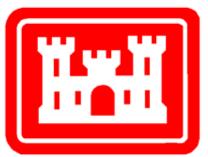
2020 Water Quality Report



U.S. Army Corps of Engineers Saint Louis District

Lake Shelbyville Water Quality Conditions: 1984-2020



June 2021

Lake Shelbyville Water Quality Conditions: 1984-2020

Prepared for

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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, 2018) has listed Lake Shelbyville impaired for Total Suspended Solids, total phosphorus, and mercury, while the Kaskaskia upstream of the Lake is impaired for PCB's, dissolved oxygen, pH, Fecal Coliform, and mercury. The lists of sources for these impairments are runoff, crop production, shore modifications, and recreational pollution.

Water quality sampling in 2020 revealed the following concerns at Lake Shelbyville: Atrazine, iron, chlorophyll, phosphorus and bacteria.

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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 (CEMVS) of United States Army Corps of Engineers (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 2020, as well as baseline data collected from 1984-2019. 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 figure 1 and Table 1 for a site map and site coordinates.

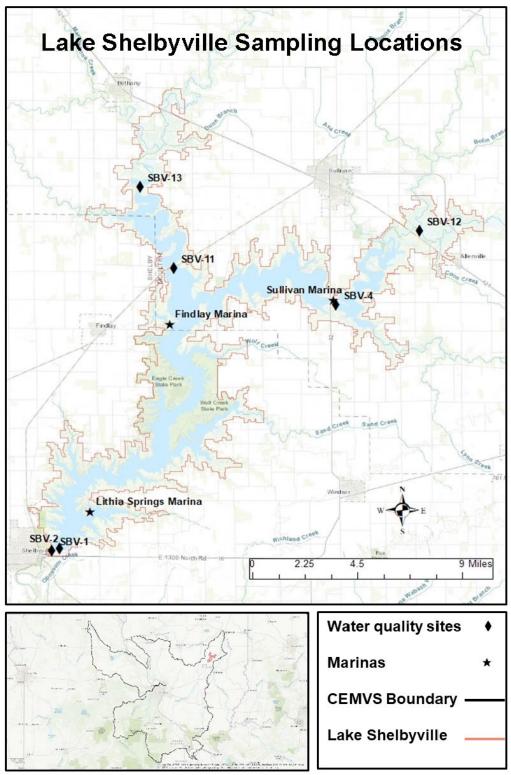


Figure 1. Water Quality (WQ) Sampling Locations at Lake Shelbyville

Sample Location Summary Table

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) Samples at Marinas are not always	TR taken in the exact same	SBV-1 location.	39.40823	-88.78124

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

METHODS AND ANALYSIS: WATER QUALITY

Data Collection and Historical Reference Data

During 2020, 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). For comparison, statistical analyses were also performed on historical water quality monitoring data and, although some sampling locations may have been removed, they were classified in the same manner. Descriptive statistics were calculated to describe central tendencies and corresponding 95% confidence levels for the mean. 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°C. Water temperature criteria for warm water bodies in Illinois is within 2.8°C of the seasonal norm.

Dissolved Oxygen (DO) refers to the measurement of free oxygen molecules (O₂) that are not bonded to any other elements; thus, oxygen bonded in water (H₂O) 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 (CO₂ + H₂O (CH₂O) + O₂) from phytoplankton and aquatic vegetation. Additional factors influencing DO include temperature, pressure, and salinity.

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

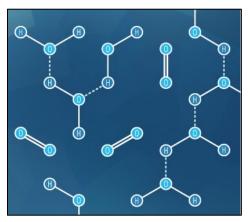


Figure 1: Dissolved oxygen (O_2) vs oxygen bonded in water (H_2O) .

require dissolved oxygen for respiration when photosynthesis is not possible. Smaller microbes and bacteria utilize DO for decomposition of organic materials, 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 invertebrate begins 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 μ S/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. Illinois does not currently have a standard criteria for TSS, NVSS or VSS.

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 Kaskaskia 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.

<u>Total Ammonia Nitrogen (TAN)</u> 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 in regards to 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 standard for phosphorous in lake water is 0.05 mg/L. Dissolved phosphorous, also called **Orthophosphate (PO₄-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.

<u>Chlorophyll a (CHL a)</u> 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.

<u>Trophic Status</u> 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:

 $\begin{array}{l} {\sf TSI} \mbox{ (Seechi Depth) = 10(6 - (ln SD/ln 2))} \\ {\sf TSI} \mbox{ (Chlorophyll-a) = TSI(Chl) = 10(6 - ((2.04 - 0.68 ln Chl)/ln 2))} \\ {\sf TSI} \mbox{ (Total Phosphorus) = TSI(TP) = 10(6 - (ln (48/TP)/ln 2))} \end{array}$

where In 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 is defined as follows:

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

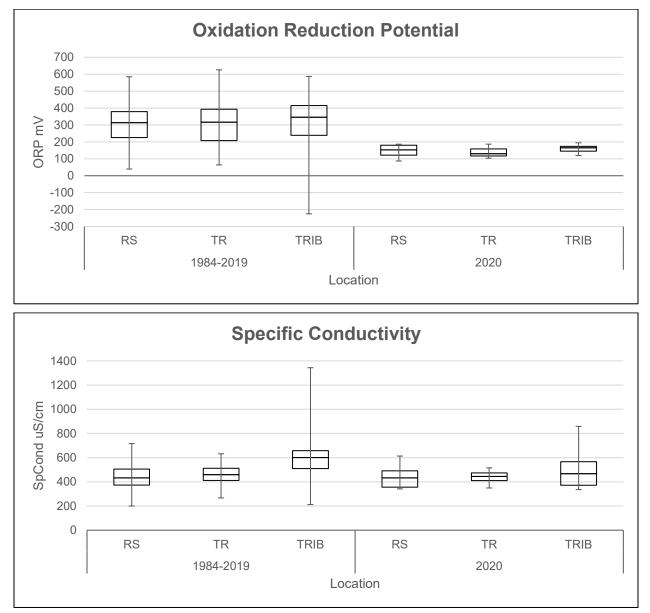
Laboratory Methods and Water Quality Criteria Summary Table

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

Metric	Abbreviation	Analysis Method	Water Quality Criteria	<u>Source</u>
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	United States 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
Chlorpyrifos		EPA Method 8270C	< 0.11 µg/L: aquatic life	Illinois EPA
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	рН	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

Metric	Abbreviation	Analysis Method	Water Quality Criteria	Source
Total Organic Carbon	тос	EPA Method 415.1		
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	<pre>< 1.1 μg/L: chronic or < 26 μg/L acute (aquatic life)</pre>	Illinois EPA
Turbidity	Turb	Multiparameter Meter		
Volatile Suspended Solids	VSS	EPA Method 160.4		

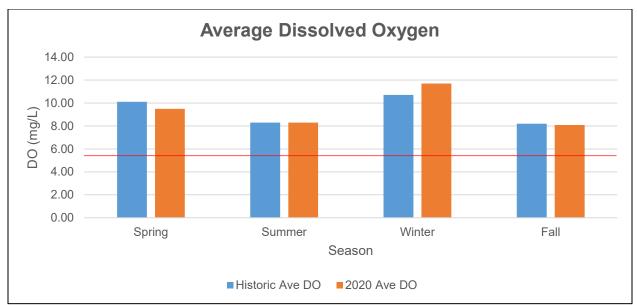
*1 mg/L is equivalent to 1 drop in two bathtubs and 1 ug/L is equivalent to 1 drop in an Olympic size swimming pool. PWS is public water supply. DWS is drinking water standard.



RESULTS AND SUMMARY STATISTICS: WATER QUALITY

	Historical Reference 1984-2019							<u>0</u>	
					CL				CL
_	Location	Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)
SpCond	RS	444.71	433.00	301	10.46	439.45	432.50	23	39.43
	TR	455.93	459.50	138	12.51	438.55	444.60	4	110.26
	TRIB	582.54	601.00	191	19.04	502.24	467.10	8	148.13
ORP	RS	298.88	314.00	278	13.86	147.97	153.20	17	16.64
	TR	299.21	316.00	119	21.67	140.17	129.90	3	104.95
	TRIB	324.95	346.00	181	18.97	159.97	165.35	6	27.95

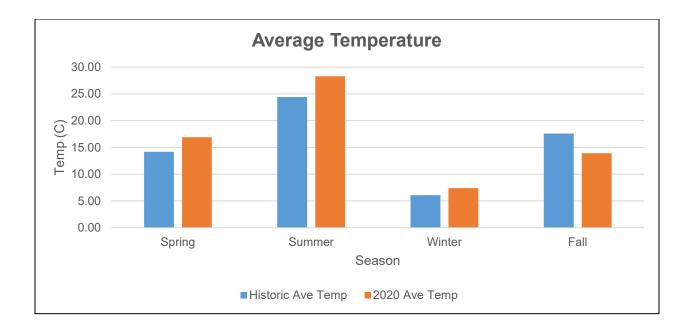
*This report does not acknowledge a water quality criteria for SpCond or ORP.



Red line placed at the 5 mg/L level.

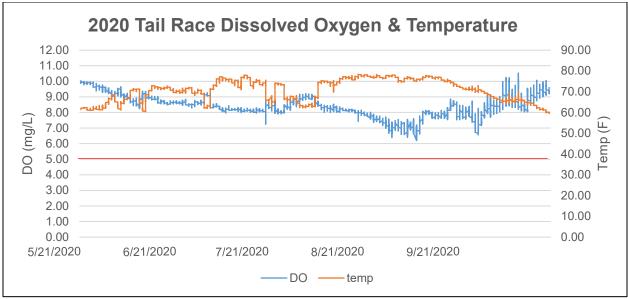
	<u>Hist</u>	orical Reference		<u>20</u>	020				
					CL				CL
Season	Location	Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)
Spring	RS	10.57	10.75	92	0.48	9.32	9.51	5	1.89
	TR	10.76	10.60	44	0.58	16.20	16.20	1	
	TRIB	9.04	8.78	68	0.60	6.59	6.59	2	14.74
Summer	RS	8.82	9.08	149	0.45	7.45	7.22	6	1.21
	TR	8.54	8.67	70	0.35	9.05	9.05	1	
	TRIB	7.27	7.37	94	0.41	10.69	10.69	2	25.67
Winter	RS	12.10	12.38	6	1.36	11.34	11.06	6	0.63
	TR	12.20	13.49	3	6.84	13.03	13.03	1	
	TRIB	8.24	10.43	5	3.97	12.05	12.05	2	9.53
Fall	RS	8.87	9.26	52	0.66	7.92	8.09	6.00	0.78
	TR	9.15	9.20	23	1.00	9.56	9.56	1.00	
	TRIB	6.23	6.74	27	1.25	7.83	7.83	2.00	9.28

* There were no observations of DO recorded at <5 mg/L in 2020. All observations met the Illinois state standard.



	Hi	storical I	Reference	1992-201	<u> 9</u>		<u>202</u>	<u>20</u>	
					CL				CL
Season	Location	Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)
Spring	RS	14.46	15.35	92	1.14	17.20	17.20	5	0.50
	TR	13.04	14.40	44	1.26	16.20	16.20	1	
	TRIB	14.51	15.07	70	0.98	16.60	16.60	2	1.27
Summer	RS	26.12	26.53	152	0.41	28.87	28.90	6	0.22
	TR	21.14	20.62	71	0.70	19.40	19.40	1	
_	TRIB	24.08	24.48	94	0.63	30.85	30.85	2	3.18
Fall	RS	18.43	19.45	54	1.46	14.40	14.40	6	1.46
	TR	17.82	19.10	23	1.81	15.30	15.30	1	
	TRIB	15.91	16.10	27	2.43	11.75	11.75	2	9.53
Winter	RS	6.78	6.83	6	1.50	7.40	7.86	6	1.20
	TR	5.03	4.70	3	4.12	5.72	5.72	1	
	TRIB	5.95	6.80	5	3.18	8.08	8.08	2	3.18

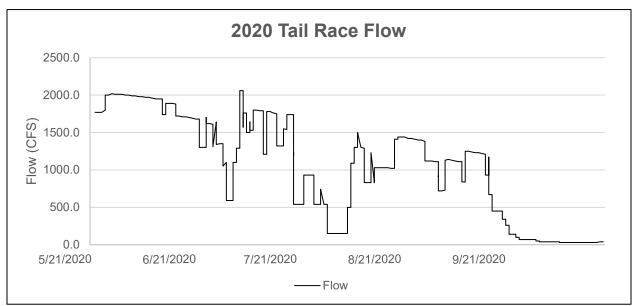
*The criterion of a 2.8C rise above natural/historic temperatures was exceeded in the tailrace during the spring and in the tributaries in the summer of 2020. This was based on mean comparisons between the historical seasonal reference and 2020 data.



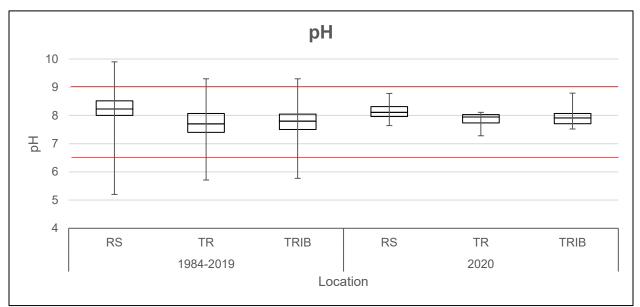
*Data recorded by multi-parameter sonde at tail race. 30 minute data shown. Red line placed at the 5 mg/L level. DO did not fall below 5 mg/L during 2020.

2020 Tail Race Continuous Temperature and DO									
Parameter	Season	Mean	Median	Count	CL (95.0%)				
DO	Spring	9.6	9.6	993	0.015				
	Summer	8.3	8.3	10272	0.011				
	Fall	8.4	8.3	3327	0.022				
Temp	Spring	17.2	16.8	993	0.060				
	Summer	22.4	23.1	10272	0.050				
	Fall	19.8	19.4	3327	0.079				

*Historical tail race continuous not included in this report.



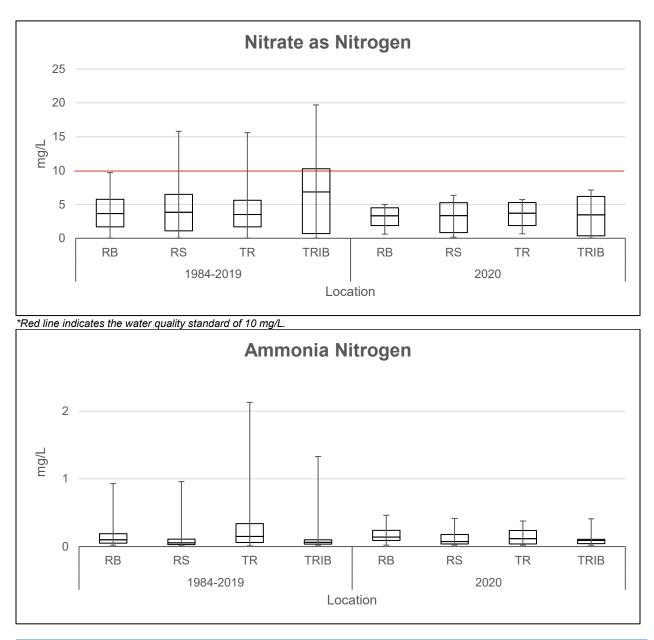
*Revised daily flow data shown as reviewed by the USACE water management office.



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

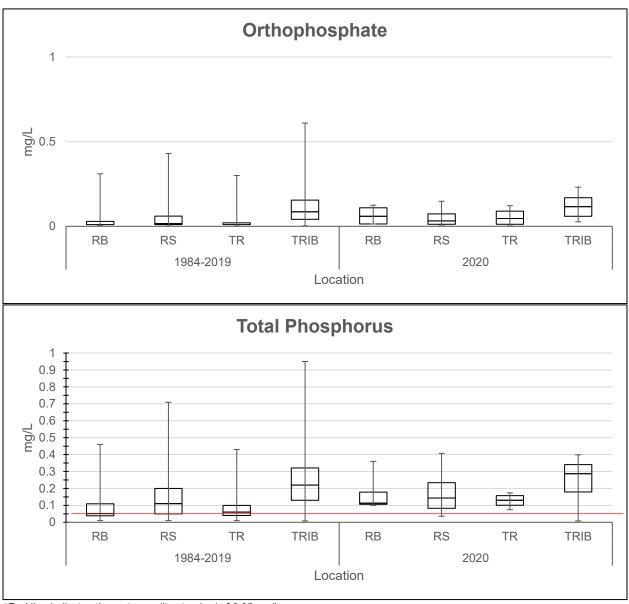
		<u>Hist</u>	orical Refe		<u>2</u>	<u>020</u>			
					CL				CL
	Location	Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)
рН	RS	8.20	8.23	301	0.06	8.16	8.11	23	0.14
	TR	7.72	7.70	136	0.09	7.82	7.95	4	0.59
	TRIB	7.77	7.80	192	0.07	7.95	7.91	8	0.34

pH observations were within water quality standards during 2020.



		Historic	al Referer	nce 1984-	<u>2019</u>		<u>20</u> 2	20	
			CL						
		Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)
NO3N	RB	3.86	3.65	106	0.48	3.07	3.33	4	3.18
	RS	4.23	3.84	333	0.37	3.17	3.35	12	1.51
	TR	3.90	3.50	156	0.45	3.45	3.71	4	3.81
	TRIB	6.32	6.85	222	0.69	3.40	3.46	8	2.63
NH3N	RB	0.15	0.10	106	0.03	0.19	0.14	4	0.30
	RS	0.09	0.06	331	0.01	0.13	0.07	12	0.09
	TR	0.30	0.15	158	0.06	0.16	0.12	4	0.26
	TRIB	0.09	0.06	222	0.02	0.12	0.09	8	0.11
* All observ	ations of NO3	and ammonia wer	e within the w	ater quality s	standards				

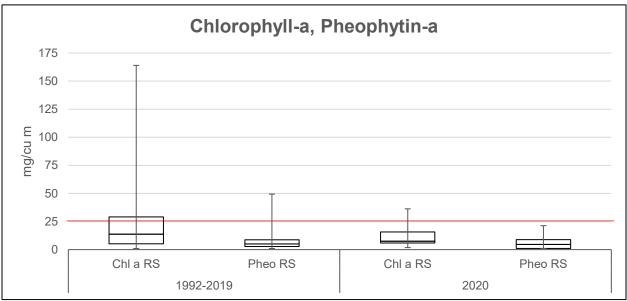
and ammonia were within the water quality standa



*Red line indicates the water quality standard of 0.05 mg/L.

		Hist	orical Refe	erence 19	84-2019	<u>2020</u>			
			CL						CL
		Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)
Ortho	RB	0.03	0.01	106	0.01	0.06	0.06	4	0.09
	RS	0.05	0.02	333	0.01	0.05	0.03	12	0.03
	TR	0.03	0.01	157	0.01	0.06	0.05	4	0.09
	TRIB	0.11	0.09	226	0.01	0.12	0.12	8	0.06
TP	RB	0.09	0.05	107	0.02	0.17	0.11	4	0.20
	RS	0.14	0.11	337	0.01	0.17	0.14	12	0.07
	TR	0.08	0.06	158	0.01	0.13	0.13	4	0.07
	TRIB	0.25	0.22	226	0.02	0.26	0.29	8	0.11

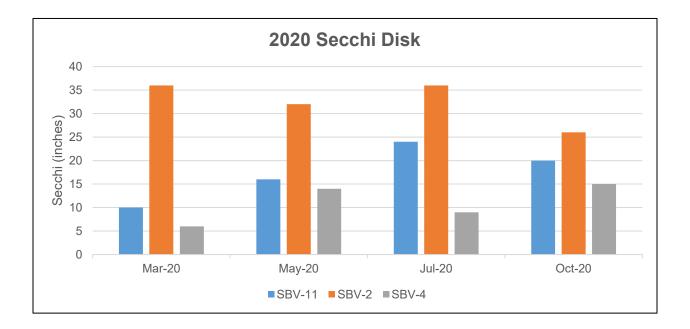
*Total phosphorus exceeded the proposed criteria of 0.05 mg/L for most locations throughout the year. This study does not acknowledge a water quality criteria for orthophosphate.

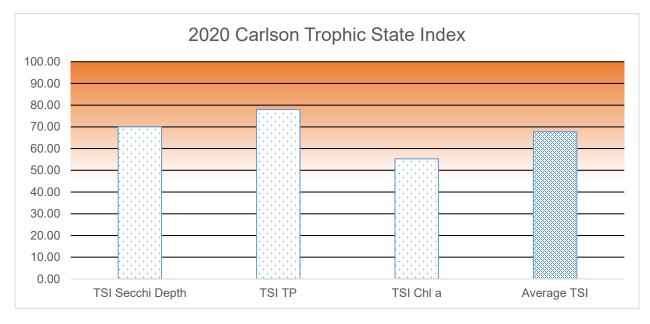


*Red line indicates the water quality standard of 25 mg/cm³. See Carlson 1977.

