	67	30-130	42.5 *	30
Alachlor	ND	2.26	4	56.5	3.24	4	81	30-130	35.6 *	30
Metolachlor	1.22	3.09	4	46.8	4.5	4	82	30-130	37.2 *	30
Chlorpyrifos	ND	2.32	4	58	2.88	4	72	30-130	21.5	30
Cyanazine	ND	1.82	4	45.5	2.79	4	69.8	30-130	42.1 *	30
Pendimethalin	ND	2.23	4	55.8	2.93	4	73.3	30-130	27.1	30

SURROGATE RECOVERIES:	MS %R	MSD %R	%R Limits
Triphenylphosphate	57	76	30-130

(a) DOD-QSM Accredited Analyte.
'nc' indicates sample >4X spike level.
'*' indicates a recovery outside of standard limits.
Matrix Spikes for 008733-01, NP PESTICIDES (8270SIM-MOD)

MATRIX SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008733 Report Date: 07/26/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	Sample Matrix	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit	Run	QC Lab Number
(a) Iron	WATER	0.096	1.1	1.0	98	1.1	1.0	97	87-115	0	20	P7553	008733-01MS
(a) Manganese	WATER	0.013	0.53	0.50	103	0.52	0.50	102	90-114	0	20	P7553	008733-01MS
Ammonia Nitrogen	WATER	0.057	2.0	2.0	99	2.0	2.0	99	75-125	0	20	07086019	008733-01MS
Kjeldahl Nitrogen	WATER	0.93	2.0	0.80	128 *	1.8	0.80	113	75-125	6	20	07206073	008733-09MS
Nitrate as Nitrogen	WATER	0.26	1.1	1.0	80	1.1	1.0	80	75-125	0	20	07236080	008733-13MS
Phosphorus	WATER	0.20	1.1	0.83	104	1.1	0.83	104	75-125	0	20	07226079	008733-04MS

NOTE: Values tabulated above marked with an asterisk are explained in the associated narrative.
(a) DOD and/or NELAC Accredited Analyte.

Inorganic Matrix Spikes for 008733

SAMPLE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008733 Report Date: 07/23/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	Sample Conc'n	First Duplicate	Second Duplicate	Units	Percent Diff	Mean (Smp,D1,D2)	Analytical Run	QC Lab Number
Chlorophyll-a, Corrected	47.7	52.2	--	MG/CU.M.	9	--	07146046	008733-13D1
Pheophytin-a	9.5	8.2	--	MG/CU.M.	15	--	07146046	008733-13D1
Solids, Total Suspended	14.4	14.4	--	MG/L	0	--	07136032	008733-03D1
Solids, Volatile Suspend	ND	ND	--	MG/L	NC	--	07136033	008733-03D1

(a) DOD and/or NELAC Accredited Analyte

[redacted]

Sample Receipt Information

Including as appropriate:

- COCs
- Cooler Receipts
- Airbills
- Email Communication / Instructions from Customer

ARDL Data Package 8733

8733

ARDL, Inc.

P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864
(618) 244-3235 Phone (618) 244-1149 Fax

CHAIN OF CUSTODY RECORD

PROJECT
Shelbyville Lake

SAMPLERS: (Signature)
Kaleb Bakers
Ben Greelfina

SAMPLE NUMBER	DATE	TIME	COMP	GRAB	NO. OF CONTAINERS	TSS, TVSS	Chloro/Pheo	* TOC, T-PO4	*NO2-N, TKN	* NO3-N, NH3-N	NP Pest	# T.Fe, T.Mn	E. coli	MS/MSD	REMARKS OR SAMPLE LOCATION	PRESERVATION: ICED	PRESERVATION: SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
SVL-1	7/7/21	1045		x		X		X		X	X	X		X		X	
SVL-2	7/7/21	1145		x		X	X	X		X	X					X	
SVL-2-10	7/7/21	1145		x		X		X		X		X				X	
SVL-4	7/7/21	1530		x		X	X	X		X	X					X	
SVL-12	7/7/21	1630		x		X		X		X	X		X			X	
SVL-13	7/7/21	1350		x		X		X		X	X					X	
SVL-11	7/7/21	1502		x		X	X	X		X	X					X	
SVL-15	7/7/21	1502		x		X	X	X		X	X					X	
KAS-3	7/7/21	0940		x		X	X	X	X	X			X			X	
LS Marina	7/7/21	1215		x									X			X	
FIN Marina	7/7/21	1443		x									X			X	
SUL Marina	7/7/21	1635		x									X			X	
KAS-1	7/7/21	1300				X	X	X	X	X			X		KR		
KAS-2	7/7/21	1452				X	X	X	X	X			X		KR		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Dan Rabor	7/2/21	1750	Valerie Jenkins
Relinquished by: (Signature) Valerie Jenkins	7/2/21	1903	Received by: (Signature)
Received for Laboratory by: (Signature) Dallan Brenneman	07/07/21	1903	Shipping Ticket No.

REMARKS/SPECIAL INSTRUCTIONS:

*Preserved with H_2SO_4
#Preserved with HNO_3

1) Relinquished dates incorrect. should be 07/07/21 insted of 07/02/21.
DCB 07/08/2021

PURCHASE ORDER NO: ____________

COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8733

Cooler # Blue 1

Number of Coolers in Shipment: 3

Project: Shelbyville Lake/Kaskaskia River

Date Received: 07/07/2021

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 07/07/2021 (Signature) DCB

1. Did cooler come with a shipping slip (airbill, etc.)? ..... YES (NO)
   If YES, enter carrier name and airbill number here: ARDL Courier - Valerie
2. Were custody seals on outside of cooler? ..... YES (NO) N/A
   How many and where? _____, Seal Date: _____, Seal Name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO (NA)
4. Did you screen samples for radioactivity using a Geiger Counter? ..... (YES) NO
5. Were custody papers sealed in a plastic bag? Hand delivered ..... YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? Relinquish date incorrect ..... YES (NO) N/A
7. Were custody papers signed in appropriate place by ARDL personnel? ..... (YES) NO N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form ..... (YES) NO N/A
9. Was a separate container provided for measuring temperature? YES____ NO✓ Observed Cooler Temp. 0.6 C
   Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 07/08/2021 (Signature) DCB

10. Describe type of packing in cooler: Loose Ice
11. Were all samples sealed in separate plastic bags? ..... YES (NO) N/A
12. Did all containers arrive unbroken and were labels in good condition? ..... (YES) NO
13. Were sample labels complete? ..... (YES) NO
14. Did all sample labels agree with custody papers? ..... (YES) NO
15. Were correct containers used for the tests indicated? ..... (YES) NO
16. Was pH correct on preserved water samples? ..... (YES) NO N/A
17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: _____ YES NO (N/A)
19. Was the ARDL project coordinator notified of any deficiencies? ..... (YES) NO N/A

Comments and/or Corrective Action:
(By: Signature) Date:

Sample Transfer	
Fraction: All	Fraction:
Area #: Walk-In	Area #:
By: DCB	By:
On: 07/08/2021	On:

Chain-of-Custody # _____

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COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8733 Cooler # Blue 2

Number of Coolers in Shipment: 3

Project: Shelbyville Lake/ Kaskaskia River Date Received: 07/07/2021

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 07/07/2021 (Signature) DCB

1. Did cooler come with a shipping slip (airbill, etc.)? ..... YES (NO)

   If YES, enter carrier name and airbill number here: ARDL Courier - Valerie

2. Were custody seals on outside of cooler? ..... YES (NO) N/A

   How many and where? ____, Seal Date: ____, Seal Name: ____

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO (NA)

4. Did you screen samples for radioactivity using a Geiger Counter? ..... (YES) NO

5. Were custody papers sealed in a plastic bag? Hand delivered ..... YES (NO)

6. Were custody papers filled out properly (ink, signed, etc.)? See Note 1 on Chain ..... YES (NO) N/A

7. Were custody papers signed in appropriate place by ARDL personnel? ..... (YES) NO N/A

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form ..... (YES) NO N/A

9. Was a separate container provided for measuring temperature? YES ____ NO ✓ Observed Cooler Temp. 0.4 C
   Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 07/08/2021 (Signature) DCB

10. Describe type of packing in cooler: Loose Ice

11. Were all samples sealed in separate plastic bags? ..... YES (NO) N/A

12. Did all containers arrive unbroken and were labels in good condition? ..... (YES) NO

13. Were sample labels complete? ..... (YES) NO

14. Did all sample labels agree with custody papers? ..... (YES) NO

15. Were correct containers used for the tests indicated? ..... (YES) NO

16. Was pH correct on preserved water samples? ..... (YES) NO N/A

17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO

18. Were bubbles absent in VOA samples? If NO, list by sample #: ____ YES NO (N/A)

19. Was the ARDL project coordinator notified of any deficiencies? ..... (YES) NO N/A

Comments and/or Corrective Action:
(By: Signature) Date:

Sample Transfer			
Fraction	All	Fraction	
Area #	Walk-In	Area #	
By	DCB	By	
On	07/07/2021	On	

Chain-of-Custody # ____

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COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8733