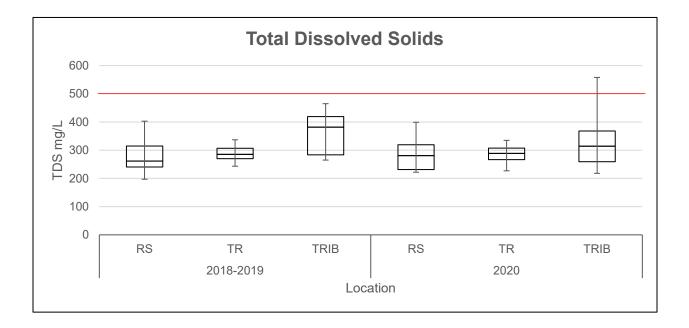
		<u>202</u>	<u>0</u>								
			CL(95.								
		Mean	Median	Count	0%)	Mean	Median	Count	.0%)		
Chl a	RS	21.77	13.70	297	2.63	12.39	7.45	12	7.00		
Pheo a	RS	7.43	5.00	274	0.95	5.96	4.60	12	3.85		
The proposed criteria for chlorophyll-a of 25mg/cm ³ was exceeded in the lake in October 2020. This study does not acknowledg											

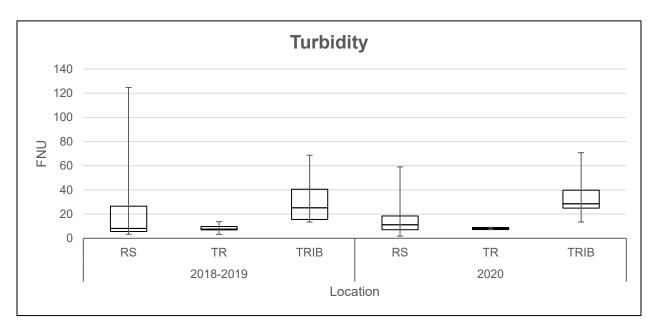
The proposed criteria for chlorophyll-a of 25mg/cm³ was exceeded in the lake in October 2020. This study does not acknowledge a criteria for pheophytin.





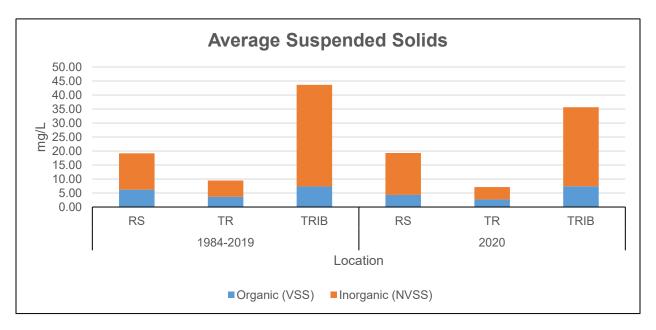
<40 = Oligotrophic ____ 40-50 = Mesotrophic ____ 50-70 = Eutrophic ____ >70 Hypereutrophic





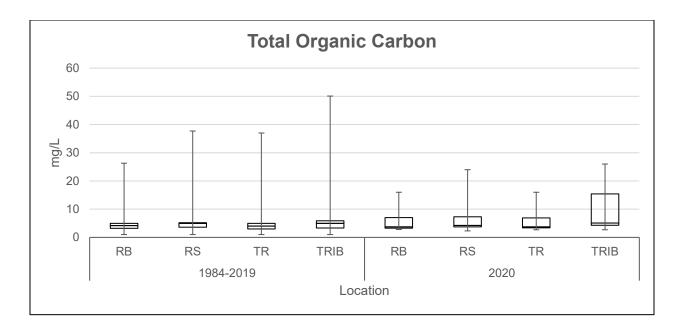
		<u>Histor</u>	<u>2020</u>							
			CL							
		Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)	
TDS	RS	280.60	261.76	38	19.26	285.70	281.00	23	25.68	
	TR	288.91	285.50	8	27.00	334.00	314.00	8	91.29	
	TRIB	361.10	382.00	16	39.20	285.00	289.00	4	71.50	
FNU	RS	19.52	8.18	38	8.04	15.93	11.20	23	6.16	
	TR	8.47	7.66	8	2.79	8.11	8.07	4	1.60	
	TRIB	29.47	25.25	16	8.66	35.34	28.50	8	16.48	

* One observation of TDS was greater than the water quality standard of 500 mg/L in a tributary in October 2020. This is not an exceedance because not 10% or greater of observations exceeded the standard. This study does not recognize a standard for Turbidity.



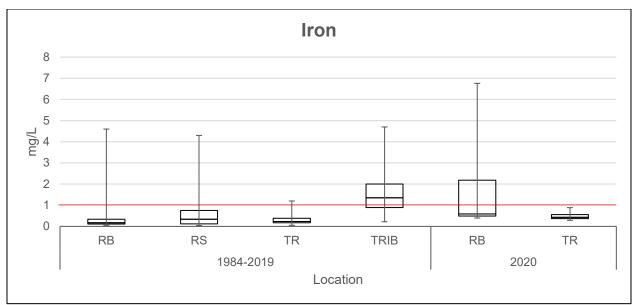
		<u>2</u>	<u>020</u>							
			CL							
		Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)	
TSS	RS	19.10	14.00	325	2.02	19.27	12.40	12	15.71	
	TR	9.44	8.00	152	0.91	7.14	7.75	4	5.40	
	TRIB	43.60	36.60	215	4.67	35.66	40.00	7	12.95	
VSS	RS	6.19	5.00	322	0.41	4.33	4.00	12	1.43	
	TR	3.64	3.00	151	0.38	2.74	2.68	4	1.07	
	TRIB	7.33	6.00	213	0.71	7.40	6.67	7	2.08	
NVSS	RS	12.96	7.30	325	1.79	14.94	8.60	12	14.54	
	TR	5.83	5.00	152	0.76	4.40	5.30	4	5.12	
	TRIB	36.34	29.60	215	4.13	28.26	33.33	7	11.56	

*The solids data measured in 2020 were comparable to the historical data. There is no numeric standard for solids.

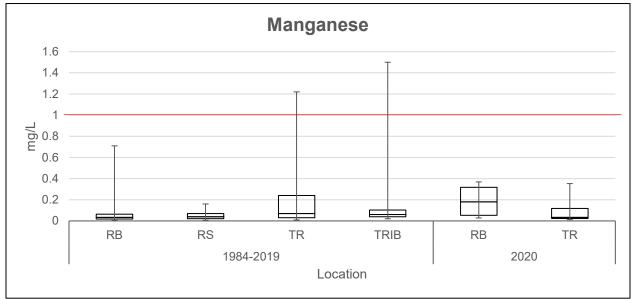


		<u>Historica</u>		<u>2020</u>				
	Mean	Median	Count	CL (95.0%)	Mean	Median	Count	CL (95.0%)
RB	5.22	4.20	103	0.81	6.55	3.70	4	10.05
RS	5.45	5.00	325	0.44	7.55	4.25	12	4.59
TR	4.60	4.00	154	0.64	6.55	3.75	4	10.06
TRIB	5.81	5.00	218	0.74	10.46	5.10	7	9.56

*The TOC measured in 2020 were comparable to the historical data. This study does not recognize a water quality criteria for TOC.



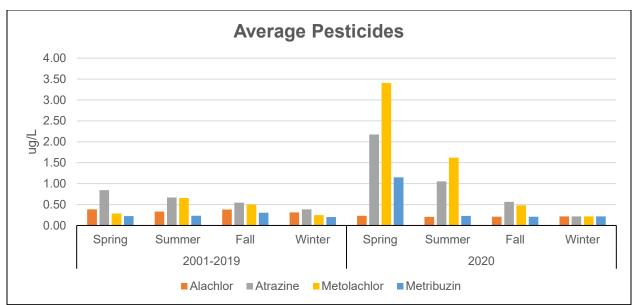
*Red line indicates the water quality standard of 1 mg/L.



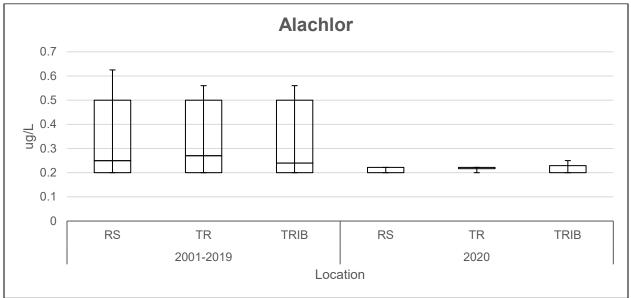
*Red line indicates the water quality standard of 1 mg/L.

		<u>Histo</u>	<u>2020</u>								
			CL								
		Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)		
Iron	RB	0.40	0.17	102	0.14	2.08	0.59	4	4.96		
	RS	0.64	0.34	100	0.18						
	TR	0.30	0.23	152	0.03	0.51	0.43	4	0.42		
	TRIB	1.49	1.35	68	0.22						
Mang	RB	0.07	0.03	102	0.02	0.19	0.18	4	0.27		
	RS	0.05	0.04	95	0.01						
	TR	0.19	0.07	152	0.04	0.11	0.03	4	0.26		
	TRIB	0.12	0.06	64	0.06						

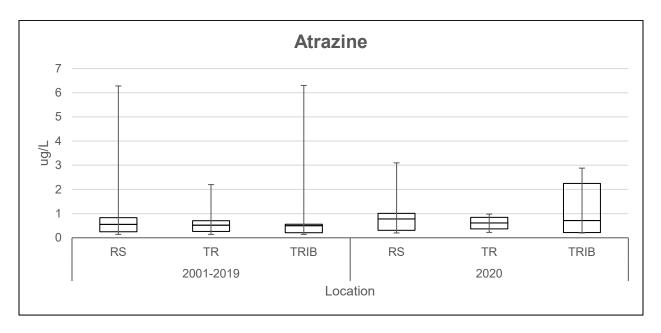
*In March 2020 iron exceeded the standard of 1 mg/L near the lake bottom in front of the dam. Manganese did not exceed the criteria.



*Of the eight pesticides tested, only the above four were reported above detection levels for the period 2001-2020.

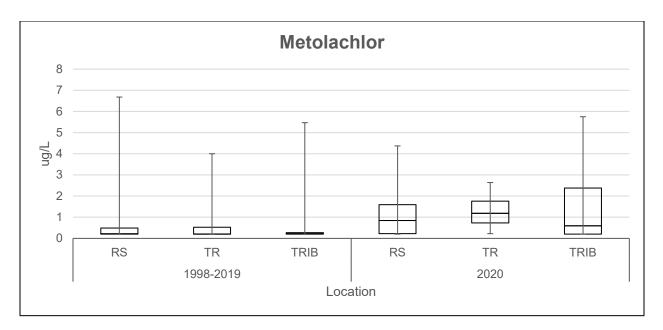


*Alachlor did not exceed water quality criteria in 2020. From 2001-2020 Alachlor was found above detection levels twice. There were not enough detected samples for statistical analyses.



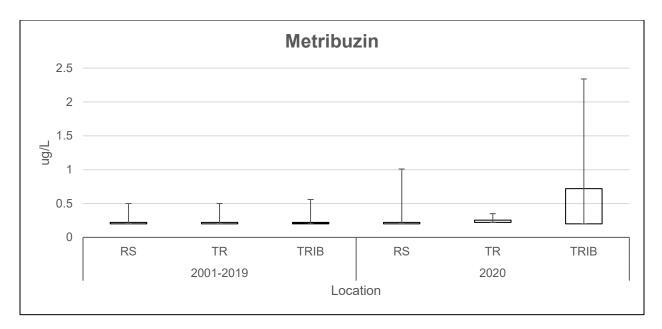
	Historical Reference 2001-2019 2020										
	CL C										
Atrazine	Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)			
RS	0.76	0.56	189	0.13	0.99	0.78	12	0.57			
TR	0.59	0.52	64	0.10	0.61	0.61	4	0.55			
TRIB	0.67	0.50	121	0.16	1.22	0.71	8	0.98			

*Atrazine exceeded the water quality criterion of 3 ug/L once in the lake in May 2020.



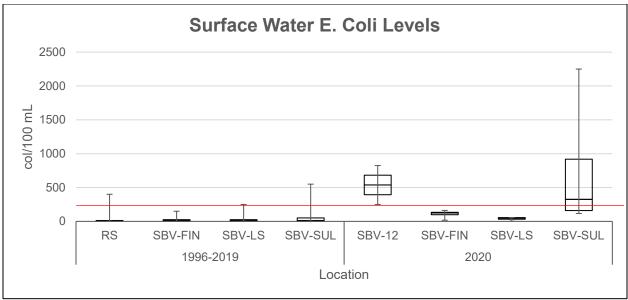
	Historical Reference 2001-2019 2020												
Metolachlor	Mean	Median	Count	CL (95.0%)	Mean	Median	Count	CL (95.0%)					
RS	0.53	0.22	112	0.15	1.35	0.85	12	0.92					
TR	0.62	0.21	37	0.30	1.31	1.19	4	1.63					
TRIB	0.49	0.22	72	0.20	1.62	0.60	8	1.69					

*Metolachlor did not exceed water quality criteria in 2020.



		<u>2020</u>								
	CL									
Metribuzin	Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)		
RS	0.53	0.22	112	0.15	1.35	0.85	12	0.92		
TR	0.62	0.21	37	0.30	1.31	1.19	4	1.63		
TRIB	0.49	0.22	72	0.20	1.62	0.60	8	1.69		

*Metribuzin did not exceed water quality criteria in 2020.



*Red line approximately indicates the water quality standard of 235 col per 100 mL.

	Histori	<u>2020</u>						
				CL				CL
Location	Mean	Median	Count	(95.0%)	Mean	Median	Count	(95.0%)
RS	35.63	5.00	35	32.30				
TRIB					537.50	537.50	2	3653.03
Findlay	23.75	11.00	48	10.01	107.25	125.00	4	99.68
Lithia Springs	21.51	10	47	12.06	39.25	49.00	4	41.30
Sullivan	72.47	14	45	39.06	754.25	325	4	1606.23

*Bacteria levels exceeded the water quality criterion at SBV-12 and Sullivan Marina.

	2019 Swimming Beach Bacteria Levels (E. Coli / 100mL)												
	Coon Creek		Dam West		Lithia Sp	Lithia Springs		Beach	Wilborn Creek				
	shallow	deep	shallow	deep	shallow	deep	shallow	deep	shallow	deep			
6/23/2020	17.9	17.9	23.3	27.9	7.4	10.9	9.8	13.1					
7/7/2020	60.2	5.2	1	1	1	1	3	5.2	816	2419			
7/21/2020	1	1	1	3.1	1	1	1	1					
8/4/2020	3.1	2	2	1	8.6	1	6.3	13.1					
8/18/2020	1	2	1	1	6.3	6.3	2	1					
9/1/2020	1	1	1	1	1	1	1	42.8					

*Beach bacteria levels did not exceed the reference water quality criteria except for Wilborn Creek. Wilborn Creek was tested in July, but never opened during 2020.

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 2020 did not deviate far from conditions observed during the reference period (1984-2019); nevertheless, concerns regarding TP, TSS, TFe, Atrazine, and bacteria 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 2020 the TP criterion was exceeded at all locations with a mean concentration across all sites of 0.187 mg/L, which is 17.7% higher than the historical average of 0.15 mg/L. Mean NO3-N levels in 2020 (3.3 mg/L) were 30% lower, and did not exceed the criterion of 10 mg/L in 2020. 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.

Although there is not a state criterion for CHL_a the proposed standard of 25 mg/cm³ was exceeded at two locations in the lake in October 2020. The 2020 mean CHL_a concentration of 12.4 mg/cm³ was less than the historical mean of 21.77 mg/cm³, and considerably less than the 2019 mean of 39.10 mg/cm³. CHL_a is an indicator of the abundance of phytoplankton. Any water environment with a level recorded above 25 mg/cm³ is considered to be eutrophic (nutrient enrichment increases algal and plant growth and negative effects). The 2020 TSI level, an average of the individual trophic state indexes for secchi depth, CHL_a, and TP, for Lake Shelbyville is 68.29, slightly less than 73.62 in 2019. The largest driver for the reduction in 2020 is due to the reduced observed CHL_a levels; a reduction of approximately 68.3%. Lake Shelbyville is considered on the TSI level of 68.29. 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.

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 2020, the water quality standard (3 ug/L) for Atrazine was exceeded once in the lake with a value of 3.1 ug/L. Mean 2020 levels were 1 ug/L compared to the historical value of 0.70 ug/L. In general, Atrazine levels in 2020 were comparable to historical values.

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 2020 the water quality standard was exceeded once at a closed beach at Wilborn Creek, near Sullivan Marina, and in the tributary location 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 observations in 2020 reinforce this finding (see Asa Creek Impacts below).

All remaining parameters evaluated during the 2020 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 are 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 February 2020, no further monitoring has been conducted in Asa Creek by USACE. During the preparation of this annual report the renewal IEPA NPDES permit for Sullivan STP is under review. An inspection of the facility is scheduled by the end of September 2021.

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, if possible, 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 Nitrite (NO₂) and Total Khejdahl Nitrogen (TKN) be added to the monitoring program if possible. Doing so would allow CEMVS to evaluate Total Nitrogen (TN), which is a strong indicator of trophic status.

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 if possible to add this analyses 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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- USACE. (1987). Engineering and Design: Reservoir Water Quality Analysis. USACE ER 1110-2-1201. Washington D.C.
- IEPA. (2018). <u>https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/303d-list.aspx</u>

APPENDIX A: FIELD DATA

							ODO				
		Depth	Temp	ORP	Sp Cond		(%	ODO	TDS	Turbidity	Secchi
Date	Location	(m)	(°C)	(mV)	(µS/cm)	рН	Sat)	(mg/L)	(mg/L)	(FNU)	(in)
3/11/2020	SBV-1	1.1	5.7	129.9	515.7	8.11	104.1	13.0	335	7.2	
3/11/2020	SBV-11	0.9	8.7	183.3	589.2	8.26	93.2	10.8	383	25.5	10
3/11/2020	SBV-11	2.1	8.7	184.0	592.7	8.26	92.5	10.8	385	29.4	
3/11/2020	SBV-11	3.2	8.7	185.1	593.2	8.26	91.4	10.6	386	33.7	
3/11/2020	SBV-11	4.0	8.6	186.6	591.3	8.24	91.1	10.6	384	40.3	
3/11/2020	SBV-12	0.8	8.3	167.7	613.7	8.04	96.4	11.3	399	22.3	
3/11/2020	SBV-13	0.1	7.8	163.0	528.9	8.06	107.9	12.8	344	33.0	
3/11/2020	SBV-2	1.1	5.7	180.4	516.2	8.1	98.2	12.3	336	6.5	36
3/11/2020	SBV-2	2.2	5.7	181.8	516.1	8.09	98.1	12.3	335	6.3	
3/11/2020	SBV-2	3.1	5.7	183.3	516.0	8.08	97.9	12.3	335	6.6	
3/11/2020	SBV-2	4.1	5.7	184.0	516.0	8.07	97.9	12.3	335	6.1	
3/11/2020	SBV-2	5.1	5.7	185.4	515.6	8.06	97.7	12.3	335	6.4	
3/11/2020	SBV-2	6.0	5.7	186.5	516.1	8.05	97.5	12.2	335	6.3	
3/11/2020	SBV-2	7.2	5.7	187.4	516.5	8.04	97.3	12.2	336	7.0	
3/11/2020	SBV-2	8.7	5.7	188.2	516.8	8.03	97.1	12.2	336	7.6	
3/11/2020	SBV-2	10.3	5.7	189.4	516.7	8.02	97.0	12.2	336	7.1	
3/11/2020	SBV-2	11.7	5.7	190.4	516.9	8.01	96.9	12.1	336	7.4	
3/11/2020	SBV-2	13.9	5.7	191.7	517.0	8	96.8	12.1	336	7.8	
3/11/2020	SBV-2	14.6	5.7	165.6	517.0	7.99	96.7	12.1	336	7.5	
3/11/2020	SBV-4	0.8	7.9	184.9	613.1	8.07	92.3	10.9	399	63.4	6
3/11/2020	SBV-4	0.8	7.9	185.1	613.1	8.06	92.3	10.9	399	59.1	
3/11/2020	SBV-FIN	1.2	7.8	180.1	572.1	8.14	93.6	11.1	372	18.9	
3/11/2020	SBV-FIN	2.1	7.7	181.0	574.3	8.14	92.7	11.1	373	20.5	
3/11/2020	SBV-FIN	2.7	7.6	181.6	575.1	8.14	91.9	11.0	374	21.3	
3/11/2020	SBV-LS	1.0	6.3	153.2	473.4	8.11	96.3	11.9	308	13.3	
3/11/2020	SBV-SUL	1.0	8.0	163.2	613.5	8.07	93.0	11.0	399	47.0	
5/21/2020	SBV-1	1.0	16.2	186.6	459.0	8.64	105.2	10.3	298	7.3	
5/21/2020	SBV-11	1.2	17.6	155.1	381.7	8.12	87.3	8.3	248	21.2	16
5/21/2020	SBV-11	2.1	17.4	157.0	388.3	8.14	88.1	8.4	252	19.4	

							ODO				
		Depth	Temp	ORP	Sp Cond		(%	ODO	TDS	Turbidity	Secchi
Date	Location	(m)	(°C)	(mV)	(µS/cm)	рН	Sat)	(mg/L)	(mg/L)	(FNU)	(in)
5/21/2020	SBV-11	3.1	17.2	159.2	389.1	8.15	88.0	8.5	253	19.2	
5/21/2020	SBV-11	4.2	16.9	162.1	386.9	8.11	84.5	8.2	252	20.2	
5/21/2020	SBV-11	5.1	16.7	164.1	391.4	8.1	83.5	8.1	254	19.1	
5/21/2020	SBV-11	6.0	16.4	165.6	402.3	8.12	83.5	8.2	262	17.5	
5/21/2020	SBV-11	7.2	15.9	168.0	407.1	8.07	79.3	7.9	265	17.8	
5/21/2020	SBV-11	8.1	14.7	173.6	412.2	7.84	56.5	5.7	268	20.9	
5/21/2020	SBV-12	0.4	16.7	194.6	380.9	7.75	71.8	7.0	248	60.2	
5/21/2020	SBV-13	0.0	16.5	175.4	343.0	7.58	55.7	5.4	223	70.8	
5/21/2020	SBV-2	1.1	16.7	186.2	452.0	8.72	106.3	10.3	294	7.0	32
5/21/2020	SBV-2	2.2	16.6	187.4	451.8	8.69	102.4	10.0	294	7.1	
5/21/2020	SBV-2	3.1	16.6	187.9	451.8	8.68	101.5	9.9	294	7.4	
5/21/2020	SBV-2	4.1	16.6	188.4	452.0	8.68	101.5	9.9	294	7.3	
5/21/2020	SBV-2	5.1	16.6	189.3	452.1	8.68	101.3	9.9	294	7.5	
5/21/2020	SBV-2	6.1	16.5	190.1	452.8	8.67	100.5	9.8	294	7.4	
5/21/2020	SBV-2	7.1	16.5	191.0	453.1	8.66	99.6	9.7	295	7.7	
5/21/2020	SBV-2	8.1	16.3	192.5	457.4	8.62	94.7	9.3	297	7.6	
5/21/2020	SBV-2	9.0	16.2	193.6	459.3	8.59	91.9	9.0	299	7.8	
5/21/2020	SBV-2	10.1	14.9	197.8	476.8	8.42	73.3	7.4	310	5.3	
5/21/2020	SBV-2	11.1	14.6	199.2	477.5	8.38	69.5	7.1	310	5.2	
5/21/2020	SBV-2	12.2	14.6	200.0	476.9	8.36	66.8	6.8	310	7.3	
5/21/2020	SBV-2	13.2	14.4	200.5	477.4	8.33	63.5	6.5	310	7.5	
5/21/2020	SBV-2	13.8	14.4	201.3	477.6	8.27	58.0	5.9	310	9.6	
5/21/2020	SBV-4	1.2	16.9	145.6	404.1	7.89	75.5	7.3	263	35.5	14
5/21/2020	SBV-4	2.1	16.7	148.1	395.7	7.87	74.2	7.2	257	38.8	
5/21/2020	SBV-4	3.1	16.3	153.8	391.4	7.82	70.3	6.9	254	40.8	
5/21/2020	SBV-4	4.1	16.2	157.4	390.2	7.81	69.3	6.8	254	43.0	
5/21/2020	SBV-FIN	1.8	17.6	170.3	405.0	8.31	99.8	9.5	263	15.2	
5/21/2020	SBV-FIN	7.9	14.8	169.6	421.8	7.92	68.0	6.9	274	80.6	
5/21/2020	SBV-FIN	4.0	16.6	160.9	401.1	8.13	82.3	8.0	261	21.5	

							ODO				
		Depth	Temp	ORP	Sp Cond		(%	ODO	TDS	Turbidity	Secchi
Date	Location	(m)	(°C)	(mV)	(µS/cm)	рН	Sat)	(mg/L)	(mg/L)	(FNU)	(in)
5/21/2020	SBV-LS	1.1	17.2	151.7	436.8	8.78	115.5	11.1	284	7.3	
5/21/2020	SBV-LS	12.6	14.6	90.5	474.0	8.27	59.7	6.1	308	11.7	
5/21/2020	SBV-LS	6.2	16.1	100.7	459.8	8.56	86.4	8.5	299	7.2	
7/28/2020	SBV-1	0.8	19.4	104.0	430.2	7.89	98.4	9.1	280	9.1	
7/28/2020	SBV-11	1.1	28.9	112.0	344.5	8.64	120.5	9.3	224	4.1	36
7/28/2020	SBV-11	2.1	28.7	119.5	347.5	8.46	94.9	7.3	226	4.3	
7/28/2020	SBV-11	3.1	28.6	122.7	347.9	8.38	85.6	6.6	226	4.3	
7/28/2020	SBV-11	4.1	28.3	127.5	356.1	7.93	35.3	2.8	231	4.5	
7/28/2020	SBV-11	5.1	27.5	127.9	363.3	7.7	4.7	0.4	236	11.2	
7/28/2020	SBV-11	6.1	26.5	96.4	364.4	7.53	2.3	0.2	237	44.3	
7/28/2020	SBV-11	7.1	26.0	75.4	372.2	7.46	2.2	0.2	242	42.5	
7/28/2020	SBV-12	0.0	31.1	139.3	551.0	8.1	117.1	8.7	358	27.3	
7/28/2020	SBV-13	0.0	30.6	119.8	336.2	8.79	170.1	12.7	218	13.5	
7/28/2020	SBV-2	1.1	28.6	87.1	364.7	8.32	84.1	6.5	237	1.8	108
7/28/2020	SBV-2	2.2	28.0	94.2	365.1	8.3	82.5	6.5	237	2.1	
7/28/2020	SBV-2	3.0	27.7	100.4	366.2	8.22	73.1	5.7	238	2.0	
7/28/2020	SBV-2	4.1	27.6	108.0	368.0	8.04	56.5	4.5	239	1.6	
7/28/2020	SBV-2	5.1	27.4	111.6	369.6	7.95	45.7	3.6	240	1.7	
7/28/2020	SBV-2	6.0	25.4	118.0	384.7	7.65	8.0	0.7	250	2.4	
7/28/2020	SBV-2	7.2	23.5	120.4	395.6	7.54	2.0	0.2	257	3.4	
7/28/2020	SBV-2	8.1	22.6	120.5	400.8	7.52	1.7	0.2	261	3.7	
7/28/2020	SBV-2	9.2	20.4	119.0	419.2	7.52	1.4	0.1	272	8.0	
7/28/2020	SBV-2	10.1	19.7	116.4	427.4	7.52	1.4	0.1	278	6.8	
7/28/2020	SBV-2	11.1	18.1	84.8	439.2	7.52	1.2	0.1	285	22.1	
7/28/2020	SBV-4	1.1	28.9	126.3	432.5	8.08	82.7	6.4	281	7.7	24
7/28/2020	SBV-4	2.1	28.4	131.0	440.1	7.92	61.6	4.8	286	10.1	
7/28/2020	SBV-4	2.9	28.3	103.9	446.4	7.8	44.7	3.5	290	19.6	
7/28/2020	SBV-FIN	1.1	28.9	118.4	348.9	8.53	105.2	8.1	227	4.4	
7/28/2020	SBV-FIN	5.8	27.5	-26.5	372.0	7.72	6.2	0.5	242	17.0	

							ODO				
		Depth	Temp	ORP	Sp Cond		(%	ODO	TDS	Turbidity	Secchi
Date	Location	(m)	(°C)	(mV)	(µS/cm)	рН	Sat)	(mg/L)	(mg/L)	(FNU)	(in)
7/28/2020	SBV-FIN	3.0	28.5	31.1	353.6	8.23	69.8	5.4	230	5.8	
7/28/2020	SBV-FIN	1.1	28.9	109.8	344.4	8.63	120.0	9.2	224	4.1	
7/28/2020	SBV-LS	1.1	29.2	95.8	361.0	8.58	102.1	7.8	235	2.6	
7/28/2020	SBV-LS	12.9	15.6	115.7	476.9	7.63	2.6	0.3	310	15.6	
7/28/2020	SBV-LS	6.3	24.6	99.2	387.1	7.62	2.4	0.2	252	3.8	
7/28/2020	SBV-SUL	1.2	28.7	121.7	439.7	8.13	85.6	6.6	286	8.3	
7/28/2020	SBV-SUL	3.0	28.3	127.3	447.0	7.83	50.5	3.9	291	16.5	
10/20/2020	SBV-1	1.1	15.3		349.3	8	95.5	9.6	227	8.9	
10/20/2020	SBV-11	1.1	14.4		342.3	8.01	86.2	8.8	222	11.2	20
10/20/2020	SBV-11	2.4	14.4		342.3	7.98	85.6	8.7	222	11.3	
10/20/2020	SBV-11	3.1	14.4		342.3	7.93	85.4	8.7	223	11.3	
10/20/2020	SBV-11	4.2	14.3		344.0	7.88	78.5	8.0	224	12.8	
10/20/2020	SBV-11	5.0	14.3		344.5	7.83	76.7	7.9	224	81.4	
10/20/2020	SBV-12	0.6	12.5		858.9	7.78	80.7	8.6	558	25.8	
10/20/2020	SBV-13	0.0	11.0		405.3	7.52	64.5	7.1	263	29.7	
10/20/2020	SBV-2	1.0	15.9		350.0	7.64	72.4	7.2	227	10.2	26
10/20/2020	SBV-2	2.1	15.9		350.0	7.65	72.1	7.1	227	11.1	
10/20/2020	SBV-2	3.0	15.9		350.0	7.63	71.9	7.1	228	10.4	
10/20/2020	SBV-2	4.0	15.9		350.0	7.6	71.7	7.1	227	10.3	
10/20/2020	SBV-2	5.3	15.8		350.1	7.57	71.8	7.1	228	10.5	
10/20/2020	SBV-2	6.0	15.8		350.0	7.55	71.8	7.1	227	10.8	
10/20/2020	SBV-2	7.0	15.8		350.0	7.51	72.0	7.1	228	11.2	
10/20/2020	SBV-2	7.0	15.8		350.0	7.49	72.2	7.2	228	10.8	
10/20/2020	SBV-2	8.2	15.8		350.0	7.48	71.9	7.1	228	13.0	
10/20/2020	SBV-2	8.2	15.8		350.0	7.46	71.9	7.1	228	13.7	
10/20/2020	SBV-4	1.0	12.8		509.4	7.77	73.6	7.8	331	18.0	15
10/20/2020	SBV-FIN	3.3	14.3		342.2	7.94	77.7	7.9	222	22.9	
10/20/2020	SBV-FIN	1.0	14.4		341.5	7.92	82.3	8.4	222	12.7	
10/20/2020	SBV-LS	9.1	15.9		350.8	7.57	71.0	7.0	228	17.3	

							ODO				
Date	Location	Depth (m)	Temp (°C)	ORP (mV)	Sp Cond (µS/cm)	pН	(% Sat)	ODO (mg/L)	TDS (mg/L)	Turbidity (FNU)	Secchi (in)
10/20/2020	SBV-LS	4.5	16.0	(1114)	350.7	7.66	70.0	(9	228	(110)	()
10/20/2020	SBV-LS	1.2	16.0		350.7	7.72	70.5	7.0	228	11.2	
10/20/2020	SBV-SUL	1.1	12.9		465.0	7.81	80.0	8.4	302	17.9	

APPENDIX B: LABORATORY DATA



Environmental | Analytical | Management | Safety

Customer Name: SLCOE

Project Name: Shelbyville Lake/Kaskaskia River

Samples Received at ARDL: 3/11/20

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

<u>www.ardlinc.com</u>

Date: 4/2/20

Lab Name: ARDL, Inc.

ARDL Report No.: 8588

CASE NARRATIVE

<u>Customer</u>	Date	Lab ID	
<u>Sample No.</u>	Collected	<u>Number</u>	Analyses Requested
SVL-1	3/11/20	8588-01	NP Pesticides, Metals(1), Inorganics(2)
SVL-2	3/11/20	8588-02	NP Pesticides, Inorganics(2)(3)
SVL-2-10	3/11/20	8588-03	Metals(1), Inorganics(2)
SVL-4	3/11/20	8588-04	NP Pesticides, Inorganics(2)(3)
SVL-12	3/11/20	8588-05	NP Pesticides, Inorganics(2)
SVL-13	3/11/20	8588-06	NP Pesticides, Inorganics(2)
SVL-11	3/11/20	8588-07	NP Pesticides, Inorganics(2)(3)
SVL-15	3/11/20	8588-08	NP Pesticides, Inorganics(2)(3)
LS Marina	3/11/20	8588-09	E. Coli
FIN Marina	3/11/20	8588-10	E. Coli
SUL Marina	3/11/20	8588-11	E. Coli
KAS-3	3/11/20	8588-12	Inorganics(2)(3)(4)
		0000 12	norganos(2)(3)(4)

(1) Including iron and manganese.

(2) Including ammonia, nitrate, orthophosphate, 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:

PESTICIDE FRACTION

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. The closing CCV passed criteria for all analytes.

PREPARATION BLANK

The blank met acceptance criteria.

LABORATORY CONTROL SAMPLE

The LCS analyses met recovery criteria.

"Test everything, keep the good" 1 Thes. 5:21

Project Name: Shelbyville Lake/Kaskaskia River

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 STANDARD

All internal standard criteria were met.

SURROGATE

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 within acceptable limits, except for iron which was greater than the LOQ. The data is flagged appropriately with a 'B' qualifier in the associated samples.

LABORATORY CONTROL SAMPLE

Percent recoveries of all LCS analyses were within control limits.

MATRIX SPIKE

The sample result for nitrate was greater than 4 times the spike amount; therefore, percent recovery was not considered. Percent recovery of all other matrix spikes and matrix spike duplicates were within control limits, except 1 of 2 for iron and 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.
- B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

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Project Name: Shelbyville Lake/Kaskaskia River

ARDL Report No.: 8588

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

Page 3 of 3



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 8588

N:\ARDL Case Narratives\ARDL Data Package Contents.pdf - Revised June 21, 2019

Authorized By: DSD-QAO

Lab Report No: 008588

Report Date: 03/31/2020

Project Name: Project No.:	SHEBLYVILLE L			alysis: Method:	NP PESTICII 3270C	DES (827	70SIM-MO	D)
	fied - IL10030	—		Method:				
Field ID:	SVL-1			ARDL	Lab No.:	00858	38-01	
Desc/Location:	SHEBLYVILLE L	AKE		Lab l	filename:	E0330	0015	
Sample Date:	03/11/2020			Rece	ived Date:	03/13	1/2020	
Sample Time:	0950			Prep	. Date:	03/13	3/2020	
Matrix:	WATER			Anal	ysis Date:	03/30	0/2020	
Amount Used:	900 mL			Inst	rument ID:	AG5		
Final Volume:	1 mL			QC B	atch:	B1118	86	
% Moisture:	NA			Leve	1:	LOW		
						Data		Dilution
Parameter			LOD	LOQ	Result	Flag	Units	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	ND		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 RECOV	ERIES:		L	imits		Re	sults	

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

30-130

(a) DOD-QSM Accredited Analyte.

Triphenylphosphate

67%

020	ics 00308		Run Number	P7347 P7347 03305162 03195142 03195142 03235154 03195135 03195135 03195135
04/01/2020	Inorganics ied - IL1003	WATER NA	Analysis Date	03/23/20 03/23/20 03/30/20 03/12/20 03/12/20 03/17/20 03/17/20 03/11/20 03/11/20
Report Date:	Analysis: Inorganics NELAC Certified - IL100308	Matrix: Moisture:	Prep Date	03/16/20 03/16/20 NA NA NA 03/18/20 NA NA NA
ŭ	IN		Analysis Method	6010C 6010C 350.1 GREEN 365.2 365.2 365.2 160.2 160.4 415.1
			Prep Method	3010A 3010A NONE NONE 365.2 NONE NONE NONE NONE
		SHEBLYVILLE LAKE 03/11/2020 0950	Units	1/5M 1/20M 1/20M 1/20M 1/20M 1/20M 1/20M 1/20M
			Result	0.451 0.0264 0.189 5.14 0.174 0.122 6.0 ND 2.7
	lver	1 5 5	Flag	Ŗ
	SHEBLYVILLE LAKE/KASKASKIA RIVER	Sampling Samplin Samplin	LOQ	0.0500 0.00500 0.0300 0.100 0.0100 0.0100 2.00 2.00 1.00
88	LE LAKE/K	. 0	LOD	0.0400 0.00400 0.0200 0.0950 0.00800 0.00800 0.00800 0.2.0 2.0 2.0
Lab Report No: 008588	Project Name: SHEBLYVII Project No:	ARDL No: 008588-01 Field ID: SVL-1 Received: 03/11/2020	Analyte	 (a) Iron (a) Manganese Ammonia Nitrogen Nitrate as Nitrogen Phosphorus Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-01, Inorganic Analyses

Lab Report No: 0	008588	Rep	ort Date:	03/31/	2020		
Project No.:	HEBLYVILLE LAKE/KAS Ana Led - IL100308	Lytical M			DES (827	70SIM-MO	D)
Field ID: S	SVL-2		ARDL I	Lab No.:	00858	38-02	
Desc/Location: S	SHEBLYVILLE LAKE		Lab F	llename:	E033(018	
Sample Date: (03/11/2020		Receiv	ved Date:	03/11	1/2020	
Sample Time: 1	L100		Prep.	Date:	03/13	3/2020	
Matrix: W	VATER		Analys	sis Date:	03/30	0/2020	
Amount Used: 9	900 mL		Instru	ument ID:	AG5		
Final Volume: 1	l mL		QC Bat	cch:	B1118	36	
% Moisture: N	١A		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	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	ND		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 RECOVER	ATES:	Lim	its		Re	sults	

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

30-130

(a) DOD-QSM Accredited Analyte.

Triphenylphosphate

Page 1 of 1

92%

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

Lab Report No: 008588

Project Name: SHEBLYVILLE LAKE/KASKASKIA RIVER

Project No:

Report Date: 04/01/2020

Analysis: Inorganics NELAC Certified - IL100308

ARDL No: 008588-02 Field ID: SVL-2 Received: 03/11/2020	20	Sampling Samplin Samplin			SHEBLYVILLE LAKE 03/11/2020 1100			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0	0.0300		0.415	MG/L	NONE	350.1	NA	03/30/20 03305162	3305162
Chlorophyll-a, Correcte	1.0	1.00		5.9	MG/CU.M.	10200H	10200H	03/12/20	03/27/20 03305164	03305164
Nitrate as Nitrogen	0.0950	0.100		5.15	MG/L	NONE	GREEN	NA	03/12/20 03195142	03195142
Pheophytin-a	1.0	1.00		1.7	MG/CU.M.	10200H	10200H	03/12/20	03/27/20 03305164	3305164
Phosphorus	0.00800	0.0100		0.165	MG/L	365.2	365.2	03/18/20	03/20/20 0	03235154
Phosphorus, -ortho	0.00800	0.0100		0.122	MG/L	NONE	365.2	NA		03165126
Solids, Total Suspended	2.0	2.00		5.0	MG/L	NONE	160.2	NA	03/17/20 0	03195135
Solids, Volatile Suspen	2.0	2.00		ND	MG/L	NONE	160.4	NA	03/17/20 0	03195136
Total Organic Carbon	0.500	1.00		2.6	MG/L	NONE	415.1	NA	03/18/20 03235151	3235151

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-02, Inorganic Analyses

Lab Report No: 008588

SHEBLYVILLE LAKE/KASKASKIA RIVER

Project Name: Project No:

Report Date: 04/01/2020

Analysis: Inorganics NELAC Certified - IL100308

ARDL No: 008588-03 Field ID: SVL-2-10 Received: 03/11/2020	3	Sampling Samplin Samplin	1 0 0		SHEBLYVILLE LAKE 03/11/2020 1100			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	ΓΟŎ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500	щ	6.76	MG/L	3010A	6010C	03/16/20	03/23/20	P7347
(a) Manganese Ammonia Nitrogen	0.00400 0.0200	0.00500		0.301 0.164	MG/L MG/L	3010A NONE	6010C 350.1	03/16/20 NA	03/23/20	P/34/ 03305162
Nitrate as Nitrogen	0.0950	0.100		5.0	MG/L	NONE	GREEN	NA	03/12/20	03195142
Phosphorus	0.00800	0.0100		0.36	MG/L	365.2	365.2	03/18/20	03/20/20	03235154
Phosphorus, -ortho	0.00800	0.0100		0.125	MG/L	NONE	365.2	NA	03/12/20	03165126
Solids, Total Suspended	6.67	6.67		160	MG/L	NONE	160.2	NA	03/17/20	03195135
Solids, Volatile Suspen	6.67	6.67		44.7	MG/L	NONE	160.4	NA	03/17/20	03195136
Total Organic Carbon	0.500	1.00		2.8	MG/L	NONE	415.1	NA	03/18/20 (03235151

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-03, Inorganic Analyses

Project Name:	SHEBLYVILLE LAKE/KA			PESTICID	ES (82	70SIM-MO	D)
Project No.:		lytical M					
NELAC Certi	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-4		ARDL I	Lab No.:	00858	38-04	
Desc/Location:	SHEBLYVILLE LÄKE		Lab Fi	lename:	E0330	019	
Sample Date:	03/11/2020		Receiv	ved Date:	03/13	1/2020	
Sample Time:	1400		Prep.	Date:	03/13	3/2020	
Matrix:	WATER		Analys	sis Date:	03/30	0/2020	
Amount Used:	900 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	cch:	B111	86	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	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	ND		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.