Cooler # Red 1

Number of Coolers in Shipment: 3

Project: Shelbyville/Kaskaskia River

Date Received: 07/07/2021

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 07/07/2021 (Signature) DCB

1. Did cooler come with a shipping slip (airbill, etc.)? ..... YES (NO)

   If YES, enter carrier name and airbill number here: ARDL Courier - Valerie

2. Were custody seals on outside of cooler? ..... YES (NO) N/A

   How many and where? ——— ,Seal Date: ——— ,Seal Name: ———

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO (NA)

4. Did you screen samples for radioactivity using a Geiger Counter? ..... (YES) NO

5. Were custody papers sealed in a plastic bag? Hand delivered ..... YES (NO)

6. Were custody papers filled out properly (ink, signed, etc.)? See Note 1 on Chain ..... YES (NO) N/A

7. Were custody papers signed in appropriate place by ARDL personnel? ..... (YES) NO N/A

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form ..... (YES) NO N/A

9. Was a separate container provided for measuring temperature? YES____ NO✓ Observed Cooler Temp. 0.7 C
   Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 07/08/2021 (Signature) DCB

10. Describe type of packing in cooler: Loose Ice

11. Were all samples sealed in separate plastic bags? ..... YES (NO) N/A

12. Did all containers arrive unbroken and were labels in good condition? ..... (YES) NO

13. Were sample labels complete? ..... (YES) NO

14. Did all sample labels agree with custody papers? ..... (YES) NO

15. Were correct containers used for the tests indicated? ..... (YES) NO

16. Was pH correct on preserved water samples? ..... (YES) NO N/A

17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO

18. Were bubbles absent in VOA samples? If NO, list by sample #: ——— YES NO (N/A)

19. Was the ARDL project coordinator notified of any deficiencies? ..... (YES) NO N/A

Comments and/or Corrective Action:
(By: Signature) Date:

Sample Transfer	
Fraction: All	Fraction:
Area #: Walk-In	Area #:
By: DCB	By:
On: 07/08/2021	On:

Chain-of-Custody # ———

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ARDL Inc.
Environmental | Analytical | Management | Safety

PO Box 1566
400 Aviation Drive
Mt. Vernon, IL 62864
618-244-3235
www.ardlinc.com

Customer Name: SLCOE **Date: 8/23/21**

Project Name: Shelbyville Lake/Kaskaskia River **Lab Name: ARDL, Inc.**

Samples Received at ARDL: 7/28/21 **ARDL Report No.: 8756**

CASE NARRATIVE

Customer Sample No.	Date Collected	Lab ID Number	Analyses Requested
SVL-1	7/28/21	8756-01	NP Pesticides, Metals(1), Inorganics(2)
SVL-2	7/28/21	8756-02	NP Pesticides, Inorganics(2)(3)
SVL-2-10	7/28/21	8756-03	Metals(1), Inorganics(2)
SVL-4	7/28/21	8756-04	NP Pesticides, Inorganics(2)(3)
SVL-12	7/28/21	8756-05	NP Pesticides, Inorganics(2), E. Coli
SVL-13	7/28/21	8756-06	NP Pesticides, Inorganics(2)
SVL-11	7/28/21	8756-07	NP Pesticides, Inorganics(2)(3)
SVL-15	7/28/21	8756-08	NP Pesticides, Inorganics(2)(3)
KAS-3	7/28/21	8756-09	Inorganics(2)(3)(4), E. Coli
LS Marina	7/28/21	8756-10	E. Coli
FIN Marina	7/28/21	8756-11	E. Coli
SUL Marina	7/28/21	8756-12	E. Coli

(1) Including iron and manganese.
(2) Including ammonia, nitrate, total phosphorus, TOC, TSS and TVSS.
(3) Including chlorophyll-a and pheophytin-a.
(4) Including nitrite and TKN.

The quality control data are summarized as follows:

NP PESTICIDE FRACTION – METHOD 8270-SIM

HOLDING TIME
Samples were prepared and analyzed within method specified holding times.

INITIAL CALIBRATION
The initial calibration passed criteria.

CONTINUING CALIBRATION
The continuing calibration verification (CCV) passed criteria for all analytes.

PREPARATION BLANK
The blank met acceptance criteria.

LABORATORY CONTROL SAMPLE
The LCS analyses met recovery criteria.

CASE NARRATIVE (Continued)

MATRIX SPIKE
The matrix spike and matrix spike duplicate met recovery criteria.

DUPLICATE
Duplicate analyses are reported as MS/MSD. RPD of the duplicate analyses met criteria.

INTERNAL STANDARDS
All internal standard criteria were met.

SURROGATES
All surrogate recovery criteria were met.

INORGANIC FRACTION

TOC were analyzed by an accredited outside laboratory due to instrument status.

PREPARATION BLANK
Results of the preparation blanks were undetected.

LABORATORY CONTROL SAMPLE
Percent recoveries of all LCS analyses were within control limits.

MATRIX SPIKE
Percent recoveries of all matrix spikes and matrix spike duplicates were within control limits.

DUPLICATE
All duplicate analyses are reported as MS/MSD except chlorophyll-a, pheophytin-a, TSS and TVSS.
RPD on all duplicate analyses were within control limits.

DATA REPORTING QUALIFIERS

The following data reporting qualifiers are used as required:

ND - Indicates parameter was analyzed for but not detected.

REPORT ORGANIZATION

The data in this report appear by sample type (Field sample, preparation blank, laboratory control sample / spike blank, matrix spike /spike duplicate and sample duplicate). Within each sample type the data appear in the order that the analytical methods were discussed in this case narrative. Sample receipt information follows the analytical data.

Release of the data contained in this package has been authorized by the Technical Services Manager or his designee as verified by the following signature.

Dean S. Dickerson
Technical Services Manager

Sample & QC Results

Including as appropriate:

- Field Sample Results
- Batch QC
  - Prep Blank
  - LCS/Spike Blank
- Matrix QC
  - MS/MSD
  - Sample Duplicate

ARDL Data Package 8756

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/06/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-1	ARDL Lab No.:	008756-01
Desc/Location:		Lab Filename:	E0803113
Sample Date:	07/28/2021	Received Date:	07/28/2021
Sample Time:	1100	Prep. Date:	07/29/2021
Matrix:	WATER	Analysis Date:	08/03/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11380
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.878		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.51		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	77%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008756-01 Sampling Loc'n:
Field ID: SVL-1 Sampling Date: 07/28/2021
Received: 07/28/2021 Sampling Time: 1100

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		0.0605	MG/L	3010A	6010C	08/09/21	08/10/21	P7570
(a) Manganese	0.00400	0.00500		0.0242	MG/L	3010A	6010C	08/09/21	08/10/21	P7570
Ammonia Nitrogen	0.0200	0.0300		0.0788	MG/L	NONE	350.1	NA	08/05/21	08056137
Nitrate as Nitrogen	0.0380	0.0400		2.31	MG/L	NONE	GREEN	NA	08/11/21	08206172
Phosphorus	0.00800	0.0100		0.0398	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	1.33	1.33		3.73	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	1.33	1.33		1.87	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		3.3	MG/L	NONE	415.1	NA	08/03/21	08066140

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/06/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-2	ARDL Lab No.:	008756-02
Desc/Location:		Lab Filename:	E0803116
Sample Date:	07/28/2021	Received Date:	07/28/2021
Sample Time:	1020	Prep. Date:	07/29/2021
Matrix:	WATER	Analysis Date:	08/03/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11380
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.900		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.38		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	80%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008756-02
Field ID: SVL-2
Received: 07/28/2021

Sampling Loc'n:
Sampling Date: 07/28/2021
Sampling Time: 1020

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0614	MG/L	NONE	350.1	NA	08/05/21	08056137
Chlorophyll-a, Correcte	1.00	1.00		3.6	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Nitrate as Nitrogen	0.0380	0.0400		2.31	MG/L	NONE	GREEN	NA	08/11/21	08206172
Pheophytin-a	1.00	1.00		ND	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Phosphorus	0.00800	0.0100		0.0138	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	1.33	1.33		2.13	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	1.33	1.33		ND	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		3.3	MG/L	NONE	415.1	NA	08/03/21	08066140

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008756-03 Sampling Loc'n:
Field ID: SVL-2-10 Sampling Date: 07/28/2021
Received: 07/28/2021 Sampling Time: 1020

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		0.780	MG/L	3010A	6010C	08/09/21	08/10/21	P7570
(a) Manganese	0.00400	0.00500		0.389	MG/L	3010A	6010C	08/09/21	08/10/21	P7570
Ammonia Nitrogen	0.0200	0.0300		0.38	MG/L	NONE	350.1	NA	08/05/21	08056137
Nitrate as Nitrogen	0.0190	0.0200		1.47	MG/L	NONE	GREEN	NA	08/11/21	08206171
Phosphorus	0.00800	0.0100		0.083	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	4.00	4.00		19.2	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	4.00	4.00		ND	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		3.2	MG/L	NONE	415.1	NA	08/03/21	08066140

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/06/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-4	ARDL Lab No.:	008756-04
Desc/Location:		Lab Filename:	E0803117
Sample Date:	07/28/2021	Received Date:	07/28/2021
Sample Time:	1150	Prep. Date:	07/29/2021
Matrix:	WATER	Analysis Date:	08/03/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11380
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.333		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	0.689		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	76%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008756-04
Field ID: SVL-4
Received: 07/28/2021

Sampling Loc'n:
Sampling Date: 07/28/2021
Sampling Time: 1150

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0437	MG/L	NONE	350.1	NA	08/05/21	08056137
Chlorophyll-a, Correcte	1.00	1.00		59.9	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Nitrate as Nitrogen	0.0190	0.0200		1.39	MG/L	NONE	GREEN	NA	08/11/21	08206171
Pheophytin-a	1.00	1.00		7.4	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Phosphorus	0.00800	0.0100		0.135	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	4.00	4.00		11.6	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	4.00	4.00		8.0	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		6.1	MG/L	NONE	415.1	NA	08/03/21	08066140

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Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/06/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-12	ARDL Lab No.:	008756-05
Desc/Location:		Lab Filename:	E0803118
Sample Date:	07/28/2021	Received Date:	07/28/2021
Sample Time:	0915	Prep. Date:	07/29/2021
Matrix:	WATER	Analysis Date:	08/03/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11380
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	ND		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	0.422		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	86%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008756-05
Field ID: SVL-12
Received: 07/28/2021

Sampling Loc'n:
Sampling Date: 07/28/2021
Sampling Time: 0915

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.111	MG/L	NONE	350.1	NA	08/05/21	08056137
E. Coliform	1.00	1.00		2030	COL/100 ML	NONE	1604	NA	07/28/21	07306122
Nitrate as Nitrogen	0.0380	0.0400		3.02	MG/L	NONE	GREEN	NA	08/11/21	08206172
Phosphorus	0.00800	0.0100		0.308	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	2.00	2.00		9.8	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	2.00	2.00		ND	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		4.4	MG/L	NONE	415.1	NA	08/03/21	08066140

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400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/06/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-13	ARDL Lab No.:	008756-06
Desc/Location:		Lab Filename:	E0803119
Sample Date:	07/28/2021	Received Date:	07/28/2021
Sample Time:	1015	Prep. Date:	07/29/2021
Matrix:	WATER	Analysis Date:	08/03/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11380
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.600		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.24		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	73%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008756-06 Sampling Loc'n: Matrix: WATER
Field ID: SVL-13 Sampling Date: 07/28/2021 Moisture: NA
Received: 07/28/2021 Sampling Time: 1015

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0741	MG/L	NONE	350.1	NA	08/05/21	08056137
Nitrate as Nitrogen	0.0190	0.0200		1.36	MG/L	NONE	GREEN	NA	08/11/21	08206171
Phosphorus	0.00800	0.0100		0.10	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	4.00	4.00		8.4	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	4.00	4.00		5.2	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		5.5	MG/L	NONE	415.1	NA	08/03/21	08066140

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ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/06/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-11	ARDL Lab No.:	008756-07
Desc/Location:		Lab Filename:	E0803120
Sample Date:	07/28/2021	Received Date:	07/28/2021
Sample Time:	1120	Prep. Date:	07/29/2021
Matrix:	WATER	Analysis Date:	08/03/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11380
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.844		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	1.56		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	74%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008756-07 Sampling Loc'n: Matrix: WATER
Field ID: SVL-11 Sampling Date: 07/28/2021 Moisture: NA
Received: 07/28/2021 Sampling Time: 1120

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0649	MG/L	NONE	350.1	NA	08/05/21	08056137
Chlorophyll-a, Correcte	1.00	1.00		20.9	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Nitrate as Nitrogen	0.0190	0.0200		1.83	MG/L	NONE	GREEN	NA	08/11/21	08206171
Pheophytin-a	1.00	1.00		ND	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Phosphorus	0.00800	0.0100		0.0527	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	2.00	2.00		7.0	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	2.00	2.00		4.0	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		5.1	MG/L	NONE	415.1	NA	08/03/21	08066140

(a) DOD and/or NELAC Accredited Analyte.

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400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/06/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-15	ARDL Lab No.:	008756-08
Desc/Location:		Lab Filename:	E0803121
Sample Date:	07/28/2021	Received Date:	07/28/2021
Sample Time:	1150	Prep. Date:	07/29/2021
Matrix:	WATER	Analysis Date:	08/03/2021
Amount Used:	800 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11380
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.250	0.250	ND		UG/L	1
Atrazine	0.250	0.250	0.350		UG/L	1
Metribuzin	0.250	0.250	ND		UG/L	1
Alachlor	0.250	0.250	ND		UG/L	1
Metolachlor	0.250	0.250	0.688		UG/L	1
Chlorpyrifos	0.250	0.250	ND		UG/L	1
Cyanazine	0.250	0.250	ND		UG/L	1
Pendimethalin	0.250	0.250	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	68%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008756-08
Field ID: SVL-15
Received: 07/28/2021

Sampling Loc'n:
Sampling Date: 07/28/2021
Sampling Time: 1150

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0607	MG/L	NONE	350.1	NA	08/05/21	08056137
Chlorophyll-a, Correcte	1.00	1.00		52.7	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Nitrate as Nitrogen	0.0190	0.0200		1.4	MG/L	NONE	GREEN	NA	08/11/21	08206171
Pheophytin-a	1.00	1.00		2.0	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Phosphorus	0.00800	0.0100		0.148	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	4.00	4.00		11.6	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	4.00	4.00		8.0	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		6.0	MG/L	NONE	415.1	NA	08/03/21	08066140

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008756-09 Sampling Loc'n: Matrix: WATER
Field ID: KAS-3 Sampling Date: 07/28/2021 Moisture: NA
Received: 07/28/2021 Sampling Time: 0840

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0854	MG/L	NONE	350.1	NA	08/05/21	08056137
Chlorophyll-a, Correcte	1.00	1.00		10.0	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
E. Coliform	1.00	1.00		1780	COL/100 ML	NONE	1604	NA	07/28/21	07306122
Kjeldahl Nitrogen	0.190	0.200		0.647	MG/L	351.2	351.2	08/09/21	08/11/21	08176164
Nitrate as Nitrogen	0.0380	0.0400		2.29	MG/L	NONE	GREEN	NA	08/11/21	08206172
Nitrite as Nitrogen	0.0200	0.0200		0.057	MG/L	NONE	354.1	NA	07/29/21	07306116
Pheophytin-a	1.00	1.00		2.7	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158
Phosphorus	0.00800	0.0100		0.118	MG/L	365.2	365.2	08/12/21	08/13/21	08236177
Solids, Total Suspended	2.00	2.00		49.0	MG/L	NONE	160.2	NA	07/29/21	08036126
Solids, Volatile Suspen	2.00	2.00		4.0	MG/L	NONE	160.4	NA	07/29/21	08036127
Total Organic Carbon	0.500	1.00		3.1	MG/L	NONE	415.1	NA	08/03/21	08066140

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER Analysis: Inorganics
Project No: NELAC Certified - IL100308

ARDL No: 008756-10 Sampling Loc'n: Matrix: WATER
Field ID: LS MARINA Sampling Date: 07/28/2021 Moisture: NA
Received: 07/28/2021 Sampling Time: 1045

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.00	1.00		25.0	COL/100 ML	NONE	1604	NA	07/28/21	07306122

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008756-11
Field ID: FIN MARINA
Received: 07/28/2021

Sampling Loc'n:
Sampling Date: 07/28/2021
Sampling Time: 1110

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.00	1.00		25.0	COL/100 ML	NONE	1604	NA	07/28/21	07306122

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008756-12
Field ID: SUL MARINA
Received: 07/28/2021

Sampling Loc'n:
Sampling Date: 07/28/2021
Sampling Time: 1200

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.00	1.00		50.0	COL/100 ML	NONE	1604	NA	07/28/21	07306122

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METHOD BLANK REPORT

ARDL, Inc. 400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008754 Report Date: 08/06/2021

Project Name: CARLYLE LAKE	Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.:	Analytical Method: 8270C
NELAC Certified - IL100308	Prep Method: 3510C

Field ID:	NA	ARDL Lab No.:	008754-01B1
Desc/Location:	NA	Lab Filename:	E0803103
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	07/29/2021
Matrix:	QC Material	Analysis Date:	08/03/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11380
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units
Trifluralin	0.200	0.200	ND		UG/L
Atrazine	0.200	0.200	ND		UG/L
Metribuzin	0.200	0.200	ND		UG/L
Alachlor	0.200	0.200	ND		UG/L
Metolachlor	0.200	0.200	ND		UG/L
Chlorpyrifos	0.200	0.200	ND		UG/L
Cyanazine	0.200	0.200	ND		UG/L
Pendimethalin	0.200	0.200	ND		UG/L

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	96%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

BLANK SUMMARY REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER NELAC Certified - IL100308