Sample 008588-04, NP PESTICIDES (8270SIM-MOD)

Report Date:	NELAC Certified - IL100308	8-04 Sampling Loc'n: SHEBLYVILLE LAKE Matrix: WATER Sampling Date: 03/11/2020 Moisture: NA	/2020 Sampling Time: 1400	Prep Analysis Prep Analysis Run	LOD LOQ Flag Result Units Method Method Date Date Number	0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 03305162	cte 1.0 1.00 6.4 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 03305164	0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 03195142	1.0 1.00 7.0 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 03305164	0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 03235154		0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 03165126	0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20	0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20
88 873 K7/ 117 K 11	ANCAN LANE LANG		0											
L.	Project No:	ARDL No: 008588-04 Field ID: SVL-4	Received: 03/11/2020		Analyte		hlorophyll-a, Correcte		heophytin-a					
Submitted Land, MASAMANA ALVER NELAC Certified - ILI 008588-04 Sampling Loc'n: SHEBLYVILLE LAKE NELAC Certified - ILI 008588-04 Sampling Loc'n: SHEBLYVILLE LAKE Matrix: WATER SVL-4 Sampling Time: 1400 03/11/2020 03/11/2020 Sampling Time: 1400 Matrix: WATER Vec Sampling Time: 1400 Prep Analysis Vec LOD LOD LOQ Final Ysis Method Method Vec LOD LOO Final Ysis Vec 0.0200 0.0300 0.185 MG/L NONE 350.1 NA Vec 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 Vec 0.0050 0.100 0.185 MG/L NONE 350.1 NA 03/31/2/20 Vec 0.00500 0.1000 0.407 MG/L NONE 355.2 03/18/20 03/12/20 Vec 0.00800 0.01000 0.407 MG/L NONE 365.2 03/11/200 03/31/2/20 Vec 0.00800 <t< td=""><td>4 Sampling Loc'n: SHEBLYVILLE LAKE Sampling Date: 03/11/2020 Matrix: WATER Sampling Time: 1400 20 Sampling Time: 1400 Prep Moisture: NA 20 Sampling Time: 1400 Prep Analysis Prep 20 Sampling Time: 1400 D3/11/2020 Prep Analysis Prep 20 LOD LOQ Flag Reult Units Method Method Date Date 100 LOD 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/32/20 0.0200 0.0050 0.1000 0.185 MG/L NONE 350.1 NA 03/32/20 0.00500 0.1000 0.407 MG/L NONE 365.2 03/12/20 03/22/20 0.00800 0.0100 0.407 MG/L NONE 365.2 NA 03/12/20 0.00800 0.0100 0.667 9.33 MG/L NONE 160.2 NA 03/17/20 6.67 6.67<td>20 Sampling Time: 1400 LOD LOQ Flag Result Units Prep Analysis Prep Analysis LOD LOQ Flag Result Units Method Method Date Date Date 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/32/20 0.0200 1.00 6.4 MG/L NONE 350.1 NA 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.0100 7.0 MG/L NONE 365.2 33/18/20 03/12/20 0.00800 0.01000 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 9.33 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20 </td><td>LOD LOQ Flag Result Units Prep Analysis Prep Analysis 0.0200 0.0300 0.185 MG/L NoNE 350.1 NA 03/30/20 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/L NONE 350.1 NA 03/32/20 1.0 1.00 5.86 MG/L NONE GREEN NA 03/12/20 0.0950 0.1000 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.1000 7.0 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.01000 0.667 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 6.67 9.33 MG/L NONE 160.2 NA 03/17/20</td><td>LOD LOQ Flag Result Units Method Method Date Date 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/CU.M. 10200H 102/12/20 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 102/12/20 03/12/20 0.0950 0.1000 5.86 MG/CU.M. 10200H 10200H 03/12/20 0.00800 0.1000 7.0 MG/L NONE 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.667 92.7 MG/L NONE 365.2 NA 03/17/20 6.67 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.0950 0.100 5.86 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 0.00800 0.01000 0.0576 MG/L NONE 365.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20 <td>1.0 1.00 6.4 MG/CU.M. 10200H 10212/20 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/L NONE GREEN NA 03/12/20 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/27/20 0.00800 0.0100 0.0576 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/27/20 0.00800 0.0100 0.0576 MG/L 365.2 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>1.0 1.00 7.0 MG/CU.M. 10200H 10212/20 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 0.00800 0.0100 0.407 MG/L NONE 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td></td><td></td></td></td></t<>	4 Sampling Loc'n: SHEBLYVILLE LAKE Sampling Date: 03/11/2020 Matrix: WATER Sampling Time: 1400 20 Sampling Time: 1400 Prep Moisture: NA 20 Sampling Time: 1400 Prep Analysis Prep 20 Sampling Time: 1400 D3/11/2020 Prep Analysis Prep 20 LOD LOQ Flag Reult Units Method Method Date Date 100 LOD 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/32/20 0.0200 0.0050 0.1000 0.185 MG/L NONE 350.1 NA 03/32/20 0.00500 0.1000 0.407 MG/L NONE 365.2 03/12/20 03/22/20 0.00800 0.0100 0.407 MG/L NONE 365.2 NA 03/12/20 0.00800 0.0100 0.667 9.33 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 <td>20 Sampling Time: 1400 LOD LOQ Flag Result Units Prep Analysis Prep Analysis LOD LOQ Flag Result Units Method Method Date Date Date 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/32/20 0.0200 1.00 6.4 MG/L NONE 350.1 NA 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.0100 7.0 MG/L NONE 365.2 33/18/20 03/12/20 0.00800 0.01000 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 9.33 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20 </td> <td>LOD LOQ Flag Result Units Prep Analysis Prep Analysis 0.0200 0.0300 0.185 MG/L NoNE 350.1 NA 03/30/20 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/L NONE 350.1 NA 03/32/20 1.0 1.00 5.86 MG/L NONE GREEN NA 03/12/20 0.0950 0.1000 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.1000 7.0 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.01000 0.667 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 6.67 9.33 MG/L NONE 160.2 NA 03/17/20</td> <td>LOD LOQ Flag Result Units Method Method Date Date 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/CU.M. 10200H 102/12/20 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 102/12/20 03/12/20 0.0950 0.1000 5.86 MG/CU.M. 10200H 10200H 03/12/20 0.00800 0.1000 7.0 MG/L NONE 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.667 92.7 MG/L NONE 365.2 NA 03/17/20 6.67 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td> <td>0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.0950 0.100 5.86 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 0.00800 0.01000 0.0576 MG/L NONE 365.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20 <td>1.0 1.00 6.4 MG/CU.M. 10200H 10212/20 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/L NONE GREEN NA 03/12/20 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/27/20 0.00800 0.0100 0.0576 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/27/20 0.00800 0.0100 0.0576 MG/L 365.2 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>1.0 1.00 7.0 MG/CU.M. 10200H 10212/20 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 0.00800 0.0100 0.407 MG/L NONE 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td>6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td><td></td><td></td></td>	20 Sampling Time: 1400 LOD LOQ Flag Result Units Prep Analysis Prep Analysis LOD LOQ Flag Result Units Method Method Date Date Date 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/32/20 0.0200 1.00 6.4 MG/L NONE 350.1 NA 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.0100 7.0 MG/L NONE 365.2 33/18/20 03/12/20 0.00800 0.01000 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 9.33 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20	LOD LOQ Flag Result Units Prep Analysis Prep Analysis 0.0200 0.0300 0.185 MG/L NoNE 350.1 NA 03/30/20 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/L NONE 350.1 NA 03/32/20 1.0 1.00 5.86 MG/L NONE GREEN NA 03/12/20 0.0950 0.1000 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.1000 7.0 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.01000 0.667 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 6.67 9.33 MG/L NONE 160.2 NA 03/17/20	LOD LOQ Flag Result Units Method Method Date Date 0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/CU.M. 10200H 102/12/20 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 102/12/20 03/12/20 0.0950 0.1000 5.86 MG/CU.M. 10200H 10200H 03/12/20 0.00800 0.1000 7.0 MG/L NONE 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.667 92.7 MG/L NONE 365.2 NA 03/17/20 6.67 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20	0.0200 0.0300 0.185 MG/L NONE 350.1 NA 03/30/20 1.0 1.00 6.4 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.0950 0.100 5.86 MG/CU.M. 10200H 03/12/20 03/27/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 0.00800 0.01000 0.0576 MG/L NONE 365.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20 <td>1.0 1.00 6.4 MG/CU.M. 10200H 10212/20 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/L NONE GREEN NA 03/12/20 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/27/20 0.00800 0.0100 0.0576 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td> <td>0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/27/20 0.00800 0.0100 0.0576 MG/L 365.2 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td> <td>1.0 1.00 7.0 MG/CU.M. 10200H 10212/20 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 0.00800 0.0100 0.407 MG/L NONE 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td> <td>0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td> <td>0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td> <td>6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td> <td>6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20</td> <td></td> <td></td>	1.0 1.00 6.4 MG/CU.M. 10200H 10212/20 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/L NONE GREEN NA 03/12/20 03/12/20 0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/27/20 0.00800 0.0100 0.0576 MG/L 365.2 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20	0.0950 0.100 5.86 MG/L NONE GREEN NA 03/12/20 1.0 1.00 7.0 MG/CU.M. 10200H 10200H 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/27/20 0.00800 0.0100 0.0576 MG/L 365.2 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20	1.0 1.00 7.0 MG/CU.M. 10200H 10212/20 03/12/20 03/27/20 0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 0.00800 0.0100 0.407 MG/L NONE 365.2 03/18/20 03/12/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 03/18/20 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20	0.00800 0.0100 0.407 MG/L 365.2 365.2 03/18/20 03/20/20 0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20	0.00800 0.0100 0.0576 MG/L NONE 365.2 NA 03/12/20 6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20	6.67 6.67 92.7 MG/L NONE 160.2 NA 03/17/20 6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20	6.67 6.67 9.33 MG/L NONE 160.4 NA 03/17/20		

Box 1566 62864

400 Aviation Drive; P.O. Mt. Vernon, Illinois

ARDL, INC.

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Sample 008588-04, Inorganic Analyses

Page 1 of 1

Lab Report No:	008588	Rep	ort Date	: 03/31/	2020		
Project Name: Project No.: NELAC Certi:	SHEBLYVILLE LAKE/KA Ana fied - IL100308	lytical M	-		DES (82'	70SIM-MC	D)
Field ID:	SVL-12		ARDL 1	Lab No.:	0085	38-05	
Desc/Location:	SHEBLYVILLE LAKE		Lab F	ilename:	E0330	020	
Sample Date:	03/11/2020		Recei	ved Date:	03/1	1/2020	
Sample Time:	1500		Prep.	Date:	03/13	3/2020	
Matrix:	WATER		Analy	sis Date:	03/3	0/2020	
Amount Used:	900 mL		Instr	ument ID:	AG5		
Final Volume:	1 mL		QC Ba	tch:	B111	36	
% Moisture:	NA		Level	:	LOW		
· · · · · · · · · · · · · · · · · · ·					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	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	ND		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 RECOV	ERIES:	Lim	its		Re	sults	

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

30-130

(a) DOD-QSM Accredited Analyte.

Triphenylphosphate

Sample 008588-05, NP PESTICIDES (8270SIM-MOD)

Page 1 of 1

80%

		4	400 Avi Mt.	Aviation Drive; Mt. Vernon, Illi	P.O. Pois	Box 1566 62864	Q			
Lab Report No: 008588	588						Ц	Report Date:	: 04/01/2020	120
Project Name: SHEBLYVII Project No:	SHEBLYVILLE LAKE/KASKASKIA RIVER	ASKASKIA R	LVER				Z	Analysis: Inorganics NELAC Certified - IL100308	: Inorganics fied - IL1003	.cs 10308
ARDL No: 008588-05 Field ID: SVL-12 Received: 03/11/2020	20	Sampl Samp Samp	Sampling Loc'n: Sampling Date: Sampling Time:		SHEBLYVILLE LAKE 03/11/2020 1500			Matrix: Moisture:	WATER NA	
Analyte	ГОД	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.094	MG/L	NONE	350.1	NA	03/30/20 0	03305162
Nitrate as Nitrogen	0.0950	0.100		6.25	MG/L	NONE	GREEN	NA	03/12/20 0	03195142
Phosphorus	0.00800	0.0100		0.157	MG/L	365.2	365.2	03/18/20	03/20/20 0	03235154
Phosphorus, -ortho	0.00800	0.0100		0.0602	MG/L	NONE	365.2	NA	03/12/20 0	03165126
Solids, Total Suspended	4.0	4.00		21.6	MG/L	NONE	160.2	NA	03/17/20 0	03195135
Solids, Volatile Suspen	4.0	4.00		DN	MG/L	NONE	160.4	NA	03/17/20 0	03195136
Total Organic Carbon	0.500	1.00		2.7	MG/L	NONE	415.1	NA	03/18/20 0	03235151

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Sample 008588-05, Inorganic Analyses

Lab Report No: 008588

Report Date: 03/31/2020

Project Name: Project No.:	SHEBLYVILLE LAKE/KA Ana	S Ana lytical M	-	PESTICIE 270C	DES (827	/0SIM-MO	D)
NELAC Certi:	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-13		ARDL 1	Lab No.:	00858	38-06	
Desc/Location:	SHEBLYVILLE LAKE		Lab F:	ilename:	E033(021	
Sample Date:	03/11/2020		Receiv	ved Date:	03/11	L/2020	
Sample Time:	1210		Prep.	Date:	03/13	3/2020	
Matrix:	WATER		Analy	sis Date:	03/30	0/2020	
Amount Used:	1000 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	tch:	B1118	36	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	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 RECOV	ERIES:	Lim	its		Re	sults	
Triphenylphosph		30-				778	

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

(a) DOD-QSM Accredited Analyte.

/KASKASKIA RIVER Sampling Loc'n: Sampling Date: Sampling Time: LOQ Flag Resu 0.0300 0.1 0.0100 0.1	Loc- Dat	SHEBLYVILLE LAKE 03/11/2020 1210		Ż	Analysis: Inorganics NELAC Certified - IL100308 Matrix: WATER Moisture: NA	: Inorganics Fied - IL1003 WATER NA	1cs 00308
88-06 Sampling Loc'n: 13 Sampling Date: 1/2020 Sampling Time: LOD LOQ Flag Resu 0.0200 0.0300 0.1 0.0950 0.100 5.6 0.00800 0.0100 0.3	Sampling Loc' Sampling Dat Sampling Tim LOD LOQ Flag	SHEBLYVILLE LAKE 03/11/2020 1210		-	Matrix: Moisture:	WATER NA	
LOD LOQ Flag R 0.0200 0.0300 0.0950 0.100 0.00800 0.0100 0.00800 0.0100	LOQ Flag		f				
0.0200 0.0300 0.0950 0.100 0.00800 0.0100 0.00800 0.0100		sult Units	rrep Method	Analysıs Method	Prep Date	Analysis Date	Run Number
0.0950 0.100 0.00800 0.0100 0.00800 0.0100	0.0300	.147 MG/L	NONE	350.1	NA	03/30/20 03305162	03305162
0.00800 0.0100 0.00800 0.0100	0.100		NONE	GREEN			03195142
0.00800 0.0100	0.0100	.321 MG/L	365.2	365.2	03/18/20		03235154
	0.00800 0.0100 0	.112 MG/L	NONE	365.2	NA	03/12/20 (03165126
Solids, Total Suspended 6.67 6.67 40.0	6.67	D.O MG/L	NONE	160.2	NA	03/17/20 (03195135
Solids, Volatile Suspen 6.67 6.67 ND	6.67	ND MG/L	NONE	160.4	NA	03/17/20 (03195136
Total Organic Carbon 0.500 1.00 3.6	1.00	3.6 MG/L	NONE	415.1	NA	03/18/20 (03235151

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-06, Inorganic Analyses

Lab Report No: 008588

Report Date: 03/31/2020

Project No.:	SHEBLYVILLE LAKE	Analytical	Method: 82 Method: 82	270C	DES (82	70SIM-MO	D)
NEEKC CEICI.		ттер	Method. J.	5100			
Field ID:	SVL-11		ARDL 1	Lab No.:	00858	88-07	
Desc/Location:	SHEBLYVILLE LAKE		Lab F:	ilename:	E0330	0022	
Sample Date:	03/11/2020		Receiv	ved Date:	03/13	1/2020	
Sample Time:	1330		Prep.	Date:	03/13	3/2020	
Matrix:	WATER		Analy	sis Date:	03/30	0/2020	
Amount Used:	1000 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	tch:	B111	86	
% Moisture:	NA		Level	:	LOW		
				<u> </u>	Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	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 RECOV	ERIES:	L:	imits		Re	sults	

Triphenylphosphate30-13091%

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

(a) DOD-QSM Accredited Analyte.

		4	400 Avi Mt.	ation Dr Vernon,	P.O. nois	Box 1566 62864	Q			
Lab Report No: 008	008588						Ц	Report Date:	: 04/01/2020	020
Project Name: SHEBLYVI Project No:	SHEBLYVILLE LAKE/KASKASKIA RIVER	ASKASKIA F	LVER				Z	Analysis: Inorganics NELAC Certified - IL100308	: Inorganics fied - IL1003	ics 00308
ARDL No: 008588-07 Field ID: SVL-11 Received: 03/11/2020	07 020	Sampling Samplin Samplin			SHEBLYVILLE LAKE 03/11/2020 1330			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen Chlorophyll-a, Correcte Nitrate as Nitrogen Pheophytin-a Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon	0.0200 e 1.0 1.0 1.0 0.00800 d 4.0 h 4.0 n 4.0 n 0.500	0.0300 1.00 1.00 1.00 1.00 0.0100 4.00 4.00		0.174 9.1 5.58 6.8 0.252 0.0576 28.4 4.0 2.3	MG/L MG/CU.M. MG/L MG/L MG/L MG/L MG/L	NONE 10200H NONE 10200H 365.2 NONE NONE NONE NONE NONE	350.1 10200H GREEN 10200H 365.2 365.2 365.2 160.2 160.4 415.1	NA 03/12/20 NA 03/12/20 03/18/20 NA NA NA NA NA	03/30/20 03/27/20 03/12/20 03/27/20 03/12/20 03/17/20 03/17/20 03/17/20 03/18/20	03305162 03305164 03195142 03305164 03305164 03235154 03165126 03195135 03195136 03235151

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(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-07, Inorganic Analyses

Lab Report No: 008588

Report Date: 03/31/2020

Project Name: Project No.: NELAC Certi:	SHEBLYVILLE LAKE/KA Ana fied - IL100308	lytical Me			DES (827	0SIM-MO	D)
Field ID:	SVL-15		ARDL I	Lab No.:	00858	38-08	
Desc/Location:	SHEBLYVILLE LAKE		Lab Fi	llename:	E033(023	
Sample Date:	03/11/2020		Receiv	ved Date:	03/11	/2020	
Sample Time:	1600		Prep.	Date:	03/13	3/2020	
Matrix:	WATER		Analys	sis Date:	03/30)/2020	
Amount Used:	800 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	cch:	B1118	36	
<pre>% Moisture:</pre>	NA		Level	:	LOW		
<u></u>					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.250	0.250	ND		UG/L	1
Atrazine		0.250	0.250	ND		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	ND		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 RECOV	ERIES:	Lim	its		Re	sults	
Triphenylphosph	ate	30-	130			778	

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

(a) DOD-QSM Accredited Analyte.