Analyte	LOD	LOQ	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number
(a) Iron	0.040	0.050	ND	MG/L	3010A	6010C	08/09/21	08/10/21	P7570	008756-01B1
(a) Manganese	0.004	0.005	ND	MG/L	3010A	6010C	08/09/21	08/10/21	P7570	008756-01B1
Ammonia Nitrogen	0.020	0.030	ND	MG/L	NONE	350.1	NA	08/05/21	08056137	008756-01B1
Chlorophyll-a, Corre	1.0	1.0	ND	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158	008756-04B1
Kjeldahl Nitrogen	0.19	0.20	ND	MG/L	351.2	351.2	08/09/21	08/11/21	08176164	008756-09B1
Nitrate as Nitrogen	0.019	0.020	ND	MG/L	NONE	GREEN	NA	08/11/21	08206172	008756-02B1
Nitrate as Nitrogen	0.019	0.020	ND	MG/L	NONE	GREEN	NA	08/11/21	08206171	008756-03B1
Nitrite as Nitrogen	0.020	0.020	ND	MG/L	NONE	354.1	NA	07/29/21	07306116	008756-09B1
Pheophytin-a	1.0	1.0	ND	MG/CU.M.	10200H	10200H	07/29/21	08/10/21	08126158	008756-04B1
Phosphorus	0.008	0.010	ND	MG/L	365.2	365.2	08/12/21	08/13/21	08236177	008756-01B1
Solids, Total Suspen	1.0	1.0	ND	MG/L	NONE	160.2	NA	07/29/21	08036126	008756-04B1
Solids, Volatile Sus	1.0	1.0	ND	MG/L	NONE	160.4	NA	07/29/21	08036127	008756-04B1
Total Organic Carbon	0.50	1.0	ND	MG/L	NONE	415.1	NA	08/03/21	08066140	008756-06B1

(a) DOD and/or NELAC Accredited Analyte

Inorganic Method Blanks for 008756

BLANK SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008754 Report Date: 08/06/2021

Project Name: CARLYLE LAKE Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C
Project No.: Prep Method: 3510C

Matrix: QC Material QC Batch: B11380 Prep. Date: 07/29/2021
Amount Used: 1000 mL Level: LOW Analysis Date: 08/03/2021

Parameter	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits	RPD	RPD Limit
Trifluralin	3.5	4	88	--	--	--	30-130	--	--
Atrazine	3.49	4	87	--	--	--	30-130	--	--
Metribuzin	3.54	4	89	--	--	--	30-130	--	--
Alachlor	3.61	4	90	--	--	--	30-130	--	--
Metolachlor	3.44	4	86	--	--	--	30-130	--	--
Chlorpyrifos	3.28	4	82	--	--	--	30-130	--	--
Cyanazine	3.77	4	94	--	--	--	30-130	--	--
Pendimethalin	3.46	4	87	--	--	--	30-130	--	--

SURROGATE RECOVERIES:	Spike %R	Duplicate %R	%R Limits
Triphenylphosphate	90	--	30-130

(a) DOD-QSM Accredited Analyte.

'*' indicates a recovery outside of standard limits.

Spike Blanks for 008754-01, NP PESTICIDES (8270SIM-MOD)

LABORATORY CONTROL SAMPLE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER NELAC Certified - IL100308

Analyte	LCS 1 Result	LCS 1 Level	LCS 1 % Rec	LCS 2 Result	LCS 2 Level	LCS 2 % Rec	% Rec Limits	Mean % Rec	Analytical Run	QC Lab Number
(a) Iron	4.8	5.0	95	--	--	--	87-115	--	P7570	008756-01C1
(a) Manganese	0.75	0.75	99	--	--	--	90-114	--	P7570	008756-01C1
Ammonia Nitrogen	0.96	1.0	96	--	--	--	80-120	--	08056137	008756-01C1
Kjeldahl Nitrogen	0.80	1.0	80	--	--	--	80-120	--	08176164	008756-09C1
Nitrate as Nitrogen	0.94	1.0	94	--	--	--	80-120	--	08206172	008756-02C1
Nitrate as Nitrogen	0.97	1.0	97	--	--	--	80-120	--	08206171	008756-03C1
Nitrite as Nitrogen	1.0	1.0	104	--	--	--	80-120	--	07306116	008756-09C1
Phosphorus	0.69	0.67	103	--	--	--	80-120	--	08236177	008756-01C1
Total Organic Carbon	20.8	20.0	104	--	--	--	76-120	--	08066140	008756-06C1

NOTE: Any values tabulated above marked with an asterisk are outside of acceptable limits.

(a) DOD and/or NELAC Accredited Analyte

MATRIX SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008756 Report Date: 08/06/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C
Project No.: Prep Method: 3510C

Field ID:	SVL-1	Prep. Date:	07/29/2021	ARDL Lab No.:	008756-01
Desc/Location:		Amount Used:	900 mL	Lab Filename:	
Sample Date:	07/28/2021	% Moisture:	NA	Received Date:	07/28/2021
Sample Time:	1100	QC Batch:	B11380	Analysis Date:	08/03/2021
Matrix:	WATER	Level:	LOW		

Parameter	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit
Trifluralin	ND	4.07	4.44	91.5	3.71	4.44	83.5	30-130	9.1	30
Atrazine	0.878	5.08	4.44	94.5	4.61	4.44	84	30-130	9.6	30
Metribuzin	ND	4.07	4.44	91.5	3.67	4.44	82.5	30-130	10.3	30
Alachlor	ND	4.14	4.44	93.3	3.9	4.44	87.8	30-130	6.1	30
Metolachlor	1.51	5.7	4.44	94.3	5.19	4.44	82.8	30-130	9.4	30
Chlorpyrifos	ND	3.74	4.44	84.3	3.47	4.44	78	30-130	7.7	30
Cyanazine	ND	4.26	4.44	95.8	3.86	4.44	86.8	30-130	9.9	30
Pendimethalin	ND	4.19	4.44	94.3	3.82	4.44	86	30-130	9.2	30

SURROGATE RECOVERIES:	MS %R	MSD %R	%R Limits
Triphenylphosphate	94	84	30-130

(a) DOD-QSM Accredited Analyte.
'nc' indicates sample >4X spike level.
'*' indicates a recovery outside of standard limits.
Matrix Spikes for 008756-01, NP PESTICIDES (8270SIM-MOD)

MATRIX SPIKE/SPIKE DUPLICATE REPORT
ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER NELAC Certified - IL100308

Analyte	Sample Matrix	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit	Run	QC Lab Number
(a) Iron	WATER	0.061	1.0	1.0	94	0.98	1.0	92	87-115	2	20	P7570	008756-01MS
(a) Manganese	WATER	0.024	0.52	0.50	98	0.50	0.50	96	90-114	2	20	P7570	008756-01MS
Ammonia Nitrogen	WATER	0.079	2.0	2.0	95	2.0	2.0	96	75-125	1	20	08056137	008756-01MS
Kjeldahl Nitrogen	WATER	0.65	1.5	0.80	109	1.5	0.80	110	75-125	1	20	08176164	008756-09MS
Nitrate as Nitrogen	WATER	2.3	3.4	1.0	108	3.2	1.0	93	75-125	5	20	08206172	008756-02MS
Nitrite as Nitrogen	WATER	0.057	1.1	1.0	106	1.1	1.0	107	75-125	1	20	07306116	008756-09MS
Phosphorus	WATER	0.040	0.88	0.83	101	0.89	0.83	103	75-125	2	20	08236177	008756-01MS
Total Organic Carbon	WATER	5.5	10.5	5.0	100	10.5	5.0	100	76-120	0	20	08066140	008756-06MS

NOTE: Values tabulated above marked with an asterisk are explained in the associated narrative.
(a) DOD and/or NELAC Accredited Analyte.

SAMPLE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008756 Report Date: 08/23/2021

Project Name: SHELBYVILLE LAKE/KASKASIA RIVER NELAC Certified - IL100308

Analyte	Sample Conc'n	First Duplicate	Second Duplicate	Units	Percent Diff	Mean (Smp,D1,D2)	Analytical Run	QC Lab Number
Chlorophyll-a, Corrected	59.9	55.4	--	MG/CU.M.	8	--	08126158	008756-04D1
Pheophytin-a	7.4	8.2	--	MG/CU.M.	10	--	08126158	008756-04D1
Solids, Total Suspended	11.6	12.0	--	MG/L	3	--	08036126	008756-04D1
Solids, Volatile Suspend	8.0	8.0	--	MG/L	0	--	08036127	008756-04D1

(a) DOD and/or NELAC Accredited Analyte

Sample Duplicates for 008756

Sample Receipt Information

Including as appropriate:

- COCs
- Cooler Receipts
- Airbills
- Email Communication / Instructions from Customer

ARDL Data Package 8756

ARDL, Inc.

P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864
(618) 244-3235 Phone (618) 244-1149 Fax

8756

CHAIN OF CUSTODY RECORD

PROJECT: Shelbyville Lake

SAMPLERS: (Signature) Ben Greeling, Kaleb Rakers

SAMPLE NUMBER	DATE	TIME	COMP	GRAB	NO. OF CONTAINERS	TSS, TVSS	Chlor/Pheo	* TOC, T-PO4	*NO2-N, TKN	* NO3-N, NH3-N	NP Pest	#T.Fe; T.Mn	E. coli	MS/MSD					REMARKS OR SAMPLE LOCATION	PRESERVATION ICED	PRESERVATION SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
1 SVL-1	7/28/21	1100		X		X		X		X	X	X		X						X	
2 SVL-2	7/28/21	1020		X		X	X	X		X	X									X	
3 SVL-2-10	7/28/21	1020		X		X		X		X		X								X	
4 SVL-4	7/28/21	1150		X		X	X	X		X	X									X	
5 SVL-12	7/28/21	915		X		X		X		X	X		X							X	
6 SVL-13	7/28/21	1015		X		X		X		X	X									X	
7 SVL-11	7/28/21	1120		X		X	X	X		X	X									X	
8 SVL-15	7/28/21	1150		X		X	X	X		X	X									X	
9 KAS-3	7/28/21	0840		X		X	X	X	X	X			X							X	
10 LS Marina	7/28/21	1045		X									X							X	
11 FIN Marina	7/28/21	1110		X									X							X	
12 SUL Marina	7/28/21	1200		X									X							X	

Relinquished by: (Signature) Kaleb Rakers	Date 7/28/21	Time 1442	Received by: (Signature)
Relinquished by: (Signature)	Date 7/28/21	Time 1547	Received by: (Signature)
Received for Laboratory by: (Signature)	Date 7/28/21	Time 1547	Shipping Ticket No.