Lab Report No: 008588

Report Date: 04/01/2020

Project Name: SHE Project No:	EBLYVII	SHEBLYVILLE LAKE/KASKASKIA RIVER	ASKASKIA F	RIVER				4	Analysis: Inorganics NELAC Certified - IL100308	: Inorganics fied - IL1003	nics 00308
ARDL No: 008 Field ID: SVL Received: 03/	008588-08 SVL-15 03/11/2020	0	Samp] Samp Samp	Sampling Loc'n: Sampling Date: Sampling Time:		SHEBLYVILLE LAKE 03/11/2020 1600			Matrix: Moisture:	: WATER : NA	
Analyte		ГОД	гоб	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen		0.0200	0.0300		QN	MG/L	NONE	350.1	NA	03/30/20	03/30/20 03305162
Chlorophyll-a, Correcte	rrecte	1.0	1.00		6.1	MG/CU.M.	10200H	10200H	03/12/20	03/27/20	03305164
Nitrate as Nitrogen	ne	0.0950	0.100		5.96	MG/L	NONE	GREEN	NA	03/12/20	03195142
Pheophytin-a		1.0	1.00		5.6	MG/CU.M.	10200H	10200H	03/12/20	03/27/20	03305164
Phosphorus		0.00800	0.0100		0.407	MG/L	365.2	365.2	03/18/20	03/20/20	03235154
Phosphorus, -ortho	0	0.00800	0.0100		0.055	MG/L	NONE	365.2	NA	03/12/20	03165126
Solids, Total Suspended	pended	6.67	6.67		108	MG/L	NONE	160.2	NA	03/17/20	03195135
Solids, Volatile Suspen	Juspen	6.67	6.67		8.67	MG/L	NONE	160.4	NA	03/17/20	03195136
Total Organic Carbon	uoc	0.500	1.00		2.9	MG/L	NONE	415.1	NA	03/18/20	03235151

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-08, Inorganic Analyses

566	Report Date: 04/01/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	p Analysis Prep Analysis Run od Method Date Date Number	E 1604 NA 03/11/20 03165128
Box 1566 62864				Prep Method	NONE
ARDL, INC. Aviation Drive; P.O. Mt. Vernon, Illinois			SHEBLYVILLE LAKE 03/11/2020 0915	Units	COL/100 ML
AR tion D ernon,				Result	57.0
400 Avia Mt. V		RIVER	Sampling Loc'n: Sampling Date: Sampling Time:	Flag I	
		ASKASKIA	Samp San San	ГОД	1.00
	588	SHEBLYVILLE LAKE/KASKASKIA RIVER	9 20	LOD	1.0
	No: 008588	SHEBLYVI	008588-09 LS MARINA 03/11/2020	a	
	Lab Report No:	Project Name: Project No:	ARDL No: Field ID: Received:	Analyte	E. Coliform

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-09, Inorganic Analyses

	Report Date: 04/01/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	Prep Analysis Run Date Date Number	NA 03/11/20 03165128
Q	Rej	ΞN		Analysis Method	1604
Box 1566 62864				Prep Method	NONE
ARDL, INC. Aviation Drive; P.O. 1 Mt. Vernon, Illinois (SHEBLYVILLE LAKE 03/11/2020 1020	Units	COL/100 ML
AR ation D Vernon,				Result	125
400 Avi Mt. '		RIVER	1 0 0	Flag	
		ASKASKIA	Sampling Samplin Samplin	год	1.00
	No: 008588	SHEBLYVILLE LAKE/KASKASKIA RIVER	008588-10 FIN MARINA 03/11/2020	e LOD	1.0
	Lab Report No:	Project Name: Project No:	ARDL No: Field ID: Received:	Analyte	E. Coliform

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-10, Inorganic Analyses

	Report Date: 04/01/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	o Analysis Prep Analysis Run od Method Date Date Number	: 1604 NA 03/11/20 03165128	
62864				Prep Method	NONE	
Mt. Vernon, Illinois (SHEBLYVILLE LAKE 03/11/2020 1310	Units	COL/100 ML	
Vernon				Result	2250	
Mt. 1		A RIVER	Sampling Loc'n: Sampling Date: Sampling Time:	Flag		
		SKASKIA	Sar Sa Sa	год	1.00	
	. No: 008588	SHEBLYVILLE LAKE/KASKASKIA RIVER	008588-11 SUL MARINA 03/11/2020	te LOD	1.0	
	Lab Report No:	Project Name: Project No:	ARDL No: Field ID: Received:	Analyte	E. Coliform	

ARDL, INC. 400 Aviation Drive; P.O. Box 1566

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-11, Inorganic Analyses

Report Date: 04/01/2020	Analysis: Inorganics NELAC Certified - IL100308	Sampling Loc'n: KASKASKIA RIVER Matrix: WATER Sampling Date: 03/11/2020 Sampling Time: 1405	Prep Analysis Prep Analysis Run LOQ Flag Result Units Method Method Date Date Number	
	ASKASKIA RIVER	- - - - - - - - - - - - - - - - - - -	L I	
88	LE LAKE/K	0	ГОД	0.0200 1.0 1.0 0.190 0.0950 0.0200 1.0 0.0200 0.00800 6.67 6.67
Lab Report No: 008588	Project Name: SHEBLYVIL Project No:	ARDL No: 008588-12 Field ID: KAS-3 Received: 03/11/2020	Analyte	Ammonia Nitrogen Chlorophyll-a, Correcte E. Coliform Kjeldahl Nitrogen Nitrate as Nitrogen Nitrite as Nitrogen Pheophytin-a Phosphorus Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen

(a) DOD and/or NELAC Accredited Analyte.

Sample 008588-12, Inorganic Analyses

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

Lab Report No: 008588

Report Date: 03/31/2020

Project Name: Project No.:	SHEBLYVILLE LAK	E/KAS Analy Analytical Met	sis: NP PEST hod: 8270C	TICIDES (82	270SIM-MO	(םכ
2	fied - IL100308	-	hod: 3510C			
Field ID:	NA		ARDL Lab No	o.: 0085	588-01B1	
Desc/Location:	NA		Lab Filenar		30013	
Sample Date:	NA		Received Da	ate: NA		
Sample Time:	NA		Prep. Date		13/2020	
Matrix:	QC Material		Analysis Da	ate: 03/3	30/2020	
Amount Used:	1000 mL		Instrument	ID: AG5		
Final Volume:	1 mL		QC Batch:	B11:	186	
% Moisture:	NA		Level:	LOW		
					Data	
Parameter		LOD	LOQ	Result	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 RECOV	ERIES:	Limit	S	R	esults	
Triphenylphosph		30-13	0		91%	

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

(a) DOD-QSM Accredited Analyte.

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

Lab Report No: 008588

Report Date: 04/01/2020

Project Name: SHEBLYVILLE LAKE/KASKASKIA RIVER

NELAC Certified - IL100308

Analyte	ГОД	ГОД	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number
(a) Iron	0.040	0.050	0.083	MG/L	3010A	6010C	03/16/20	03/23/20	P7347	008587-01B1
(a) Manganese	0.004	0.005	UN	MG/L	3010A	6010C	03/16/20	03/23/20	P7347	008587-01B1
Ammonia Nitrogen	0.020	0.030	DN	MG/L	NONE	350.1	NA	03/30/20	03305162	008588-01B1
Chlorophyll-a, Corre	1.0	1.0	ND	MG/CU.M.	10200H	10200H	03/12/20	03/27/20	03305164	008588-07B1
E. Coliform	1.0	1.0	ND	COL/100 ML	NONE	1604	NA	03/11/20	03165128	008588-09B1
Kjeldahl Nitrogen	0.19	0.20	ND	MG/L	351.2	351.2	03/16/20	03/17/20	03195139	008587-12B1
Nitrate as Nitrogen	0.019	0.020	DN	MG/L	NONE	GREEN	NA	03/12/20	03195142	008588-02B1
Nitrite as Nitrogen	0.020	0.020	DN	MG/L	NONE	354.1	NA	03/12/20	03165125	008588-12B1
Pheophytin-a	1.0	1.0	QN	MG/CU.M.	10200H	10200H	03/12/20	03/27/20	03305164	008588-07B1
Phosphorus	0.008	0.010	ND	MG/L	365.2	365.2	03/18/20	03/20/20	03235154	008588-03B1
Phosphorus, -ortho	0.008	0.010	ND	MG/L	NONE	365.2	NA	03/12/20	03165126	008588-01B1
Solids, Total Suspen	1.0	1.0	QN	MG/L	NONE	160.2	NA	03/17/20	03195135	008588-05B1
Solids, Volatile Sus	1.0	1.0	QN	MG/L	NONE	160.4	NA	03/17/20	03195136	008588-05B1
Total Organic Carbon	0.50	1.0	DN	MG/L	NONE	415.1	NA	03/18/20	03235151	008587-01B1

(a) DOD and/or NELAC Accredited Analyte Inorganic Method Blanks for 008588

	ARDL,	ARDL, INC.	BLANK SPIKE/SPIKE DU 400 Aviation Drive;	SPIKE/SPIKE DUPLICATE REPORT iation Drive; P.O. Box 1566	KE DUPI ive; P.	PLICATE P.O. Box	TE REPORT Box 1566	Mt. V	Mt. Vernon, IL		62864	
Lab Report No:	: 008588								Я	leport	Report Date:	03/31/2020
Project Name: Project No.:	<pre>Project Name: SHEBLYVILLE LAKE/KAS Project No.:</pre>	AKE/KAS	Analysis:	NP	PESTICIDES (8270SIM-MOD)	(8270SIM	(-MOD)	Ana	Analytical Method: 8270C Prep Method: 3510C	ical Method: Prep Method:	d: 8270C d: 3510C	
Matrix: Amount Used:	QC Material 1000 mL		QC Bat Level:	QC Batch: Level:	B11186 LOW			Prep. Analy:	Prep. Date: Analysis Date:		03/13/2020 03/30/2020	
		Spike	Spike	Spike		Duplicate I	Duplicate	Duplicate	Recovery	۲		RPD
	Parameter	Result	Level	% Rec		Result	Level	% Rec	Limits		RPD	Limit
T:	Trifluralin	2.81	4	70				1	30-130		1	
	Atrazine	3.29	4	82		ł		ł	30-130			-
	Metribuzin	2.99	4	75		1		-	30-130		!	
	Alachlor	3.11	4	78		ł	!		30-130		-	
M	Metolachlor	3.33	4	83			!	!	30-130		1	8
0	Chlorpyrifos	3.36	4	84		-	!	ļ	30-130		ł	1
-	Cyanazine	3.65	4	91		1		ł	30-130			1
Ре	Pendimethalin	3.04	4	76	·		ł		30-130			1
	SUI SUI	SURROGATE RECOVERIES: Triphenvlphosphate	LES: Reference		Spike %R 91.8	Duplicate %R		%R Limits 30-130	I			
			,) 8 9							

(a) DOD-QSM Accredited Analyte.

'*' indicates a recovery outside of standard limits. Spike Blanks for 008588-01, NP PESTICIDES (8270SIM-MOD)

ARI	ARDL, INC.	400 Av	LABOR? 'iatior	LABORATORY CONTROL 400 Aviation Drive; P.O.	ONTROL	SAMPLE R Box 1566	E REPORT 566 Mt		Vernon, IL	с 62864
Lab Report No: 00	008588								Report Date:	ate: 04/01/2020
Project Name:	SHEBLYVILLE LAKE/KASKASKIA RIVER	LE LAKE	/KASKASF	KIA RIVE	Ж				NELAC Certified	rtified - IL100308
Analyte	LCS 1 Result	LCS 1 Level	LCS 1 % Rec	LCS 2 Result	LCS 2 Level	LCS 2 % Rec	<pre>% Rec Limits</pre>	Mean * Rec	Analytical Run	QC Lab Number
(a) Iron	4.7	5.0	94				87-115	-	P7347	008587-01C1
(a) Manganese	0.74	0.75	66	1	-	ł	90-114	ł	P7347	008587-01C1
Ammonia Nitrogen	1.0	1.0	100	ł		ł	80-120	ł	03305162	008588-01C1
Kjeldahl Nitrogen	1.1	1.0	107	1	1	ł	80-120	1	03195139	008587-12C1
Nitrate as Nitrogen	0.99	1.0	66	ł	;	Ĩ	80-120	ł	03195142	008588-02C1
Nitrite as Nitrogen	1.0	1.0	102	ł	ł	1	80-120	-	03165125	008588-12C1
Phosphorus	0.62	0.67	63	;	1	ł	80-120	ł	03235154	008588-03C1
Phosphorus, -ortho	0.094	0.10	94	ł	1	ł	80-120	1	03165126	008588-01C1
Total Organic Carbon	17.4	20.0	87	-	ł	ł	76-120	ł	03235151	008587-01C1
NOTE: Any values tabulated above marked with an (a) DOD and/or NELAC Accredited Analyte	abulated above m AC Accredited An	arked with alyte		asterisk are outside of acceptable limits.	ide of acc	eptable li	mits.			

Page 1 of 1

Inorganic LCS Results for 008588

Lab Report No:	ARDI 008588	ARDL, INC. 8	MATRIX SPIKE 400 Aviation	IKE/SPI ion Dri	SPIKE/SPIKE DUPLICATE .ation Drive; P.O. Box	CATE REPORT Box 1566		Mt. Vernon, IL Repoi	IL Report	62864 Date: 0	03/31/2020
Project Name: SI Project No.:	SHEBLYVILLE LAKE/KAS	LAKE/KAS	Analysis:	NP PESTI	PESTICIDES (82	(8270SIM-MOD)		Analytical Method: Prep Method:	Method: Method:	1: 8270C 1: 3510C	
Field ID: Desc/Location: 5 Sample Date: (Sample Time: (Matrix: V	SVL-1 SHEBLYVILLE LAKE 03/11/2020 0950 WATER	I LAKE	Prep. Amount % Mois QC Bat Level:	Prep. Date: Amount Used: % Moisture: QC Batch: Level:	03/13/2020 900 mL NA B11186 LOW		AR La Re An	ARDL Lab No.: Lab Filename: Received Date: Analysis Date:		008588-01 03/11/2020 03/30/2020	
		Sample	WS	WS	WS	MSD	MSD	MSD	% Rec		RPD
Parameter	ter	Result	Result	Level	% Rec	Result	Level	% Rec	Limits	RPD	Limit
Trifluralin	alin	QN	3.34	4.44	75.3	3.3	4.44	74.3	30-130	1.3	30
Atrazine	ine	UN	3.53	4.44	79.5	3.42	4.44	77	30-130	3.2	30
Metribuzin	uzin	UN	3.24	4.44	73	3.12	4.44	70.3	30-130	3.8	30
Alachlor	lor	DN	3.49	4.44	78.5	3.5	4.44	78.8	30-130	0.3	30
Metolachlor	hlor	ND	3.68	4.44	82.8	3.69	4.44	83	30-130	0.3	30
Chlorpyrifos	rifos	UN	3.68	4.44	82.8	3.61	4.44	81.3	30-130	1.8	30
Cyanazine	ine	DN	4.02	4.44	90.5	3.89	4.44	87.5	30-130	3.4	30
Pendimethalin	halin	QN	3.19	4.44	71.8	3.21	4.44	72.3	30-130	0.7	30
	1 03	SURROGATE RECOVERIES:	RIES:		MS &R	MSD &R	%R Limits	s			
	Ц	Triphenylphosphate	te		86	85	30-130				

(a) DOD-QSM Accredited Analyte.

'nc' indicates sample >4X spike level.

'*' indicates a recovery outside of standard limits.

Matrix Spikes for 008588-01, NP PESTICIDES (8270SIM-MOD)

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

Lab Report No: 008588

Report Date: 04/01/2020

Project Name: SHEBLYVILLE LAKE/KASKASKIA RIVER

NELAC Certified - IL100308

	Sample	Sample	SM	MS	WS	DSM	MSD	MSD	% Rec		RPD		QC Lab
Analyte	Matrix	Result	Result	Level	% Rec	Result	Level	% Rec	Limits	RPD	Limit	Run	Number
(a) Iron	WATER	0.45	1.4	1.0	92	1.3	1.0	86 *	87-115	Ω	20	P7347	008588-01MS
(a) Manganese	WATER	0.026	0.53	0.50	102	0.54	0.50	102	90-114	0	20	P7347	008588-01MS
Ammonia Nitrogen	WATER	0.19	2.2	2.0	102	2.3	2.0	105	75-125	2	20	03305162	008588-01MS
Kjeldahl Nitrogen	WATER	1.0	2.1	0.80	136 *	2.0	0.80	126 *	75-125	4	20	03195139	008588-12MS
Nitrate as Nitrogen	WATER	5.2	5.8	1.0	* 09	5.5	1.0	40 *	75-125	4	20	03195142	008588-02M\$
Phosphorus	WATER	0.36	1.2	0.83	100	1.2	0.83	98	75-125	7	20	03235154	008588-03MS
Phosphorus, -ortho	WATER	0.12	0.23	0.10	113	0.23	0.10	113	75-125	0	20	03165126	008588-01MS
Total Organic Carbon	WATER	2.6	7.2	5.0	92	7.3	5.0	94	76-120	ч	20	03235151	008588-02MS

Inorganic Matrix Spikes for 008588

(a) DOD and/or NELAC Accredited Analyte.

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

164	04/01/2020	ed - IL100308	QC Lab Number	008588-07D1 008588-07D1	008588-05D1	008588-05D1
ion, IL 62864	Report Date:	NELAC Certified	Analytical Run	03305164 03305164	03195135	03195136
r 5 Mt. Vernon, IL			Mean (Smp,D1,D2)		- 1	1
FE REPORI Box 156(Percent Diff	10	4	NC
SAMPLE DUPLICATE REPORT on Drive; P.O. Box 1566			Units	MG/CU.M. MG/CU.M.	MG/L	MG/L
SAMPLE DUF 400 Aviation Drive;		IA RIVER	Second Duplicate			
400 Avia		SHEBLYVILLE LAKE/KASKASKIA RIVER	First Second Duplicate Duplicate	8.2	22.4	0
ARDL, INC.	ω	XVILLE LI	Sample Conc'n	9.1 6.8	21.6	DN
ARDL,	Lab Report No: 008588	Project Name: SHEBI	Analyte	Chlorophyll-a, Corrected Pheophytin-a	Solids, Total Suspended	Solids, Volatile Suspend

(a) DOD and/or NELAC Accredited Analyte Sample Duplicates for 008588



Sample Receipt Information

Including as appropriate:

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

ARDL Data Package 8588

N:\ARDL Case Narratives\ARDL Data Package Contents.pdf - Revised June 21, 2019

Authorized By: DSD-QAO

P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864 FSF (618) 244-3235 Phone (618) 244-1149 Fax CORD		ONTAIN DECOON	INCONTRACTOR OF THE SAMPLE LOCATION REMARKS RE	X X	x x x x	x x x x x	x x x x x		x x x x x	x x x x x x	x x x x x x x x x x x x x x x x x x x								Received by: (Signature) REMARKS/SPECIAL INSTRUCTIONS:	Received by/(Stephature) *Preserved with H ₂ SO4 #Preserved with HNO3	Shipping Ticket No.
l	//////	A NEST	NEON CON	X X	X	X	X	X	X	X	X	X X	X	X	X					_	
00 Aviation Drive, Mt. Verno 3255 Phone (618) 244-11		NIATNO	ИО. OF C		X X X	X X	X X X	X X	X X	X X X	X X X	X X X	X	x	X				: (Signature)	(Signature)	Shipping Ticket No.
			DATE TIME ON	3-11 0950	3-11 1100	3-11/100	3-11 1406	3-11 1506	3-11 1210	3-11 1330	3-11 1606	3-11 95	3-11 1020	3-11 1310	3-11 1405				ZUIVAL Time B	Time	Date Time
ARDL, Inc.	PROJECT Shelbyville Lake	SAMPLERS: (Signature)	SAMPLE NUMBER	-SVL-1	-SVL-2	- SVL-2-10	- SVL-4	- SVL-12	+ SVL-13	+ SVL-11	-SVL-15	-KAS-3	LS Marina	FIN Marina	-SUL Marina	AF	RDL	Rep	Relinquished by: (Signature)	Octification of Signature) ~	akeceived for Laboratory by: BSignature

COOLER RECEIPT REPORT ARDL, INC.

	DL#: <u>8588</u>	Cooler # Number of Coolers in Shipment:	2		_
Proj	ect: Shelbyville Lake Kaskaskia River	Date Received: 03/11/202	Δ		
A.	PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 03/12	2020 (Signature) DCB			<u> </u>
1.	Did cooler come with a shipping slip (airbill, etc.)?			NO	\$
	If YES, enter carrier name and airbill number here: ARDL	CURRIER			
2.	Were custody seals on outside of cooler?	YI	ES	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?	Yi	ES	NO	NÀ
4.	Did you screen samples for radioactivity using a Geiger Counter?		ŝ	NO	
5.	Were custody papers sealed in a plastic bag?	YI	ΞS	NO)
6.	Were custody papers filled out properly (ink, signed, etc.)?		ĒS	NO	N/A
7.	Were custody papers signed in appropriate place by ARDL personnel?		B	NO	N/A
8.	Was project identifiable from custody papers? If YES, enter project name at	the top of this form	Ê	NO	N/A
9.	Was a separate container provided for measuring temperature? YES				~
В.	LOG-IN PHASE: Date samples were logged-in: 03/12/2020	Signature)	r <u> </u>		C
10.	Describe type of packing in cooler: LODS C CC				
11.	Were all samples sealed in separate plastic bags?		ES	NO) _{N/A}
12.	Did all containers arrive unbroken and were labels in good condition?		Ê	NO	
13.	Were sample labels complete?		ÊŜ	NO	
14.	Did all sample labels agree with custody papers?		ÈS)	NO	
15.	Were correct containers used for the tests indicated?		ÊS	NO	
16.	Was pH correct on preserved water samples?		ES	NO	N/A
17.	Was a sufficient amount of sample sent for tests indicated?		ÊŚ	NO	
18.	Were bubbles absent in VOA samples? If NO, list by sample #:	Y	'ES	NO	(N/A)
19.	Was the ARDL project coordinator notified of any deficiencies?	Υ	ΈS	NO	N/A
[Comments and/or Corrective Action:	Sample Transfer			
		Fraction Fraction			
		Area # Area #			
		Walk-In			
		By			
		On On			
		03/12/2020	<u> </u>		
		Chain-of-Custody #			
(E	By: Signature) Date:				

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

COOLER RECEIPT REPORT ARDL, INC.

ARI		Cooler #	- - 7		
Pro		Number of Coolers in Shipn Date Received: <u>03/111</u> 1			-
А.	Kaskaskia River PRELIMINARY EXAMINATION PHASE: Date cooler was opened:03/12/2				
1.	Did cooler come with a shipping slip (airbill, etc.)?		YES	NO	>
	If YES, enter carrier name and airbill number here: <u>ARDL</u> C	URRIEK			
2.	Were custody seals on outside of cooler?		YES	NO	N/A
	How many and where?,Seal Date:	"Seal Name:	60		
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?			NO	
5.	Were custody papers sealed in a plastic bag?		YES	NO	
6.	Were custody papers filled out properly (ink, signed, etc.)?			NO	N/A
7.	Were custody papers signed in appropriate place by ARDL personnel?			NO	N/A
8.	Was project identifiable from custody papers? If YES, enter project name at the			NO	N/A
9.	Was a separate container provided for measuring temperature? YESN	Observed Cooler Tem	, 2, 1		
В.	LOG-IN PHASE: Date samples were logged-in: 03/12/2020 (Sig	Corre	ection factor	5,0	C
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?		\sim) NO	
13.	Were sample labels complete?		m	NO	
14.	Did all sample labels agree with custody papers?		-	NO	
15.	Were correct containers used for the tests indicated?		a	NO	
	Was pH correct on preserved water samples?		\sim	NO	N/A
	Was a sufficient amount of sample sent for tests indicated?		A.	NO	
18.			YES	NO	(N/A)
19.	Was the ARDL project coordinator notified of any deficiencies?		YES	NO	
[Comments and/or Corrective Action:	Sample ⁻	Transfer		
		Fraction	Fraction		
		Area #	Area #		
		Walk-M	Alca #		
		By	Ву		
		DC D On	On		
		03/12/2020			
		Chain-of-Custody #			
(1	By: Signature) Date:		<u></u>		
L*					

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2



Environmental | Analytical | Management | Safety

Customer Name: SLCOE

Project Name: Shelbyville Lake/Kaskaskia River

Samples Received at ARDL: 5/21/20

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

<u>www.ardlinc.com</u>

Date: 6/16/20

Lab Name: ARDL, Inc.