REMARKS/SPECIAL INSTRUCTIONS:

*Preserved with H_2SO_4
#Preserved with HNO_3

PURCHASE ORDER NO: _____

COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8756 | Cooler # 1 of 2

Number of Coolers in Shipment: 2

Project: Shelbyville | Date Received: 7/28/21

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 7/28/21 (Signature) DSD

1. Did cooler come with a shipping slip (airbill, etc.)? YES (NO)
   If YES, enter carrier name and airbill number here: ARDL Courier - DSD
2. Were custody seals on outside of cooler? YES (NO) N/A
   How many and where? ____, Seal Date: ____, Seal Name: ____
3. Were custody seals unbroken and intact at the date and time of arrival? YES NO (NA)
4. Did you screen samples for radioactivity using a Geiger Counter? (YES) NO
5. Were custody papers sealed in a plastic bag? YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? (YES) NO N/A
7. Were custody papers signed in appropriate place by ARDL personnel? (YES) NO N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. (YES) NO N/A
9. Was a separate container provided for measuring temperature? YES____ NO X Observed Cooler Temp. 1.8 C
   Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 07/29/2021 (Signature) DCB

10. Describe type of packing in cooler: Loose Ice
11. Were all samples sealed in separate plastic bags? YES (NO) N/A
12. Did all containers arrive unbroken and were labels in good condition? (YES) NO
13. Were sample labels complete? (YES) NO
14. Did all sample labels agree with custody papers? (YES) NO
15. Were correct containers used for the tests indicated? (YES) NO
16. Was pH correct on preserved water samples? (YES) NO N/A
17. Was a sufficient amount of sample sent for tests indicated? (YES) NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: ____ YES NO (N/A)
19. Was the ARDL project coordinator notified of any deficiencies? YES NO (N/A)

Comments and/or Corrective Action:
(By: Signature) Date:

Sample Transfer	
Fraction: All	Fraction:
Area #: Walk-In	Area #:
By: DCB	By:
On: 07/29/2021	On:

Chain-of-Custody # ____

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COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8756 Cooler # 2 of 2

Number of Coolers in Shipment: 2

Project: Shelbyville Date Received: 7/28/21

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 7/28/21 (Signature) [illegible]

1. Did cooler come with a shipping slip (airbill, etc.)? ..... YES (NO)
   If YES, enter carrier name and airbill number here: ARDL Courier - Dean
2. Were custody seals on outside of cooler? ..... YES (NO) N/A
   How many and where? _____, Seal Date: _____, Seal Name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO (NA)
4. Did you screen samples for radioactivity using a Geiger Counter? ..... (YES) NO
5. Were custody papers sealed in a plastic bag? ..... YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO N/A
7. Were custody papers signed in appropriate place by ARDL personnel? ..... (YES) NO N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form ..... (YES) NO N/A
9. Was a separate container provided for measuring temperature? YES ____ NO ✓ Observed Cooler Temp. 1.5 C
   Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 07/29/2021 (Signature) DeB

10. Describe type of packing in cooler: Loose Ice
11. Were all samples sealed in separate plastic bags? ..... YES (NO) N/A
12. Did all containers arrive unbroken and were labels in good condition? ..... (YES) NO
13. Were sample labels complete? ..... (YES) NO
14. Did all sample labels agree with custody papers? ..... (YES) NO
15. Were correct containers used for the tests indicated? ..... (YES) NO
16. Was pH correct on preserved water samples? ..... (YES) NO N/A
17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: _____ YES NO (N/A)
19. Was the ARDL project coordinator notified of any deficiencies? ..... YES NO (N/A)

Comments and/or Corrective Action:
(By: Signature) Date:

Sample Transfer	
Fraction: All	Fraction:
Area #: Walk-In	Area #:
By: DeB	By:
On: 07/29/2021	On:

Chain-of-Custody # _____

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ARDL Inc.
Environmental | Analytical | Management | Safety

PO Box 1566
400 Aviation Drive
Mt. Vernon, IL 62864
618-244-3235
www.ardlinc.com

Customer Name: SLCOE **Date: 9/27/21**

Project Name: Shelbyville Lake/Kaskaskia River **Lab Name: ARDL, Inc.**

Samples Received at ARDL: 8/24/21 **ARDL Report No.: 8800**

CASE NARRATIVE

Customer Sample No.	Date Collected	Lab ID Number	Analyses Requested
SVL-1	8/24/21	8800-1	NP Pesticides, Metals(1), Inorganics(2)
SVL-2	8/24/21	8800-2	NP Pesticides, Inorganics(2)(3)
SVL-2-10	8/24/21	8800-3	Metals(1), Inorganics(2)
SVL-4	8/24/21	8800-4	NP Pesticides, Inorganics(2)(3)
SVL-12	8/24/21	8800-5	NP Pesticides, Inorganics(2), E. Coli
SVL-13	8/24/21	8800-6	NP Pesticides, Inorganics(2)
SVL-11	8/24/21	8800-7	NP Pesticides, Inorganics(2)(3)
SVL-15	8/24/21	8800-8	NP Pesticides, Inorganics(2)(3)
KAS-3	8/24/21	8800-9	Inorganics(2)(3)(4), E. Coli
LS MARINA	8/24/21	8800-10	E. Coli
FIN MARINA	8/24/21	8800-11	E. Coli
SUL MARINA	8/24/21	8800-12	E. Coli

(1) Including iron and manganese.
(2) Including ammonia, nitrate, total phosphorus, TOC, TSS and TVSS.
(3) Including chlorophyll-a and pheophytin-a.
(4) Including nitrite and TKN.

The quality control data are summarized as follows:

NP PESTICIDE FRACTION – METHOD 8270-SIM

HOLDING TIME
Samples were prepared and analyzed within method specified holding times.

INITIAL CALIBRATION
The initial calibration passed criteria. The ICV passed criteria.

CONTINUING CALIBRATION
The continuing calibration verification (CCV) passed criteria for all analytes.

PREPARATION BLANK
The blank met acceptance criteria.

LABORATORY CONTROL SAMPLE
The LCS analyses met recovery criteria.

MATRIX SPIKE
The matrix spike and matrix spike duplicate met recovery criteria.

CASE NARRATIVE (Continued)

DUPLICATE
Duplicate analyses are reported as MS/MSD. RPD exceeded 30% for atrazine @ 41.2%, Metribuzin @ 41.4%, Alachlor @ 30.4% and pendimethalin @ 37.5%.

INTERNAL STANDARDS
All internal standard criteria were met.

SURROGATES
All surrogate recovery criteria were met.

INORGANIC FRACTION

TOC were analyzed by an accredited outside laboratory due to instrument status.

PREPARATION BLANK
Results of the preparation blanks were undetected.

LABORATORY CONTROL SAMPLE
Percent recoveries of all LCS analyses were within control limits.

MATRIX SPIKE
Percent recoveries of all matrix spikes and matrix spike duplicates were within control limits, except 2 of 2 for TKN. The parent sample has been flagged appropriately with a 'J' qualifier.

DUPLICATE
All duplicate analyses are reported as MS/MSD except chlorophyll-a, pheophytin-a, TSS and TVSS. RPD on all duplicate analyses were within control limits.

DATA REPORTING QUALIFIERS

The following data reporting qualifiers are used as required:

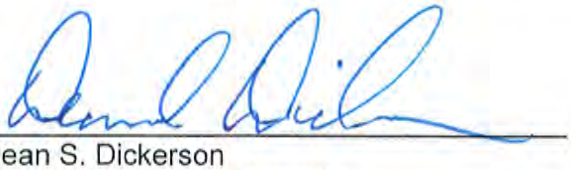
ND - Indicates parameter was analyzed for but not detected.

J - Indicates an estimated value. This flag is used either when estimating a concentration or this flag indicates analyte(s) associated with a DOD-QSM specified non-compliance pertaining to matrix QC criteria.

REPORT ORGANIZATION

The data in this report appear by sample type (Field sample, preparation blank, laboratory control sample / spike blank, matrix spike /spike duplicate and sample duplicate). Within each sample type the data appear in the order that the analytical methods were discussed in this case narrative. Sample receipt information follows the analytical data.

Release of the data contained in this package has been authorized by the Technical Services Manager or his designee as verified by the following signature.



Dean S. Dickerson
Technical Services Manager

Sample & QC Results

Including as appropriate:

- Field Sample Results
- Batch QC
  - Prep Blank
  - LCS/Spike Blank
- Matrix QC
  - MS/MSD
  - Sample Duplicate

ARDL Data Package 8800

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 08/31/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-1	ARDL Lab No.:	008800-01
Desc/Location:		Lab Filename:	E0830105
Sample Date:	08/24/2021	Received Date:	08/24/2021
Sample Time:	0930	Prep. Date:	08/27/2021
Matrix:	WATER	Analysis Date:	08/30/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11392
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.200	0.200	ND		UG/L	1
Atrazine	0.200	0.200	0.670		UG/L	1
Metribuzin	0.200	0.200	ND		UG/L	1
Alachlor	0.200	0.200	ND		UG/L	1
Metolachlor	0.200	0.200	1.11		UG/L	1
Chlorpyrifos	0.200	0.200	ND		UG/L	1
Cyanazine	0.200	0.200	ND		UG/L	1
Pendimethalin	0.200	0.200	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	62%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-01
Field ID: SVL-1
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 0930

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		0.0747	MG/L	3010A	6010C	09/10/21	09/10/21	P7610A
(a) Manganese	0.00400	0.00500		0.0217	MG/L	3010A	6010C	09/10/21	09/10/21	P7610A
Ammonia Nitrogen	0.0200	0.0300		0.088	MG/L	NONE	350.1	NA	08/30/21	09016215
Nitrate as Nitrogen	0.019	0.020		1.3	MG/L	NONE	GREEN	NA	09/16/21	09216316
Phosphorus	0.00800	0.0100		0.0484	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	2.00	2.00		5.2	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	2.00	2.00		2.6	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		3.8	MG/L	NONE	415.1	NA	09/03/21	09236329

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 08/31/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-2	ARDL Lab No.:	008800-02
Desc/Location:		Lab Filename:	E0830108
Sample Date:	08/24/2021	Received Date:	08/24/2021
Sample Time:	1015	Prep. Date:	08/27/2021
Matrix:	WATER	Analysis Date:	08/30/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11392
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.200	0.200	ND		UG/L	1
Atrazine	0.200	0.200	0.640		UG/L	1
Metribuzin	0.200	0.200	ND		UG/L	1
Alachlor	0.200	0.200	ND		UG/L	1
Metolachlor	0.200	0.200	1.00		UG/L	1
Chlorpyrifos	0.200	0.200	ND		UG/L	1
Cyanazine	0.200	0.200	ND		UG/L	1
Pendimethalin	0.200	0.200	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	57%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-02
Field ID: SVL-2
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 1015

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0359	MG/L	NONE	350.1	NA	08/30/21	09016215
Chlorophyll-a, Correcte	1.00	1.00		23.6	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Nitrate as Nitrogen	0.019	0.020		1.2	MG/L	NONE	GREEN	NA	09/16/21	09216316
Pheophytin-a	1.00	1.00		ND	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Phosphorus	0.00800	0.0100		0.0484	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	2.00	2.00		6.6	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	2.00	2.00		3.6	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		4.2	MG/L	NONE	415.1	NA	09/03/21	09236329

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-03
Field ID: SVL-2-10
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 1015

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		0.0599	MG/L	3010A	6010C	09/10/21	09/10/21	P7610A
(a) Manganese	0.00400	0.00500		0.0505	MG/L	3010A	6010C	09/10/21	09/10/21	P7610A
Ammonia Nitrogen	0.0200	0.0300		0.246	MG/L	NONE	350.1	NA	08/30/21	09016215
Nitrate as Nitrogen	0.019	0.020		1.1	MG/L	NONE	GREEN	NA	09/16/21	09216316
Phosphorus	0.00800	0.0100		0.0484	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	4.00	4.00		6.0	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	4.00	4.00		ND	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		3.8	MG/L	NONE	415.1	NA	09/03/21	09236329

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 08/31/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-4	ARDL Lab No.:	008800-04
Desc/Location:		Lab Filename:	E0830109
Sample Date:	08/24/2021	Received Date:	08/24/2021
Sample Time:	1250	Prep. Date:	08/27/2021
Matrix:	WATER	Analysis Date:	08/30/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11392
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.311		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	0.444		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	54%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-04
Field ID: SVL-4
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 1250

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		ND	MG/L	NONE	350.1	NA	08/30/21	09016215
Chlorophyll-a, Correcte	1.00	1.00		99.9	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Nitrate as Nitrogen	0.019	0.020		ND	MG/L	NONE	GREEN	NA	09/16/21	09216316
Pheophytin-a	1.00	1.00		10.1	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Phosphorus	0.00800	0.0100		0.135	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	4.00	4.00		14.0	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	4.00	4.00		9.6	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		6.3	MG/L	NONE	415.1	NA	09/03/21	09236329

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Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 08/31/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-12	ARDL Lab No.:	008800-05
Desc/Location:		Lab Filename:	E0830110
Sample Date:	08/24/2021	Received Date:	08/24/2021
Sample Time:	1130	Prep. Date:	08/27/2021
Matrix:	WATER	Analysis Date:	08/30/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11392
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.200	0.200	ND		UG/L	1
Atrazine	0.200	0.200	ND		UG/L	1
Metribuzin	0.200	0.200	ND		UG/L	1
Alachlor	0.200	0.200	ND		UG/L	1
Metolachlor	0.200	0.200	ND		UG/L	1
Chlorpyrifos	0.200	0.200	ND		UG/L	1
Cyanazine	0.200	0.200	ND		UG/L	1
Pendimethalin	0.200	0.200	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	63%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-05 Sampling Loc'n:
Field ID: SVL-12 Sampling Date: 08/24/2021
Received: 08/24/2021 Sampling Time: 1130

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		ND	MG/L	NONE	350.1	NA	08/30/21	09016215
E. Coliform	1.00	1.00		200	COL/100 ML	NONE	1604	NA	08/24/21	08266196
Nitrate as Nitrogen	0.019	0.020		0.49	MG/L	NONE	GREEN	NA	09/16/21	09216316
Phosphorus	0.00800	0.0100		0.256	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	4.00	4.00		15.6	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	4.00	4.00		5.2	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		4.7	MG/L	NONE	415.1	NA	09/03/21	09236329

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Lab Report No: 008800 Report Date: 08/31/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-13	ARDL Lab No.:	008800-06
Desc/Location:		Lab Filename:	E0830111
Sample Date:	08/24/2021	Received Date:	08/24/2021
Sample Time:	1354	Prep. Date:	08/27/2021
Matrix:	WATER	Analysis Date:	08/30/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11392
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.200	0.200	ND		UG/L	1
Atrazine	0.200	0.200	0.350		UG/L	1
Metribuzin	0.200	0.200	ND		UG/L	1
Alachlor	0.200	0.200	ND		UG/L	1
Metolachlor	0.200	0.200	0.530		UG/L	1
Chlorpyrifos	0.200	0.200	ND		UG/L	1
Cyanazine	0.200	0.200	ND		UG/L	1
Pendimethalin	0.200	0.200	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	56%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-06
Field ID: SVL-13
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 1354

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		ND	MG/L	NONE	350.1	NA	08/30/21	09016215
Nitrate as Nitrogen	0.019	0.020		ND	MG/L	NONE	GREEN	NA	09/16/21	09216316
Phosphorus	0.00800	0.0100		0.217	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	4.00	4.00		26.0	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	4.00	4.00		12.0	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		6.4	MG/L	NONE	415.1	NA	09/04/21	09236329

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Lab Report No: 008800 Report Date: 08/31/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-11	ARDL Lab No.:	008800-07
Desc/Location:		Lab Filename:	E0830112
Sample Date:	08/24/2021	Received Date:	08/24/2021
Sample Time:	1211	Prep. Date:	08/27/2021
Matrix:	WATER	Analysis Date:	08/30/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11392
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.200	0.200	ND		UG/L	1
Atrazine	0.200	0.200	0.540		UG/L	1
Metribuzin	0.200	0.200	ND		UG/L	1
Alachlor	0.200	0.200	ND		UG/L	1
Metolachlor	0.200	0.200	0.830		UG/L	1
Chlorpyrifos	0.200	0.200	ND		UG/L	1
Cyanazine	0.200	0.200	ND		UG/L	1
Pendimethalin	0.200	0.200	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	60%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-07
Field ID: SVL-11
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 1211

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		ND	MG/L	NONE	350.1	NA	08/30/21	09016215
Chlorophyll-a, Correcte	1.00	1.00		65.4	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Nitrate as Nitrogen	0.019	0.020		0.47	MG/L	NONE	GREEN	NA	09/16/21	09216316
Pheophytin-a	1.00	1.00		5.2	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Phosphorus	0.00800	0.0100		0.070	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	4.00	4.00		12.0	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	4.00	4.00		7.6	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		5.5	MG/L	NONE	415.1	NA	09/04/21	09236329

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Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 08/31/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	SVL-15	ARDL Lab No.:	008800-08
Desc/Location:		Lab Filename:	E0830113
Sample Date:	08/24/2021	Received Date:	08/24/2021
Sample Time:	1300	Prep. Date:	08/27/2021
Matrix:	WATER	Analysis Date:	08/30/2021
Amount Used:	900 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11392
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin	0.222	0.222	ND		UG/L	1
Atrazine	0.222	0.222	0.600		UG/L	1
Metribuzin	0.222	0.222	ND		UG/L	1
Alachlor	0.222	0.222	ND		UG/L	1
Metolachlor	0.222	0.222	0.844		UG/L	1
Chlorpyrifos	0.222	0.222	ND		UG/L	1
Cyanazine	0.222	0.222	ND		UG/L	1
Pendimethalin	0.222	0.222	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	59%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-08
Field ID: SVL-15
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 1300

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		ND	MG/L	NONE	350.1	NA	08/30/21	09016215
Chlorophyll-a, Correcte	1.00	1.00		66.3	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Nitrate as Nitrogen	0.019	0.020		0.47	MG/L	NONE	GREEN	NA	09/16/21	09216316
Pheophytin-a	1.00	1.00		1.1	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Phosphorus	0.00800	0.0100		0.070	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	4.00	4.00		11.6	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	4.00	4.00		7.2	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		5.6	MG/L	NONE	415.1	NA	09/04/21	09236329

(a) DOD and/or NELAC Accredited Analyte.