ARDL Report No.: 8614

CASE NARRATIVE

Customer	Date	Lab ID	
Sample No.	Collected	<u>Number</u>	Analyses Requested
SVL-1	5/21/20	8614-01	NP Pesticides, Metals(1), Inorganics(2)
SVL-2	5/21/20	8614-02	NP Pesticides, Inorganics(2)(3)
SVL-2-10	5/21/20	8614-03	Metals(1), Inorganics(2)
SVL-4	5/21/20	8614-04	NP Pesticides, Inorganics(2)(3)
SVL-12	5/21/20	8614-05	E. Coli, Inorganics(2)(4)
SVL-13	5/21/20	8614-06	NP Pesticides, Inorganics(2)
SVL-11	5/21/20	8614-07	NP Pesticides, Inorganics(2)(3)
SVL-15	5/21/20	8614-08	NP Pesticides, Inorganics(2)(3)
LS Marina	5/21/20	8614-09	E. Coli
FIN Marina	5/21/20	8614-10	E. Coli
SUL Marina	5/21/20	8614-11	E. Coli
KAS-3	5/21/20	8614-12	E. Coli , Inorganics(2)(3)(4)

(1) Including iron and manganese.

(2) Including ammonia, nitrate, orthophosphate, 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. The closing CCV passed criteria for all analytes.

<u>PREPARATION BLANK</u> 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.

"Test everything, keep the good" 1 Thes. 5:21

Project Name: Shelbyville Lake/Kaskaskia River

ARDL Report No.: 8614

CASE NARRATIVE (Continued)

DUPLICATE

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

INTERNAL STANDARD

All internal standard criteria were met.

SURROGATE

All surrogate recovery criteria were met.

INORGANIC FRACTION

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

Sample 8614-12, was analyzed outside of holding time requirements for E.Coli. The results are flagged appropriately.

PREPARATION BLANK

Results of the preparation blanks were within acceptable limits.

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, except chlorophyll-a. The parent sample has 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.
- X Sample preparation and/or analysis was performed outside of holding time requirements.

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

Page 2 of 2



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 8614

N:\ARDL Case Narratives\ARDL Data Package Contents.pdf - Revised June 21, 2019

Authorized By: DSD-QAO

Lab Report No: 008614

Report Date: 06/02/2020

Project Name: Project No.:	SHELBYVILLE		Ana alytical M	-	PESTICIE	DES (827	0SIM-MO	D)
	fied - IL1003			ethod: 35				
Field ID:	SVL-1			ARDL I	Lab No.:	00861	4-01	
Desc/Location:	SHELBYVILLE	LAKE		Lab Fi	llename:	E0528	8015	
Sample Date:	05/21/2020			Receiv	ved Date:	05/21	/2020	
Sample Time:	1030			Prep.	Date:	05/26	5/2020	
Matrix:	WATER			Analys	sis Date:	05/28	3/2020	
Amount Used:	900 mL			Instru	ument ID:	AG5		
Final Volume:	1 mL			QC Bat	cch:	B1121	.9	
% Moisture:	NA			Level	:	LOW		
						Data		Dilution
Parameter			LOD	LOQ	Result	Flag	Units	Factor
Trifluralin			0.222	0.222	ND		UG/L	1
Atrazine			0.222	0.222	0.978		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	1.47		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	87%

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

(a) DOD-QSM Accredited Analyte.

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

Lab Report No: 008614

SHELBYVILLE LAKE

Project Name: Project No:

Report Date: 06/12/2020

Analysis: Inorganics NELAC Certified - IL100308

ARDL No: 008614-01 Field ID: SVL-1 Received: 05/21/2020	01 020	Sampl Samp Samp	Sampling Loc'n: Sampling Date: Sampling Time:		SHELBYVILLE LAKE 05/21/2020 1030			Matrix: Moisture:	: WATER : NA	
Analyte	ΓOD	Γοδ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
 (a) Iron (a) Manganese Ammonia Nitrogen Nitrate as Nitrogen Phosphorus 	0.0400 0.00400 0.0200 0.0950 0.00800	0.0500 0.00500 0.0300 0.100 0.0100		0.288 0.0120 0.0431 5.72 0.109	T/DM MG/L MG/L MG/L	3010A 3010A NONE NONE 365.2 NONE	6010C 6010C 350.1 GREEN 365.2	05/27/20 05/27/20 NA NA 06/02/20 MA	05/28/20 P7371 05/28/20 P7371 05/28/20 05295324 05/26/20 05295326 06/02/20 06035343	P7371 P7371 05295324 05295326 06035343 05255343
Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon		2.86 2.86 1.00		000 3.6	1/9M J/9M T/9M	NONE NONE NONE	160.2 160.4 415.1	NA NA NA NA	05/26/20 05295322 05/26/20 05295323 05/23/20 05295323	05295322 05295323 05295323 06125373

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-01, Inorganic Analyses

Lab Report No:	008614	Rep	ort Date	. 06/02/	2020		
Project No.:	SHELBYVILLE LAKE Ana fied - IL100308	lytical M	-		DES (827	/OSIM-MO	D)
	SVL-2 SHELBYVILLE LAKE			Lab No.: ilename:	00861 E0528		
Sample Date:	05/21/2020		Receiv	ved Date:	05/21	L/2020	
Sample Time:	1130		Prep.	Date:	05/20	5/2020	
Matrix:	WATER		Analy	sis Date:	05/28	3/2020	
	900 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	tch:	B1121	L9	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.222	0.222	ND		UG/L	1
Atrazine		0.222	0.222	0.933		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 RECOV	ERIES:	Lim	its		Rea	sults	
Triphenylphosph	ate	30-	130		:	31%	

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

(a) DOD-QSM Accredited Analyte.

			MC.	Vernon,	Illinois					
Lab Report No: 008	008614						щ	Report Date:	: 06/12/2020	020
Project Name: SHELBYVI Project No:	SHELBYVILLE LAKE						Z	Analysis: Inor NELAC Certified -		ganics IL100308
ARDL No: 008614-02 Field ID: SVL-2 Received: 05/21/2020)2)20	Sampling Samplin Samplin	רס רס		SHELBYVILLE LAKE 05/21/2020 1130			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	год	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen Chlorophyll-a, Correcte Nitrate as Nitrogen Pheophytin-a Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon	0.0200 1.0 0.0950 1.0 0.00800 0.00800 0.00800 0.00800 0.00800 0.00800	0.0300 1.00 0.100 1.00 0.0100 2.50 2.50 1.00	d	0.0303 7.9 4.12 ND 0.083 0.0135 ND 4.0	MG/L MG/CU.M. MG/L MG/L MG/L MG/L MG/L MG/L	NONE 10200H NONE 10200H 365.2 NONE NONE NONE NONE	350.1 10200H GREEN 10200H 365.2 365.2 365.2 160.2 160.2 160.4 415.1	NA 05/22/20 NA 05/22/20 06/02/20 NA NA NA NA NA	05/28/20 05/26/20 05/26/20 05/26/20 05/22/20 05/22/20 05/22/20 05/22/20 05/22/20	05295324 05275307 05295326 05275307 06035343 05265303 05295322 05295323 06125373

ARDL, INC.

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-02, Inorganic Analyses

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Lab Report No: 008614

Project Name: SHELBYVILLE LAKE

Report Date: 06/12/2020

Analysis: Inorganics

Project No:							4	WELAC Certi	NELAC Certified - IL100308	00308
ARDL No: 008614-03	-03	Samp]	Sampling Loc'n:		SHELBYVILLE LAKE			Matrix:	: WATER	
Field ID: SVL-2-10	0	Samp	Sampling Date:	ite: 05/21/2020	/2020			Moisture:	: NA	
Received: 05/21/2020	2020	Samp	Sampling Time:	lme: 1145						
						Prep	Analysis	Prep	Analysis	Run
Analyte	TOD	LOQ	Flag	Result	Units	Method	Method	Date	Date	Number
(a) Iron	0.0400	0.0500		0.653	MG/L	3010A	6010C	05/27/20	05/28/20	P7371
(a) Manganese	0.00400	0.00500		0.0281	MG/L	3010A	6010C	05/27/20	05/28/20	P7371
Ammonia Nitrogen	0.0200	0.0300		0.114	MG/L	NONE	350.1	NA	05/28/20 05295324	5295324
Nitrate as Nitrogen	0.0950	0.100		4.35	MG/L	NONE	GREEN	NA	05/26/20	05295326
Phosphorus	0.00800	0.0100		0.10	MG/L	365.2	365.2	06/02/20	06/02/20	06035343
Phosphorus, -ortho	0.00800	0.0100		0.0135	MG/L	NONE	365.2	NA	05/22/20	05265303
Solids, Total Suspended	d 4.0	4.00		6.0	MG/L	NONE	160.2	NA	05/26/20	05295322
Solids, Volatile Suspen	an 4.0	4.00		DN	MG/L	NONE	160.4	NA	05/26/20	05295323
Total Organic Carbon	0.500	1.00		3.4	MG/L	NONE	415.1	NA	05/23/20	06125373

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-03, Inorganic Analyses

Lab Report No:	008614	Repo	ort Date	: 06/02,	/2020		
Project Name: Project No.:	SHELBYVILLE LAKE Ana	Ana Analytical Me	-	PESTICII 270C	DES (827	70SIM-MC	D)
NELAC Certi	fied - IL100308	Prep Me	ethod: 3	510C			
Field ID:	SVL-4		ARDL 1	Lab No.:	00863	L4-04	
Desc/Location:	SHELBYVILLE LAKE		Lab F:	ilename:	E0528	3019	
Sample Date:	05/21/2020		Receiv	ved Date:	05/23	L/2020	
Sample Time:	1545		Prep.	Date:	05/20	5/2020	
Matrix:	WATER		Analys	sis Date:	05/28	3/2020	
Amount Used:	900 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	tch:	B1121	19	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.222	0.222	ND		UG/L	1
Atrazine		0.222	0.222	2.37		UG/L	1
Metribuzin		0.222	0.222	0.900		UG/L	1
Alachlor		0.222	0.222	ND		UG/L	1
Metolachlor		0.222	0.222	4.06		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 RECOV	ERIES:	Lim	its		Re	sults	
	-						

 Triphenylphosphate
 30-130
 74%

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	t No: 008614 Report Date: 06/12/2020	SHELBYVILLE LAKE Analysis: Inorganics NELAC Certified - IL100308	008614-04 Sampling Loc'n: SHELBYVILLE LAKE Matrix: WATER SVL-4 Sampling Date: 05/21/2020 Moisture: NA 05/21/2020 Sampling Time: 1545	Prep Analysis Prep Analysis Run yte LOD LOQ Flag Result Units Method Method Date Date Number	gen0.02000.03000.0914MG/LNONE350.1NA05/28/2005295324, Correcte1.01.004.5MG/LNONE350.1NA05/26/2005295326trogen0.09500.1006.34MG/LNONEGREENNA05/26/20052953261.01.001.00NDMG/L10200H10200H05/22/2005/26/20052953261.01.00NDMG/LNONEGREENNA05/22/2005/26/20052953261.01.000.01000.23MG/L10200H10200H05/22/2005/26/20052953260.008000.01000.23MG/LNONE365.2365.206/02/2006/02/2005295303suspended4.04.04.0019.2MG/LNONE160.2NA05/26/2005295323suspended4.04.001.000.146MG/LNONE160.2NA05/26/2005/26/2005295323suspended4.04.04.004.0019.2MG/LNONE160.2NA05/26/20<
	Lab Report No: 008	Project Name: SHELBYVI Project No:	ARDL No: 008614-0 Field ID: SVL-4 Received: 05/21/20	Analyte	Ammonía Nitrogen Chlorophyll-a, Correcte Nitrate as Nitrogen Pheophytin-a Phosphorus Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Solids, Volatile Suspen Total Organic Carbon

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-04, Inorganic Analyses

Lab Report No:	008614	Repo	ort Date:	06/02/	2020		
Project No.:		lytical M	ethod: 82		DES (82 ⁻	70SIM-MO	D)
NELAC Certi:	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-12		ARDL 1	Lab No.:	00863	14-05	
Desc/Location:	SHELBYVILLE LAKE		Lab F:	ilename:	E0528	3020	
Sample Date:	05/21/2020		Receiv	ved Date:	05/23	1/2020	
Sample Time:	1700		Prep.	Date:	05/2	6/2020	
Matrix:	WATER		Analys	sis Date:	05/2	3/2020	
Amount Used:	800 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	tch:	B112	19	
<pre>% Moisture:</pre>	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.250	0.250	ND		UG/L	1
Atrazine		0.250	0.250	2.88		UG/L	1
Metribuzin		0.250	0.250	2.34		UG/L	1
Alachlor		0.250	0.250	ND		UG/L	1
Metolachlor		0.250	0.250	3.31		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 RECOV	ERIES:	Lim	its		Re	sults	
Triphenylphosph	ate	30-	130			738	

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

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Lab Report No: 008614

Report Date: 06/12/2020

Project Name: Project No:	SHELBYVILLE LAKE	LLE LAKE						N	Analysis: ELAC Certifie	Analysis: Inorganics NELAC Certified - IL100308	ics 00308
ARDL No: Field ID: Received:	008614-05 SVL-12 05/21/2020	0	Sampling Samplin Samplin	0 0		SHELBYVILLE LAKE 05/21/2020 1700			Matrix: Moisture:	:: WATER :: NA	
Analyte	بد ه	LOD	ΓΟŌ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	en	0.0200	0.0300		0.0883	MG/L	NONE	350.1	NA	05/28/20 05295324	05295324
E. Coliform		1.0	1.00		825	COL/100 ML	NONE	1604	NA	05/21/20 (05265298
Nitrate as Nitrogen	rogen	0.0950	0.100		7.13	MG/L	NONE	GREEN	NA	05/26/20 (05295326
Phosphorus		0.00800	0.0100		0.399	MG/L	365.2	365.2	06/02/20	06/02/20 (06035343
Phosphorus, -ortho	rtho	0.00800	0.0100		0.208	MG/L	NONE	365.2	NA	05/22/20 (05265303
Solids, Total Suspended	Suspended	10.0	10.0		35.0	MG/L	NONE	160.2	NA	05/26/20 (05295322
Solids, Volatile Suspen	le Suspen	10.0	10.0		DN	MG/L	NONE	160.4	NA	05/26/20 (05295323
Total Organic Carbon	Carbon	0.500	1.00		5.0	MG/L	NONE	415.1	NA	05/23/20 06125373	06125373

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-05, Inorganic Analyses

Lab Report No: 008614 Report Date: 06/02/2020 Project Name: SHELBYVILLE LAKE Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Method: 8270C Project No.: NELAC Certified - IL100308 Prep Method: 3510C Field ID: SVL-13 ARDL Lab No.: 008614-06 Desc/Location: SHELBYVILLE LAKE Lab Filename: E0528021 Sample Date: 05/21/2020 Received Date: 05/21/2020 Sample Time: 1330 Prep. Date: 05/26/2020 Analysis Date: 05/28/2020 WATER Matrix: Amount Used: 800 mL Instrument ID: AG5 QC Batch: Final Volume: 1 mL B11219 Level: LOW % Moisture: NA Data Dilution LOD LOQ Result Flag Units Factor Parameter 1 0.250 0.250 ND UG/L Trifluralin 0.250 0.250 1 2.78 UG/L Atrazine Metribuzin 0.250 0.250 2.21 UG/L 1 0.250 0.250 UG/L 1 ND Alachlor 5.75 1 Metolachlor 0.250 0.250 UG/L 0.250 ND UG/L 1 Chlorpyrifos 0.250 0.250 0.250 ND UG/L 1 Cyanazine Pendimethalin 0.250 0.250 ND UG/L 1 Limits Results SURROGATE RECOVERIES:

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

30-130

(a) DOD-QSM Accredited Analyte.

Triphenylphosphate

Sample 008614-06, NP PESTICIDES (8270SIM-MOD)

Page 1 of 1

72%

20 cs 0308 Run Number	05295324 05295326 06035343 05265303 05295323 05295323 05295323 06125373
06/12/20 Inorgani ed - IL10 WATER NA NA nalysis Date	05/28/20 0 05/26/20 0 06/02/20 0 05/22/20 0 05/22/20 0 05/22/20 0 05/23/20 0
Report Date: Analysis: NELAC Certifi Matrix: Moisture: Prep A Date	NA NA NA NA NA NA NA NA NA
R Analysis Method	350.1 GREEN 365.2 365.2 160.2 160.4 415.1
Prep Method	NONE NONE 365.2 NONE NONE NONE NONE
SHELBYVILLE LAKE 05/21/2020 1330 1t Units	Д/5 ЧС/Г МС/Г МС/Г МС/Г Л/9М МС/Г
s u l	0.0902 6.17 0.399 0.231 55.0 ND 5.1
Sampling Loc'n: Sampling Date: Sampling Time: Q Flag Re	
Samp Samp Sam LOQ	0.0300 0.100 0.0100 0.0100 10.0 1.00 1.0
14 LE LAKE 0 LOD	0.0200 0.0950 0.00800 10.0 10.0 0.500
Lab Report No: 008614 Project Name: SHELBYVILLE LAKE Project No: ARDL No: 008614-06 Field ID: SVL-13 Received: 05/21/2020 Analyte LOD	Armonia Nitrogen Nitrate as Nitrogen Phosphorus Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-06, Inorganic Analyses

Lab Report No: 008614

Report Date: 06/02/2020

Project Name: Project No.: NELAC Certi:	SHELBYVILLE LAKE	Analytical	nalysis: N Method: 8 Method: 3	270C	DES (82 ⁻	70SIM-MO	D)
Field ID:	SVL-11		ARDL	Lab No.:	00863	14-07	
Desc/Location:	SHELBYVILLE LAKE	Ξ	Lab F	ilename:	E0528	8022	
Sample Date:	05/21/2020		Recei	ved Date:	05/23	1/2020	
Sample Time:	1530		Prep.	Date:	05/2	6/2020	
Matrix:	WATER		Analy	sis Date:	05/28	8/2020	
Amount Used:	900 mL		Instr	ument ID:	AG5		
Final Volume:	1 mL		QC Ba	tch:	B112	19	
<pre>% Moisture:</pre>	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.222	0.222	ND		UG/L	1
Atrazine		0.222	0.222	3.10		UG/L	1
Metribuzin		0.222	0.222	1.01		UG/L	1
Alachlor		0.222	0.222	ND		UG/L	1
Metolachlor		0.222	0.222	4.37		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 RECOV	ERIES:	L	imits		Re	sults	

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

30-130

(a) DOD-QSM Accredited Analyte.

Triphenylphosphate

Page 1 of 1

86%

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Lab Report No: 008614

Project Name: SHELBYVILLE LAKE Project No:

Report Date: 06/12/2020

Analysis: Inorganics NELAC Certified - IL100308

	7	Sampl	Sampling Loc'n:		SHELBYVILLE LAKE			Matrix:	: WATER	
Field ID: SVL-11 Received: 05/21/2020	020	Samr Samr	Sampling Date: Sampling Time:		05/21/2020 1530			Moisture:	: NA	
Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0658	MG/L	NONE	350.1	NA	05/28/20 05295324	05295324
Chlorophyll-a, Correcte	1.0	1.00		5.7	MG/CU.M.	10200H	10200H	05/22/20	05/26/20 05275307	05275307
Nitrate as Nitrogen	0.0950	0.100		4.76	MG/L	NONE	GREEN	NA	05/26/20 05295326	05295326
Pheophytin-a	1.0	1.00		ND	MG/CU.M.	10200H	10200H	05/22/20	05/26/20 05275307	05275307
Phosphorus	0.00800	0.0100		0.247	MG/L	365.2	365.2	06/02/20	06/02/20	06035343
Phosphorus, -ortho	0.00800	0.0100		0.148	MG/L	NONE	365.2	NA	05/22/20	05265303
Solids, Total Suspended	1 4.0	4.00		12.8	MG/L	NONE	160.2	NA	05/26/20	05295322
Solids, Volatile Suspen	1 4.0	4.00		ND	MG/L	NONE	160.4	NA	05/26/20 05295323	05295323
Total Organic Carbon	0.500	1.00		4.1	MG/L	NONE	415.1	NA	05/23/20 06125373	06125373

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-07, Inorganic Analyses

Lab Report No:	008614	Rep	ort Date	06/02/	2020		
Project No.:	SHELBYVILLE LAKE Ana fied - IL100308	lytical M	-		DES (827	70SIM-MO	(םי
Sample Date: Sample Time: Matrix:	SVL-15 SHELBYVILLE LAKE 05/21/2020 1550 WATER 900 mL 1 mL NA		Lab F: Receiv Prep. Analy:		05/23 05/20	3023 L/2020 5/2020 3/2020	
Parameter		LOD	LOQ	Result	Data Flag	Units	Dilution Factor
Trifluralin Atrazine Metribuzin Alachlor Metolachlor Chlorpyrifos Cyanazine Pendimethalin		0.222 0.222 0.222 0.222 0.222 0.222 0.222 0.222 0.222 0.222	0.222 0.222 0.222 0.222	0.789 ND 3.80 ND		UG/L UG/L UG/L UG/L UG/L UG/L UG/L	1 1 1 1 1 1 1
SURROGATE RECOV Triphenylphosph		Lim 30-				sults 72%	MARINE L. A. I.I.