ARDL, INC.
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Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-09
Field ID: KAS-3
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 0815

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300	J	0.0225	MG/L	NONE	350.1	NA	08/30/21	09016215
Chlorophyll-a, Correcte	1.00	1.00		20.9	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
E. Coliform	1.00	1.00		450	COL/100 ML	NONE	1604	NA	08/24/21	08266196
Kjeldahl Nitrogen	0.19	0.20	J	0.638	MG/L	351.2	351.2	09/08/21	09/09/21	09146257
Nitrate as Nitrogen	0.019	0.020		1.3	MG/L	NONE	GREEN	NA	09/16/21	09216316
Nitrite as Nitrogen	0.0200	0.0200		0.043	MG/L	NONE	354.1	NA	08/25/21	09156281
Pheophytin-a	1.00	1.00		3.3	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306
Phosphorus	0.00800	0.0100		0.126	MG/L	365.2	365.2	09/20/21	09/21/21	09236328
Solids, Total Suspended	4.00	4.00		62.8	MG/L	NONE	160.2	NA	08/30/21	09136246
Solids, Volatile Suspen	4.00	4.00		5.6	MG/L	NONE	160.4	NA	08/30/21	09136247
Total Organic Carbon	0.500	1.00		3.5	MG/L	NONE	415.1	NA	09/04/21	09236329

(a) DOD and/or NELAC Accredited Analyte.

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400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-10
Field ID: LS MARINA
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 0958

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.00	1.00		4.0	COL/100 ML	NONE	1604	NA	08/24/21	08266196

(a) DOD and/or NELAC Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-11 Sampling Loc'n:
Field ID: FIN MARINA Sampling Date: 08/24/2021
Received: 08/24/2021 Sampling Time: 1227

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.00	1.00		65.0	COL/100 ML	NONE	1604	NA	08/24/21	08266196

(a) DOD and/or NELAC Accredited Analyte.

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Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER
Project No:

Analysis: Inorganics
NELAC Certified - IL100308

ARDL No: 008800-12
Field ID: SUL MARINA
Received: 08/24/2021

Sampling Loc'n:
Sampling Date: 08/24/2021
Sampling Time: 1254

Matrix: WATER
Moisture: NA

Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
E. Coliform	1.00	1.00		625	COL/100 ML	NONE	1604	NA	08/24/21	08266196

(a) DOD and/or NELAC Accredited Analyte.

METHOD BLANK REPORT

ARDL, Inc. 400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 008800 Report Date: 09/01/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3510C

Field ID:	NA	ARDL Lab No.:	008800-01B1
Desc/Location:	NA	Lab Filename:	E0830103
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	08/27/2021
Matrix:	QC Material	Analysis Date:	08/30/2021
Amount Used:	1000 mL	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B11392
% Moisture:	NA	Level:	LOW

Parameter	LOD	LOQ	Result	Data Flag	Units
Trifluralin	0.200	0.200	ND		UG/L
Atrazine	0.200	0.200	ND		UG/L
Metribuzin	0.200	0.200	ND		UG/L
Alachlor	0.200	0.200	ND		UG/L
Metolachlor	0.200	0.200	ND		UG/L
Chlorpyrifos	0.200	0.200	ND		UG/L
Cyanazine	0.200	0.200	ND		UG/L
Pendimethalin	0.200	0.200	ND		UG/L

SURROGATE RECOVERIES:	Limits	Results
Triphenylphosphate	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

BLANK SUMMARY REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	LOD	LOQ	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number
(a) Iron	0.040	0.050	ND	MG/L	3010A	6010C	09/10/21	09/10/21	P7610A	008800-01B1
(a) Manganese	0.004	0.005	ND	MG/L	3010A	6010C	09/10/21	09/10/21	P7610A	008800-01B1
Ammonia Nitrogen	0.020	0.030	ND	MG/L	NONE	350.1	NA	08/30/21	09016215	008800-01B1
Chlorophyll-a, Corre	1.0	1.0	ND	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306	008800-02B1
Kjeldahl Nitrogen	0.19	0.20	ND	MG/L	351.2	351.2	09/08/21	09/09/21	09146257	008800-09B1
Nitrate as Nitrogen	0.019	0.020	ND	MG/L	NONE	GREEN	NA	09/16/21	09216316	008800-03B1
Nitrite as Nitrogen	0.020	0.020	ND	MG/L	NONE	354.1	NA	08/25/21	09156281	008800-09B1
Pheophytin-a	1.0	1.0	ND	MG/CU.M.	10200H	10200H	08/25/21	09/17/21	09206306	008800-02B1
Phosphorus	0.008	0.010	ND	MG/L	365.2	365.2	09/20/21	09/21/21	09236328	008800-01B1
Solids, Total Suspen	1.0	1.0	ND	MG/L	NONE	160.2	NA	08/30/21	09136246	008800-03B1
Solids, Volatile Sus	1.0	1.0	ND	MG/L	NONE	160.4	NA	08/30/21	09136247	008800-03B1
Total Organic Carbon	0.50	1.0	ND	MG/L	NONE	415.1	NA	09/03/21	09236329	008800-01B1

(a) DOD and/or NELAC Accredited Analyte

Inorganic Method Blanks for 008800

BLANK SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008800 Report Date: 09/01/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C
Project No.: Prep Method: 3510C

Matrix: QC Material QC Batch: B11392 Prep. Date: 08/27/2021
Amount Used: 1000 mL Level: LOW Analysis Date: 08/30/2021

Parameter	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits	RPD	RPD Limit
Trifluralin	3.21	4	80	--	--	--	30-130	--	--
Atrazine	3.23	4	81	--	--	--	30-130	--	--
Metribuzin	3.3	4	83	--	--	--	30-130	--	--
Alachlor	3.54	4	89	--	--	--	30-130	--	--
Metolachlor	3.24	4	81	--	--	--	30-130	--	--
Chlorpyrifos	3.09	4	77	--	--	--	30-130	--	--
Cyanazine	3.53	4	88	--	--	--	30-130	--	--
Pendimethalin	3.32	4	83	--	--	--	30-130	--	--

SURROGATE RECOVERIES:	Spike %R	Duplicate %R	%R Limits
Triphenylphosphate	70.1	--	30-130

(a) DOD-QSM Accredited Analyte.
'*' indicates a recovery outside of standard limits.
Spike Blanks for 008800-01, NP PESTICIDES (8270SIM-MOD)

LABORATORY CONTROL SAMPLE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	LCS 1 Result	LCS 1 Level	LCS 1 % Rec	LCS 2 Result	LCS 2 Level	LCS 2 % Rec	% Rec Limits	Mean % Rec	Analytical Run	QC Lab Number
(a) Iron	4.9	5.0	98	--	--	--	87-115	--	P7610A	008800-01C1
(a) Manganese	0.77	0.75	102	--	--	--	90-114	--	P7610A	008800-01C1
Ammonia Nitrogen	0.99	1.0	99	--	--	--	80-120	--	09016215	008800-01C1
Kjeldahl Nitrogen	0.83	1.0	83	--	--	--	80-120	--	09146257	008800-09C1
Nitrate as Nitrogen	0.95	1.0	95	--	--	--	80-120	--	09216316	008800-03C1
Nitrite as Nitrogen	1.1	1.0	106	--	--	--	80-120	--	09156281	008800-09C1
Phosphorus	0.68	0.67	102	--	--	--	80-120	--	09236328	008800-01C1
Total Organic Carbon	19.1	20.0	96	--	--	--	76-120	--	09236329	008800-01C1

NOTE: Any values tabulated above marked with an asterisk are outside of acceptable limits.