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

(a) DOD-QSM Accredited Analyte.

Lab Report No: 008614	514						Ļ	Keport Date:	NZNZ/ZT/9N :	020
Project Name: SHELBYVILLE LAKE Project No:	LE LAKE						4	Analysis: Inor NELAC Certified -	: Inorganics fied - IL1003	ganics IL100308
ARDL No: 008614-08 Field ID: SVL-15 Received: 05/21/2020	0	Sampling Sampling Sampling		Loc'n: SHELF Date: 05/21 Time: 1550	SHELBYVILLE LAKE 05/21/2020 1550			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	ΓΟŌ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen Chlorophyll-a, Correcte Nitrate as Nitrogen Pheophytin-a Phosphorus Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon	0.0200 1.0 0.0950 1.0 0.00800 0.00800 4.0 4.0 0.500	0.0300 1.00 0.100 1.00 0.0100 4.00 4.00 1.00		0.104 ND 4.93 ND 0.286 0.154 14.0 ND 4.0	MG/L MG/CU.M. MG/L MG/L MG/L MG/L MG/L MG/L	NONE 10200H NONE 10200H 365.2 NONE NONE NONE NONE	350.1 350.1 10200H GREEN 10200H 365.2 365.2 160.2 160.4 415.1	NA 05/22/20 NA 05/22/20 06/02/20 NA NA NA NA	05/28/20 05/26/20 05/26/20 05/26/20 05/22/20 05/22/20 05/22/20 05/22/20	05295324 05275307 05295326 05275307 06035343 05265303 05265303 05295323 05295323

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-08, Inorganic Analyses

				ыс.							
Lab Report No:	No: 008614	4						Re	Report Date:	06/12/2020	120
Project Name: SHELBYVILLE LAKE Project No:	SHELBYVILL	E LAKE						NE	Analysis: Inorganics NELAC Certified - IL100308	Analysis: Inorganics AC Certified - IL1003	.cs 0308
ARDL No: Field ID: Received:	ARDL No: 008614-09 ield ID: LS MARINA eceived: 05/21/2020		Sampl Samp Samp	Sampling Loc'n: Sampling Date: Sampling Time:	'n: SHEL te: 05/2 me: 1205	SHELBYVILLE LAKE 05/21/2020 1205			Matrix: Moisture:	WATER NA	
Analyte	ئ ا ھ	LOD	ГОД	Flag	Result	Units	Prep Method	Prep Analysis Method Method	Prep Date	Analysis Date	Run Number
E. Coliform		1.0	1.00		41.0	COL/100 ML NONE	NONE	1604	NA	05/21/20 05265298	5265298

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

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-09, Inorganic Analyses

ARDL Report 8614 - Page 19 of 33

Box 1566 62864	Report Date: 06/12/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	Prep Analysis Prep Analysis Run Method Method Date Date Number	NONE 1604 NA 05/21/20 05265298
ARDL, INC. 400 Aviation Drive; P.O. Box 1 Mt. Vernon, Illinois 62864			Sampling Loc'n: SHELBYVILLE LAKE Sampling Date: 05/21/2020 Sampling Time: 1510	Pr LOQ Flag Result Units Met	1.00 125 COL/100 ML NO
	Lab Report No: 008614	<pre>Project Name: SHELBYVILLE LAKE Project No:</pre>	ARDL No: 008614-10 Field ID: FIN MARINA Received: 05/21/2020	Analyte LOD	E. Coliform 1.0

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-10, Inorganic Analyses

	Report Date: 06/12/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	/sis Prep Analysis Run 10d Date Date Number	04 NA 05/21/20 05265298	
66				Analysis Method	1604	
Box 1566 62864				Prep Method	NONE	
ARDL, INC. Aviation Drive; P.O. H Mt. Vernon, Illinois (SHELBYVILLE LAKE 05/21/2020 1610	Units	COL/100 ML	
ARU tion D: ernon,				Result	475	
400 Avia Mt. V			Sampling Loc'n: Sampling Date: Sampling Time:	Flag		
			Sam Sam Sa	гоõ	1.00	
	o: 008614	SHELBYVILLE LAKE	008614-11 SUL MARINA 05/21/2020	LOD	1.0	
	Lab Report No: 008614	Project Name: S Project No:	ARDL No: 0 Field ID: S Received: 0	Analyte	E. Coliform	

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-11, Inorganic Analyses

2020	inics 100308		s Run Number	 05295324 05275307 05275307 05265299 05295326 05295325 05295325 05295323 05295323 05295323 05295323 05295323 05295323 05295323
: 06/12/2020	: Inorganics fied - IL1003	: WATER : NA	Analysis Date	05/28/20 05/26/20 05/22/20 05/22/20 05/22/20 05/22/20 05/22/20 05/22/20 05/22/20 05/22/20 05/22/20 05/22/20
Report Date:	Analysis: Inorganics NELAC Certified - IL100308	Matrix: Moisture:	Prep Date	NA NA NA NA NA NA NA 05/22/20 05/22/20 NA NA NA NA
Щ	N		Analysis Method	350.1 10200H 1604 351.2 GREEN 354.1 10200H 365.2 365.2 365.2 160.2 160.4 415.1
			Prep Method	NONE 10200H NONE 351.2 NONE NONE NONE NONE NONE NONE NONE
		SHELBYVILLE LAKE 05/21/2020 0930	Units	MG/L MG/CU.M. COL/100 ML MG/L MG/L MG/L MG/L MG/L MG/L MG/L MG
			Result	0.0357 12.5 700 0.847 3.74 0.050 ND 0.17 0.17 0.17 0.17 19.6 49.6 4.8
		1 7 7 7	Flag	×
		Sampling Samplin Samplin	ΓοΟ	0.0300 1.00 1.00 0.200 0.100 0.0200 1.00 4.00 4.00 1.00
514	LE LAKE		LOD	$\begin{array}{c} 0.0200\\ 1.0\\ 1.0\\ 0.190\\ 0.0950\\ 0.0200\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.00800\\ 0.000\\ 0.000\\ 0.000\\ 0.000\\ 0.000\\ 0.000\\ 0.000\\ 0.00\\ 0.000\\ 0.000\\ 0.000\\ 0.00\\$
t No: 008614	SHELBYVILLE LAKE	008614-12 KAS-3 05/21/2020	yte	rogen -a, Correcte I trogen Nitrogen a Nitrogen a -ortho al Suspended atile Suspen
Lab Report No:	Project Name: Project No:	ARDL No: Field ID: Received:	Analyte	Ammonia Nitrogen Chlorophyll-a, Correcte E. Coliform Kjeldahl Nitrogen Nitrate as Nitrogen Nitrite as Nitrogen Pheophytin-a Phosphorus Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon

(a) DOD and/or NELAC Accredited Analyte.

Sample 008614-12, Inorganic Analyses

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

Lab Report No: 008614

Report Date: 06/02/2020

Project No.:		Analytical Meth		CICIDES (82	270SIM-MO	D)
NELAC Certi	fied - IL100308	Prep Meth	nod: 3510C			
Field ID:	NA	, , , , , , , , , , , , , , , , , , ,	ARDL Lab No	o.: 008	614-01B1	- (
Desc/Location:	NA		Lab Filenam	ne: E052	28013	
Sample Date:	NA		Received Da	ate: NA		
Sample Time:	NA		Prep. Date:	05/	26/2020	
Matrix:	QC Material		Analysis Da	ate: 05/2	28/2020	
Amount Used:	1000 mL		Instrument	ID: AG5		
Final Volume:	1 mL		QC Batch:	B11	219	
% Moisture:	NA		Level:	LOW		
			***		Data	- 11-9 (- 2 - 5 - 1 - 1
Parameter		LOD	LOQ	Result	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 RECOV		Limit	-	R	esults	
Triphenylphosph	ate	30-13	0		938	

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

(a) DOD-QSM Accredited Analyte.

Blank for Run B11219, NP PESTICIDES (8270SIM-MOD)

Mt. Vernon, IL 400 Aviation Drive; P.O. Box 1566 BLANK SUMMARY REPORT ARDL, INC.

Lab Report No: 008614

Report Date: 06/12/2020

62864

LAKE
SHELBYVILLE
ime:
Project Na

NELAC Certified - IL100308

Analyte	ГОD	ГОД	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number	
(a) Iron	0.040	0.050	QN	MG/L	3010A	6010C	05/27/20	05/28/20	P7371	008614-01B1	1
(a) Manganese	0.004	0.005	QN	MG/L	3010A	6010C	05/27/20	05/28/20	P7371	008614-01B1	
Ammonia Nitrogen	0.020	0.030	QN	MG/L	NONE	350.1	NA	05/28/20	05295324	008614-01B1	
Chlorophyll-a, Corre	1.0	1.0	DN	MG/CU.M.	10200H	10200H	05/22/20	05/26/20	05275307	008614-02B1	
E. Coliform	1.0	1.0	QN	COL/100 ML	NONE	1604	NA	05/21/20	05265298	008614-05B1	
E. Coliform	1.0	1.0	QN	COL/100 ML	NONE	1604	NA	05/22/20	05265299	008614-12B1	
Kjeldahl Nitrogen	0.19	0.20	QN	MG/L	351.2	351.2	06/01/20	06/02/20	06035345	008608-01B1	•
Nitrate as Nitrogen	0.019	0.020	ND	MG/L	NONE	GREEN	NA	05/26/20	05295326	008614-03B1	
Nitrite as Nitrogen	0.020	0.020	ND	MG/L	NONE	354.1	NA	05/22/20	05295325	008614-12B1	
Pheophytin-a	1.0	1.0	DN	MG/CU.M.	10200H	10200H	05/22/20	05/26/20	05275307	008614-02B1	
Phosphorus	0.008	0.010	DN	MG/L	365.2	365.2	06/02/20	06/02/20	06035343	008613-01B1	
Phosphorus, -ortho	0.008	0.010	ND	MG/L	NONE	365.2	NA	05/22/20	05265303	008614-01B1	
Solids, Total Suspen	1.0	1.0	DN	MG/L	NONE	160.2	NA	05/26/20	05295322	008614-04B1	
Solids, Volatile Sus	1.0	1.0	DN	MG/L	NONE	160.4	NA	05/26/20	05295323	008614-04B1	
Total Organic Carbon	0.50	1.0	ND	MG/L	NONE	415.1	NA	05/23/20 (06125373	008613-01B1	

(a) DOD and/or NELAC Accredited Analyte Inorganic Method Blanks for 008614

	ARDL, INC.	BLA 400	BLANK SPIKE/SPIKE DUPLICA 400 Aviation Drive; P.O.	/SPIKE I n Drive;		TE REPORT Box 1566		Mt. Vernon, IL		62864	
Lab Report No: 008614	14							ц	Report Date:	Date:	06/02/2020
Project Name: SHELBYV Project No.:	SHELBYVILLE LAKE	And	Analysis: NP	PESTICID	PESTICIDES (8270SIM-MOD	(M-MOD)	Ané	Analytical Method: Prep Method:	Method Method	ical Method: 8270C Prep Method: 3510C	
Matrix: QC Material Amount Used: 1000 mL	cerial nL		QC Batch: Level:	1: B11219 LOW	219		Prep Analy	Prep. Date: Analysis Date:		05/26/2020 05/28/2020	
Parameter	<u>م</u>	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits		Gaa	RPD Limit
Trifluralin		2.78	4	70	8 1	- 1	1	30-130		-	
Atrazine		3.52	4	88	!	1	!	30-130	i	1	
Metribuzin		3.44	ъ	86	1	1	!	30-130	1	1	
Alachlor		2.15	4	54	1	1	!	30-130	i	1	- 1
Metolachlor		3.53	4	88			*	30-130	i	1	
Chlorpyrifos		2.92	4	73	ł	1	ł	30-130	-	,	
Cyanazine		3.98	4	100	-		1	30-130	1		
Pendimethalin		3.37	4	84	-	1	1	30-130		ı	ŀ
	SURROGATE RECOVERIES:	COVERIES:		Spike %R		Duplicate %R	&R Limits	1			
	Triphenylphosphate	sphate		89.5	.5		30-130				
								ł			

(a) DOD-QSM Accredited Analyte.

'*' indicates a recovery outside of standard limits. Spike Blanks for 008614-01, NP PESTICIDES (8270SIM-MOD)

		TOO AVIALION DIIVE, F.O.								
Lab Report No: 00	008614								Report Date:	ate: 06/12/2020
Project Name:	SHELBYVILLE LAKE	LE LAKE							NELAC Certified	rtified - 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) Tron	94	c v	đ				87_115		1757d	1210-81800
(a) Manganese	77.0	0.75	103		1		90-114		P7371	008614-01C1
Ammonia Nitrogen	1.0	1.0	102	ł	1	ł	80-120	ł	05295324	008614-01C1
Kjeldahl Nitrogen	1	1.0	100	ł	1	ł	80-120	ł	06035345	008608-01C1
Nitrate as Nitrogen	1.0	1.0	102	1	ł	!	80-120	ł	05295326	008614-03C1
Nitrite as Nitrogen	0.98	1.0	98	1	1		80-120	1	05295325	008614-12C1
Phosphorus	0.68	0.67	103	-	ł	1	80-120	8	06035343	008613-01C1
Phosphorus, -ortho	0.094	0.10	94	444 444	ł	1	80-120	1	05265303	008614-01C1
Total Organic Carbon	18.7	20.0	94	***	1	ł	76-120	-	06125373	008613-01C1
			:							
NOTE: Any values tabulated above marked with an (a) DOD and/or NELAC Accredited Analyte	abulated above mains And	arked with alyte		asterisk are outside of acceptable limits.	ide of acc	eptable li	mits.			
NOTE: Any values tabula (a) DOD and/or NELAC AC	abulated above marke. AC Accredited Analyt	arked with alyte		k are outs	ide of acc	eptable li	mits.			

Page 1 of 1

Inorganic LCS Results for 008614

ARDL, INC.	400 Aviat	ion Dri	.ve; P.O.	. Box 1566	ML.				
							Report	Date:	06/02/2020
	Analysis:	NP PESTI	CIDES (82	(DOM-MISO)		Analytica Pre	ll Metho P Metho	d: 8270C d: 3510C	
	Prep.		05/26/2020	0	AR	IDL Lab No		614-01	
SHELBYVILLE LAKE	Amoun Moi	:p	900 mL		La	the Filenam			
	% MOL QC Ba Level	••	NA B11219 LOW		An	scervea Da Ialysis Da		28/2020 28/2020	
Sample	WS	WS	MS	MSD	MSD	MSD	% Rec		RPD
Result	Result	Level	% Rec	Result	Level	% Rec	Limits	RPD	Limit
QN	3.7	4.44	83.3	3.33	4.44	75	30-130	10.4	30
0.978	5	4.44	90.5	4.84	4.44	87	30-130	3.2	30
DN	4.1	4.44	92.3	3.96	4.44	68	30-130	3.6	30
ND	2.42	4.44	54.5	2.32	4.44	52.3	30-130	4.2	30
1.47	5.56	4.44	92	5.37	4.44	87.8	30-130	3.5	30
UN	3.31	4.44	74.5	3.03	4.44	68.3	30-130	8.8	30
QN	4.42	4.44	99.5	4.4	4.44	66	30-130	0.5	30
ΠN	3.84	4.44	86.5	3.49	4.44	78.5	30-130	9.7	30
3 RECOVEF	AIES:		MS &R	MSD &R	8R Limi	ts			
บ เ ^ซ ซี "	sult 978 10 10 10 10 10 10 10 10 10 10 10 10 10	400 Av Analys Analys P A A A A A A A A A A A A A A A A A A	400 Aviation Analysis: NP Prep. Da Amount U % Moistu QC Batch Level: D % 3.31 % 3.31 % 4.42 % 3.31 % 4.42 % 3.31 % 4.42 % 3.31 % 3.31% 3.31 %	400 Aviation Analysis: NP Prep. Da Amount U % Moistu QC Batch Level: D % 3.31 % 3.31 % 4.42 % 3.31 % 4.42 % 3.31 % 4.42 % 3.31 % 3.31% 3.31 %	400 AV1ALION DFIVE; F.O. BOX Analysis: NP PESTICIDES (8270SIM-N Analysis: NP PESTICIDES (8270SIM-N Amount Used: 900 mL % Moisture: NA QC Batch: B11219 Level: Ad44 QC Batch: B11219 Level: Ad44 9005 P11< Result	Analysis: NP PESTICIDES (8270SIM-MOD) Analysis: NP PESTICIDES (8270SIM-MOD) Anount Used: 900 mL % Moisture: NA 900 mL % Mit 8.85 mit 8.811219 Level: 1.000 918 8.83.3 918 90.5 918 90.5 918 4.44 918 90.5 918 4.44 918 4.44 918 4.44 918 4.44 919 5.56 4.44 92.3 3.31 4.44 91 4.44 92 5.37 93.31 4.44 93.31 4.44 93.33 3.33 94.44 9.5 94.44	Analysis: NP PESTICIDES (8270SIM-MOD) Analysis: NP PESTICIDES (8270SIM-MOD) Prep. Date: 05/26/2020 AR Amount Used: 900 mL La & Moisture: NA Amount Used: 900 mL & Moisture: NA Amount Used: 900 mL La % Moisture: NA Amount Used: 911219 La % Moisture: NA NA Re Re % Moisture: NA NA Re An % Moisture: NA MSD An An % Milt Level: Lowel: A144 A144 % MS MSD MSD MSD A144 % MS MSD MSD A144 A144 % A14 90.5 4.444 A144 A144 % A14 92.3 3.33 4.444 A144 % A14 92.3 3.33 4.44 A144 % A14 92.3 3.33 4.44 A144 % A14 92.3 3.33 4.44 A144 %	Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Me Analysis: NP PESTICIDES (8270SIM-MOD) Analytical Me Prep. Date: 05/26/2020 ARDL Lab No.: Amount Used: 900 mL Eab Filename: Amount Used: 901 mL Eab Filename: Amount Used: 8121219 Amount 75 Amount Used: 83.3 3.33 4.44 75 Provel: Analysis Date: Imme 1.44 75 Provel: And 83.3 3.44 75 30-11 Provel: And	Analysis: NP FESTICIDES (8270SIM-MOD) Analytical Method: 3510C Prep. Date: 05/26/2020 ARDL Lab No.: 008614-01 Prep. Date: 05/26/2020 ARDL Lab No.: 008614-01 Amount Used: 900 mL Eab Filename: 82/21/2020 Amount Used: 900 mL Eab Filename: 82/21/2020 Amount Used: B11219 Analysis Date: 05/28/2020 QC Batch: Analysis Date: 05/28/2020 0 D 3.14 4.44 87 0 </td

(a) DOD-QSM Accredited Analyte.

'nc' indicates sample >4X spike level.

'*' indicates a recovery outside of standard limits. Matrix Spikes for 008614-01, NP PESTICIDES (8270SIM-MOD)

ARDL Report 8614 - Page 27 of 33

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30-130

87

92

Triphenylphosphate

	62864
	<i>lernon, IL</i>
REPORT	5 Mt. V
UPLICATE	Box 1566
	re; P.O.
SPIKE/SPIKE	on Drive
MATRIX	Aviatio
	. 400
	L, INC
	ARDL

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Lab Report No: 008614

Report Date: 06/12/2020

Project Name: SHELBYVILLE LAKE

NELAC Certified - IL100308

	Sample	Sample	SW	SM	SM	MSD	USM	MSD	% Rec		RPD		QC Lab
Analyte	Matrix	Result	Result	Level	% Rec	Result	Level	% Rec	Limits	RPD	Limit	Run	Number
(a) Iron	WATER	0.29	1.3	1.0	101	1.3	1.0	100	87-115		20	P7371	008614-01MS
(a) Manganese	WATER	0.012	0.54	0.50	105	0.53	0.50	104	90-114	0	20	P7371	008614-01MS
Ammonia Nitrogen	WATER	0.043	2.1	2.0	102	2.1	2.0	104	75-125	5	20	05295324	008614-01MS
Kjeldahl Nitrogen	WATER	0.85	1.5	0.80	82	1.7	0.80	109	75-125	14	20	06035345	008614-12MS
Nitrate as Nitrogen	WATER	4.4	5.1	1.0	75	5.1	1.0	LL	75-125	Ч	20	05295326	008614-03MS
Nitrite as Nitrogen	WATER	0.050	1.1	1.0	101	1.1	1.0	103	75-125	7	20	05295325	008614-12MS
Phosphorus	WATER	0.17	1.0	0.83	106	1.0	0.83	103	75-125	2	20	06035343	008614-12MS
Phosphorus, -ortho	WATER	0.014	0.10	0.10	87	0.10	0.10	87	75-125	0	20	05265303	008614-01MS
Total Organic Carbon	WATER	4.0	9.2	5.0	104	9.2	5.0	105	76-120	0	20	06125373	008614-02MS

Inorganic Matrix Spikes for 008614

(a) DOD and/or NELAC Accredited Analyte.