(a) DOD and/or NELAC Accredited Analyte

MATRIX SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008800 Report Date: 09/01/2021

Project Name: SHELBYVILLE LAKE/KAS Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C
Project No.: Prep Method: 3510C

Field ID:	SVL-1	Prep. Date:	08/27/2021	ARDL Lab No.:	008800-01
Desc/Location:		Amount Used:	1000 mL	Lab Filename:	
Sample Date:	08/24/2021	% Moisture:	NA	Received Date:	08/24/2021
Sample Time:	0930	QC Batch:	B11392	Analysis Date:	08/30/2021
Matrix:	WATER	Level:	LOW		

Parameter	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit
Trifluralin	ND	3.19	4	79.8	2.4	4	60	30-130	28.3	30
Atrazine	0.670	3.89	4	80.5	2.56	4	47.3	30-130	41.2 *	30
Metribuzin	ND	3.15	4	78.8	2.07	4	51.8	30-130	41.4 *	30
Alachlor	ND	3.52	4	88	2.59	4	64.8	30-130	30.4 *	30
Metolachlor	1.11	4.3	4	79.8	3.19	4	52	30-130	29.6	30
Chlorpyrifos	ND	2.99	4	74.8	2.26	4	56.5	30-130	27.8	30
Cyanazine	ND	3.29	4	82.3	2.25	4	56.3	30-130	37.5 *	30
Pendimethalin	ND	3.21	4	80.3	2.4	4	60	30-130	28.9	30

SURROGATE RECOVERIES:	MS %R	MSD %R	%R Limits
Triphenylphosphate	73	52	30-130

(a) DOD-QSM Accredited Analyte.
'nc' indicates sample >4X spike level.
'*' indicates a recovery outside of standard limits.
Matrix Spikes for 008800-01, NP PESTICIDES (8270SIM-MOD)

MATRIX SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	Sample Matrix	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit	Run	QC Lab Number
(a) Iron	WATER	0.075	0.99	1.0	92	0.99	1.0	92	87-115	0	20	P7610A	008800-01MS
(a) Manganese	WATER	0.022	0.50	0.50	95	0.50	0.50	95	90-114	0	20	P7610A	008800-01MS
Ammonia Nitrogen	WATER	0.088	2.1	2.0	100	2.1	2.0	101	75-125	1	20	09016215	008800-01MS
Kjeldahl Nitrogen	WATER	0.64	0.89	0.80	32 *	0.86	0.80	27 *	75-125	4	20	09146257	008800-09MS
Nitrate as Nitrogen	WATER	1.1	1.9	1.0	81	1.9	1.0	82	75-125	1	20	09216316	008800-03MS
Phosphorus	WATER	0.048	0.88	0.83	101	0.90	0.83	102	75-125	2	20	09236328	008800-01MS
Total Organic Carbon	WATER	3.8	8.8	5.0	100	8.8	5.0	99	76-120	1	20	09236329	008800-01MS

NOTE: Values tabulated above marked with an asterisk are explained in the associated narrative.

(a) DOD and/or NELAC Accredited Analyte.

Inorganic Matrix Spikes for 008800

SAMPLE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 008800 Report Date: 09/24/2021

Project Name: SHELBYVILLE LAKE/KASKASKIA RIVER NELAC Certified - IL100308

Analyte	Sample Conc'n	First Duplicate	Second Duplicate	Units	Percent Diff	Mean (Smp,D1,D2)	Analytical Run	QC Lab Number
Chlorophyll-a, Corrected	23.6	23.6	--	MG/CU.M.	0	--	09206306	008800-02D1
Pheophytin-a	ND	1.2	--	MG/CU.M.	NC	--	09206306	008800-02D1
Solids, Total Suspended	6.0	6.4	--	MG/L	6	--	09136246	008800-03D1
Solids, Volatile Suspend	ND	ND	--	MG/L	NC	--	09136247	008800-03D1

(a) DOD and/or NELAC Accredited Analyte

Sample Duplicates for 008800

Sample Receipt Information

Including as appropriate:

- COCs
- Cooler Receipts
- Airbills
- Email Communication / Instructions from Customer

ARDL Data Package 8800

ARDL, Inc.

P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864
(618) 244-3235 Phone (618) 244-1149 Fax

8800

CHAIN OF CUSTODY RECORD

PROJECT: Shelbyville Lake

SAMPLERS: (Signature)

	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	NO. OF CONTAINERS	TSS, TVSS	Chloro/Pheo	* TOC, T-PO4	*NO2-N, TKN	* NO3-N, NH3-N	NP Pest	# T.Fe; T.Mn	E. coli	MS/MSD					REMARKS OR SAMPLE LOCATION	PRESERVATION ICED	PRESERVATION SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
1	SVL-1	8-24	0830		X		X		X		X	X	X		X						X	
2	SVL-2	8-24	1015		X		X	X	X		X	X									X	
3	SVL-2-10	8-24	1015		X		X		X		X		X								X	
4	SVL-4	8-24	1250		X		X	X	X		X	X									X	
5	SVL-12	8-24	1130		X		X		X		X	X		X							X	
6	SVL-13	8-24	1354		X		X		X		X	X									X	
7	SVL-11	8-24	1211		X		X	X	X		X	X									X	
8	SVL-15	8-24	1300		X		X	X	X		X	X									X	
9	KAS-3	8-24	815		X		X	X	X	X	X			X							X	
10	LS Marina	8-24	9:58		X									X							X	
11	FIN Marina	8-24	1227		X									X							X	
12	SUL Marina	8-24	1254		X									X							X	

	Date	Time	
Relinquished by: (Signature)	8/24	1530	Received by: (Signature) Valerie Jenkins
Relinquished by: (Signature) Valerie Jenkins	8/24	1642	Received by: (Signature)
Received for Laboratory by: (Signature)	8/24/21	1642	Shipping Ticket No.

REMARKS/SPECIAL INSTRUCTIONS:

*Preserved with H_2SO_4
#Preserved with HNO_3

All samples on chain state "SVL" - Bottles state "SBV"

DCB 08/25/2021

PURCHASE ORDER NO: _____

COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8800 Cooler # Red 1

Number of Coolers in Shipment: 2

Project: Shelbyville Lake Date Received: 08/24/2021

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 08/24/2021 (Signature) DCB

1. Did cooler come with a shipping slip (airbill, etc.)? ..... YES (NO)
   If YES, enter carrier name and airbill number here: ARDL Courier-Valerie
2. Were custody seals on outside of cooler? ..... YES NO (N/A)
   How many and where? _____, Seal Date: _____, Seal Name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO (NA)
4. Did you screen samples for radioactivity using a Geiger Counter? ..... (YES) NO
5. Were custody papers sealed in a plastic bag? Hand delivered ..... YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO N/A
7. Were custody papers signed in appropriate place by ARDL personnel? ..... (YES) NO N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form ..... (YES) NO N/A
9. Was a separate container provided for measuring temperature? YES____ NO✓ Observed Cooler Temp. 0.7 C
   Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: _____ (Signature) _____

10. Describe type of packing in cooler: _____
11. Were all samples sealed in separate plastic bags? ..... YES (NO) N/A
12. Did all containers arrive unbroken and were labels in good condition? ..... (YES) NO
13. Were sample labels complete? ..... (YES) NO
14. Did all sample labels agree with custody papers? See Note ..... YES (NO)
15. Were correct containers used for the tests indicated? ..... (YES) NO
16. Was pH correct on preserved water samples? ..... (YES) NO N/A
17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: _____ YES NO (N/A)
19. Was the ARDL project coordinator notified of any deficiencies? ..... YES NO (N/A)

Comments and/or Corrective Action:
Chain states "SVL", bottles state "SBV".
(By: Signature) DCB Date: 08/25/2021

Sample Transfer	
Fraction: All	Fraction:
Area #: Walk-In	Area #:
By: DCB	By:
On: 08/25/2021	On:

Chain-of-Custody # _____

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COOLER RECEIPT REPORT
ARDL, INC.

ARDL #: 8800 Cooler # Green 1

Number of Coolers in Shipment: 2

Project: Shelbyville Lake Date Received: 08/24/2021

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 08/24/2021 (Signature) DCB

1. Did cooler come with a shipping slip (airbill, etc.)? ..... YES (NO)
   If YES, enter carrier name and airbill number here: ARDL Courier - Valerie
2. Were custody seals on outside of cooler? ..... YES NO (N/A)
   How many and where? _____, Seal Date: _____, Seal Name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO (NA)
4. Did you screen samples for radioactivity using a Geiger Counter? ..... (YES) NO
5. Were custody papers sealed in a plastic bag? Hand delivered ..... YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO N/A
7. Were custody papers signed in appropriate place by ARDL personnel? ..... (YES) NO N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form ..... (YES) NO N/A
9. Was a separate container provided for measuring temperature? YES____ NO✓ Observed Cooler Temp. 0.9 C
   Correction factor 0.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 08/25/2021 (Signature) DCB

10. Describe type of packing in cooler: Loose Ice
11. Were all samples sealed in separate plastic bags? ..... YES (NO) N/A
12. Did all containers arrive unbroken and were labels in good condition? ..... (YES) NO
13. Were sample labels complete? ..... (YES) NO
14. Did all sample labels agree with custody papers? See Note ..... YES (NO)
15. Were correct containers used for the tests indicated? ..... (YES) NO
16. Was pH correct on preserved water samples? ..... (YES) NO N/A
17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: _____ YES NO (N/A)
19. Was the ARDL project coordinator notified of any deficiencies? ..... YES NO (N/A)

Comments and/or Corrective Action:
Chain states "SVL", bottles state "SBV".
(By: Signature) Date:

Sample Transfer	
Fraction: All	Fraction:
Area #: Walk-In	Area #:
By: DCB	By:
On: 08/25/2021	On:

Chain-of-Custody # _____

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