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

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62864	06/12/2020	ed - IL100308	QC Lab Number	008614-02D1 008614-02D1 008614-04D1 008614-04D1 008614-04D1
님	Report Date:	NELAC Certified	Analytical Run	05275307 05275307 05295322 05295323
T 6 Mt. Vernon,			Mean (Smp, D1, D2)	
TE REPOR Box 156			Percent Diff	88 NC 111 NC 111
SAMPLE DUPLICATE REPORT on Drive; P.O. Box 1566			Units	MG/CU.M. MG/L MG/L MG/L
SAMPLE DU 400 Aviation Drive;			Second Duplicate	
400 Avie		AKE	First Duplicate	20.4 1.0 0 1.7.2 0
INC.	4	SHELBYVILLE LAKE	Sample Conc'n	7.9 ND ND ND
ARDL, INC.	Lab Report No: 008614	Project Name: SHELB	Analyte	Chlorophyll-a, Corrected Pheophytin-a Solids, Total Suspended Solids, Volatile Suspend

Page 1 of 1 * indicates that agreement between duplicates is greater than 20%.(a) DOD and/or NELAC Accredited Analyte

See Case Narrative for exceptions.

Sample Duplicates for 008614



Sample Receipt Information

Including as appropriate:

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

ARDL Data Package 8614

Authorized By: DSD-QAO

Protect Automatical	ARDL, Inc.		P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864 (618) 244-3235 Phone (618) 244-1149 Fax	30x 1566, 400 Aviation (618) 244-3235 Phone	n Driv e (e, Mt. 618)	Vern 244-1	ve, Mt. Vernon, IL 62 (618) 244-1149 Fax	6286 ax	4		8614	14				CHAIN (CHAIN OF CUSTODY RECORD	Y RE	ECORD	·
During burner Time Control Contro Control Control	ECT byville Lake			IEKS			S												PRI	SERVATION	·
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Date Time Received by: (Signature) Date Time Received by: (Signature) $Date Time Received by: (Signature) Date Time Received by: (Signature) f_{2i}/w Pate Time $	S-3	05/21/20	09:30	X	×				~		X	\sim									
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Date Time 5/21/20 1945	guished by: (Signature)	5/31/90	Time PH5	Received t	st. (Sig	phatur			Preser	ved w ved w	ith H ₂ S	<u>0</u>									
	ved for Laboratory by: ature)	Date S/21/20	Time 1945	Shipping T	licket]	to.															
	33		1																		

	<u>COOLER RECEIPT REP</u> ARDL, INC.	<u>ORT</u>			
		oler# Blue (1of2	>		
	Nu	mber of Coolers in Shipment:			
Dest		te Received: $05/21/20$			-
Proj			20		
A. 9	RELIMINARY EXAMINATION PHASE: Date cooler was opened: 05/21/20	Regnature) BCB			
1.	Did cooler come with a shipping slip (airbill, etc.)?	م ۶	YES	\bigcirc	
	If YES, enter carrier name and airbill number here:	urier			
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
	Did you screen samples for radioactivity using a Geiger Counter?			NO	
	Were custody papers sealed in a plastic bag? Hand delivered	4		(NO)	
	Were custody papers filled out properly (ink, signed, etc.)? See Note			NØ	N/A
7.	Were custody papers signed in appropriate place by ARDL personnel?			NO	N/A
	Was project identifiable from custody papers? If YES, enter project name at the to			NO	N/A
		Observed Cooler Temp. 2,	actor_(D.D	C
	LOG-IN PHASE: Date samples were logged-in: 05/22/2020 (Signa	ture)DCB			
10.	Describe type of packing in cooler: <u>LCCS-E C.E</u>				
11.	Were all samples sealed in separate plastic bags?		YES	NÔ	N/A
12.	Did all containers arrive unbroken and were labels in good condition?		(ES	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	
	Was pH correct on preserved water samples?			NO	N/A
17.	Was a sufficient amount of sample sent for tests indicated?			NO	\bigcirc
	Were bubbles absent in VOA samples? If NO, list by sample #:		_YES	NO	(\mathbb{N}^{A})
19.	Was the ARDL project coordinator notified of any deficiencies?		ES	NO	N/A
	Comments and/or Corrective Action:	Sample Trans			
	Sample KAS-3 Not listed	AU	on		
		Area # Area	#		
	m fre coc,	By By			
		PCB			
		On 05/22/2020			
		USILUILULU			
		Chain-of-Custody #			
(B	: Signature) DCB Date: 05/22/2020				

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	COOLER RECEIPT RE	EPORT				
	ARDL, INC.	0.				
AR	DL #: OCU	Cooler # <u>Kcd</u>	(Zof	Z)		
		Number of Coole		nent: <u>2</u>		
Prc		Date Received: _	05/z1/	12020		
A.	RELIMINARY EXAMINATION PHASE: Date cooler was opened: 05/21/	2020 Signature)	DCB			- Minister and
1.	Did cooler come with a shipping slip (airbill, etc.)?				NO	
	If YES, enter carrier name and airbill number here: ARDL	Courier				
2.	Were custody seals on outside of cooler?			YES	Ø	N/A
	How many and where?,Seal Date:	,Seal N	ame:			
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?				NO	
5.	Were custody papers sealed in a plastic bag?)		YES	ND	
6.	Were custody papers filled out properly (ink, signed, etc.)?See Not	e		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	e top of this form			NO	N/A
9.	Was a separate container provided for measuring temperature? YESN	NO Observed	Cooler Tem	p. 1,9	5/4r	nbient
В.	LOG-IN PHASE: Date samples were logged-in: 05/22/2020 (Si	gnature) DCB	Corr	ection factor_($\mathcal{O}_{\mathcal{O}}$	C
10.	Describe type of packing in cooler: Louse Ice					
11.	Were all samples sealed in separate plastic bags?			YES	(O)	N/A
12.	Did all containers arrive unbroken and were labels in good condition?			(YES	NO	
13.	Were sample labels complete?				NO	
14.	Did all sample labels agree with custody papers? See Note ¹			YES	NO	
15.					NO	
16.	Was pH correct on preserved water samples?			(E)	NO	N/A
17.	Was a sufficient amount of sample sent for tests indicated?				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?				NO	N/A
	Comments and/or Corrective Action:		Sample	Transfer		
١	Sample KAS-3 Not listed	Araction		Fraction		
	MA CoC	Area#	In	Area #		
		By	•)	Ву		
		DCB		On		
			12020			
		Chain-of-0	ustody #			
(E	By: Signature) DCB Date: 05122/2020	onain-or-c	2000uy #	<u></u>		

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Environmental | Analytical | Management | Safety

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

www.ardlinc.com

Date: 9/11/20

Lab Name: ARDL, Inc.

ARDL Report No.: 8632

Project Name: Shelbyville Lake

Customer Name: SLCOE

Samples Received at ARDL: 7/29/20

CASE NARRATIVE

Customer	Date	Lab ID	
Sample No.	Collected	Number	Analyses Requested
SVL-1	7/28/20	8632-1	NP Pesticides, Metals(1), Inorganics(2)
SVL-2	7/28/20	8632-2	NP Pesticides, Inorganics(2)(3)
SVL-2-10	7/28/20	8632-3	Metals(1), Inorganics(2)
SVL-4	7/28/20	8632-4	NP Pesticides, Inorganics(2)(3)
SVL-12	7/28/20	8632-5	NP Pesticides, Inorganics(2), E. Coli
SVL-13	7/28/20	8632-6	NP Pesticides, Inorganics(2)
SVL-11	7/28/20	8632-7	NP Pesticides, Inorganics(2)(3)
SVL-15	7/28/20	8632-8	NP Pesticides, Inorganics(2)(3)
KAS-3	7/28/20	8632-9	Inorganics(2)(3)(4), E. Coli
LS MARINA	7/28/20	8632-10	E. Coli
FIN MARINA	7/28/20	8632-11	E. Coli
SUL MARINA	7/28/20	8632-12	E. Coli

(1) Including iron and manganese.

(2) Including ammonia, nitrate, orthophosphate, total phosphorus, TOC, TSS, and TVSS.

(3) Including chlorophyll-a and pheophytin-a.

(4) Including TKN and nitrite.

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. The closing 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.

DUPLICATE

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

"Test everything, keep the good" 1 Thes. 5:21

Project Name: Shelbyville Lake

ARDL Report No.: 8632

CASE NARRATIVE (Continued)

INTERNAL STANDARD

All internal standard criteria were met.

SURROGATE

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 all undetected, except 1 of 2 for TOC. The data is flagged appropriately with a 'B' qualifier for the associated samples.

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 nitrate and 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 chlorophyll-a and pheophytin-a. The parent sample has 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.
- B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

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

Page 2 of 2

ARDL Report 8632 - Page 2 of 33



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 8632

N:\ARDL Case Narratives\ARDL Data Package Contents.pdf - Revised June 21, 2019

Authorized By: DSD-QAO ARDL Report 8632 - Page 3 of 33

Lab Report No: 008632

Report Date: 08/04/2020

Project Name: Project No.:	SHELBYVILLE LAKE Ana	Ana Analytical Mo	-	PESTICII 270C	DES (827	/0SIM-MO	D)
NELAC Certi:	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-1		ARDL I	Lab No.:	00863	32-01	n
Desc/Location:	SHELBYVILLE LAKE		Lab Fi	ilename:	E0803	3016	
Sample Date:	07/28/2020		Receiv	ved Date:	07/29	€/2020	
Sample Time:	1015		Prep.	Date:	07/29	9/2020	
Matrix:	WATER		Analys	sis Date:	08/03	3/2020	
Amount Used:	1000 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	cch:	B1125	50	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.200	0.200	ND		UG/L	1
Atrazine		0.200	0.200	0.420		UG/L	1
Metribuzin		0.200	0.200	0.350		UG/L	1
Alachlor		0.200	0.200	ND		UG/L	1
Metolachlor		0.200	0.200	2.64		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	67%	

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

(a) DOD-QSM Accredited Analyte.

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

Project Name: SHELBYVILLE LAKE Project No:

Report Date: 09/03/2020

Analysis: Inorganics NELAC Certified - IL100308

ARDL No: 008632-01	-1	Samp	Sampling Loc'n:		SHELBYVILLE LAKE			Matrix:		
FIELU IU: SVL-I Received: 07/29/2020	20	Sam	sampiing lare: Sampling Time:		u//28/2uzu 1015			Molsture:	- NA	
Analyte	LOD	Γοδ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
	0.0400	0.0500		0.399	MG/L	3010A	6010C	08/17/20	08/18/20	P7408
(a) Manganese	0.00400	0.00500		0.353	MG/L	3010A	6010C	08/17/20	08/18/20	P7408
Ammonia Nitrogen	0.0200	0.0300		0.377	MG/L	NONE	350.1	NA	08/05/20 08115456	08115456
Nitrate as Nitrogen	0.0380	0.0400		2.27	MG/L	NONE	GREEN	NA	08/05/20 08135461	08135461
Phosphorus	0.00800	0.0100		0.152	MG/L	365.2	365.2	08/17/20	08/18/20 08195493	08195493
Phosphorus, -ortho	0.00800	0.0100		0.0783	MG/L	NONE	365.2	NA	07/29/20	07305428
Solids, Total Suspended	2.50	2.50		9.5	MG/L	NONE	160.2	NA	07/30/20	08045437
Solids, Volatile Suspen	2.50	2.50		DN	MG/L	NONE	160.4	NA	07/30/20	08045438
Total Organic Carbon	0.500	1.00		3.9	MG/L	NONE	415.1	NA	08/05/20	08135480

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-01, Inorganic Analyses

Lab Report No: 008632

Report Date: 08/04/2020

Project Name:	SHELBYVILLE LAKE	Ana	lysis: NE	PESTICI	DES (827	0SIM-MO	D)
Project No.:		alytical Me	ethod: 82	270C			
NELAC Certi	fied - IL100308	Prep Me	ethod: 35	510C			
Field ID:	SVL-2	infond for an	ARDL I	Lab No.:	00863	32-02	
Desc/Location:	SHELBYVILLE LAKE		Lab Fi	llename:	E0803	3019	
Sample Date:	07/28/2020		Receiv	ved Date:	07/29	9/2020	
Sample Time:	1218		Prep.	Date:	07/29	9/2020	
Matrix:	WATER		Analys	sis Date:	08/03	3/2020	
Amount Used:	900 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	cch:	B1125	50	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.222	0.222	ND		UG/L	1
Atrazine		0.222	0.222	0.778		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	1.91		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 RECOV	ERIES:	Lim	its		Re	sults	

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

30-130

(a) DOD-QSM Accredited Analyte.

Triphenylphosphate

Page 1 of 1

76%

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

Report Date: 09/03/2020

Project Name: SHELBYV Project No:	SHELBYVILLE LAKE						Z	Analysis: ELAC Certifie	Analysis: Inorganics NELAC Certified - IL100308	ics 00308
ARDL No: 008632-02 Field ID: SVL-2 Received: 07/29/2020	-02 2020	Sampling Samplin Samplin	1 0 0		SHELBYVILLE LAKE 07/28/2020 1218			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	ГОД	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0535	MG/L	NONE	350.1	NA	08/05/20 08115456	08115456
Chlorophyll-a, Correcte	te 1.0	1.00		1.8	MG/CU.M.	10200H	10200H	07/29/20	08/11/20	08135469
Nitrate as Nitrogen	0.0380	0.0400		2.58	MG/L	NONE	GREEN	NA	08/05/20	08135461
Pheophytin-a	1.0	1.00		UN	MG/CU.M.	10200H	10200H	07/29/20	08/11/20	08135469
Phosphorus	0.00800	0.0100		0.0355	MG/L	365.2	365.2	08/17/20	08/18/20	08195493
Phosphorus, -ortho	0.00800	0.0100		DN	MG/L	NONE	365.2	NA	07/29/20	07305428
Solids, Total Suspended	ed 1.33	1.33		1.47	MG/L	NONE	160.2	NA	07/30/20	08045437
Solids, Volatile Suspen	en 1.33	1.33		ND	MG/L	NONE	160.4	NA	07/30/20	08045438
Total Organic Carbon	0.500	1.00	д	4.2	MG/L	NONE	415.1	NA	08/05/20 08135481	08135481

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-02, Inorganic Analyses

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

Project Name: SHELBYVILLE LAKE

Report Date: 09/03/2020

Analysis: Inorganics

Project No:							Ч	WELAC Certi	NELAC Certified - IL100308	0308
ARDL No: 008632-03 Field TD: SVI_2-10	m	Samp]	Sampling Loc'n:		SHELBYVILLE LAKE			Matrix: Moisture:	.: WATER	
	20	Samp	Sampling Time:		0404			LOT 2 CAT		
Analvte	TOD	00'1	Flac	Result	Units.	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
		N S	n 5 1		2)))		
(a) Iron	0.0400	0.0500		0.395	MG/L	3010A	6010C	08/17/20	08/18/20	P7408
(a) Manganese	0.00400	0.00500		0.369	MG/L	3010A	6010C	08/17/20	08/18/20	P7408
Ammonia Nitrogen	0.0200	0.0300		0.462	MG/L	NONE	350.1	NA	08/05/20 (08115456
Nitrate as Nitrogen	0.0380	0.0400		2.3	MG/L	NONE	GREEN	NA	08/05/20 (08135461
Phosphorus	0.00800	0.0100		0.118	MG/L	365.2	365.2	08/17/20	08/18/20 (08195493
Phosphorus, -ortho	0.00800	0.0100		0.104	MG/L	NONE	365.2	NA	07/29/20 (07305428
Solids, Total Suspended	2.0	2.00		9.2	MG/L	NONE	160.2	NA	07/30/20 (08045437
Solids, Volatile Suspen	2.0	2.00		ND	MG/L	NONE	160.4	NA	07/30/20 (08045438
Total Organic Carbon	0.500	1.00	В	4.0	MG/L	NONE	415.1	NA	08/05/20 08135481	8135481

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-03, Inorganic Analyses

Lab Report No: 008632

Report Date: 08/04/2020

Project No.:	SHELBYVILLE LAKE Ana fied - IL100308	alytical M	-		DES (827	/OSIM-MO	D)
Field ID:	SVL-4			Lab No.:			
	SHELBYVILLE LAKE			lename:			
-	07/28/2020			ved Date:		9/2020	
1	1410		-	Date:		9/2020	
Matrix:	WATER		-	sis Date:		3/2020	
Amount Used:	1000 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	cch:	B1125	50	
% Moisture:	NA		Level	:	LOW		
			*******		Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.200	0.200	ND		UG/L	1
Atrazine		0.200	0.200	1.24		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	67%	

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

(a) DOD-QSM Accredited Analyte.

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ABDL, INC. 400 Aviation Drive, P.O. Box 1566 ML. Vernon, IIIInois 62864 ILab Report No: 008632 Forject Name: SHELBYVILLE LAKE RELBYVILLE LAKE RELBYVILLE LAKE Report Drive, P.O. Box 1566 Report Drive, P.O. Box 1566 Forject Name: SHELBYVILLE LAKE Report Date: 09/03/2020 Forject Name: SHELBYVILLE LAKE Report Date: 09/03/2020 Forject Name: SHELBYVILLE LAKE ARDL No: 008632-04 Sampling Loc'n: SHELBYVILLE LAKE ARDL No: 008632-04 Sampling Loc'n: SHELBYVILLE LAKE ARDL No: 008632-04 Sampling Time: 1410 ARDL No: 008632-04 Sampling Time: 1410 Analyte LOD LOQ Analyte LOD Analyte LOD Analyte LOD Analyte LOD Analyte Noc Analyte LOD Analyte <th></th>	
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(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-04, Inorganic Analyses

Lab Report No: 008632

Report Date: 08/04/2020

Project Name: Project No.:	SHELBYVILLE I			alysis: NE Method: 82	PESTICIE	DES (827	OSIM-MO	D)
	fied - IL10030		-	Method: 35				
Field ID:	SVL-12			ARDL I	Lab No.:	00863	32-05	
Desc/Location:	SHELBYVILLE I	AKE		Lab Fi	ilename:	E0803	3021	
Sample Date:	07/28/2020			Receiv	ved Date:	07/29)/2020	
Sample Time:	1450			Prep.	Date:	07/29)/2020	
Matrix:	WATER			Analys	sis Date:	08/03	3/2020	
Amount Used:	1000 mL			Instru	ument ID:	AG5		
Final Volume:	1 mL			QC Bat	ch:	B1125	50	
<pre>% Moisture:</pre>	NA			Level	:	LOW		
						Data		Dilution
Parameter			LOD	LOQ	Result	Flag	Units	Factor
Trifluralin			0.200	0.200	ND		UG/L	1
Atrazine			0.200	0.200	2.07		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	2.07		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	1
Triphenylphosphate	30-130	75%	

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

(a) DOD-QSM Accredited Analyte.

Lab Report No: 008632 Project Name: SHELBYVILLE LAKE Project No: Project No: ARDL No: 008632-05 Field ID: SVL-12 Received: 07/29/2020 Analyte LOD Anmonia Nitrogen 0.0200	632 LLE LAKE 5 20 20 0.0200	4 Samp Samp Samp Samp O.0300	400 Aviat: Mt. Vei Sampling Loc'n: Sampling Loc'n: Sampling Time: Q Flag Re		DL, INC. cive; P.O. Illinois BYVILLE LAKE 8/2020 Units MG/L	Box 1566 62864 Prep 1 Method NONE	Malysis Method	Report Date: Analysis: NELAC Certifi Matrix: Moisture: Prep 1 Date 10	09/03/2 Inorgar Led - ILJ WATER NA NA Analysis Date	2020 11cs 11cs 100308 Run Number 08115456
E. COLLIOTM Nitrate as Nitrogen	L.U 0.0190	0.0200		25U 1.25	COL/IUU ML MG/L	NONE	L 6 U 4 GREEN	NA	08/05/20 (0/30542/ 08135461
Phosphorus	0.00800	0.0100		0.282	MG/L	365.2	365.2	08/17/20		08195493
Phosphorus, -ortho	0.00800	0.0100		0.156	MG/L	NONE	365.2	NA	07/29/20 (07305428
Solids, Total Suspended	2.0	2.00		14.8	MG/L	NONE	160.2	NA	07/30/20 (08045437
Solids, Volatile Suspen	2.0	2.00		3.6	MG/L	NONE	160.4	NA	07/30/20 0	08045438
Total Organic Carbon	0.500	1.00	В	4.3	MG/L	NONE	415.1	NA	08/06/20 0	08135481

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-05, Inorganic Analyses

Lab Report No: 008632

Report Date: 08/04/2020

Project Name: Project No.:	SHELBYVILLE		Ana Alytical M	*	PESTICIE 270C	DES (827	0SIM-MO	D)
NELAC Certi:	fied - IL1003	08	Prep M	ethod: 35	510C			
Field ID:	SVL-13		496 Al 2014 April 2000 Contra Cont	ARDL I	Lab No.:	00863	2-06	8.46.4 meneral new second s
Desc/Location:	SHELBYVILLE	LAKE		Lab Fi	ilename:	E0803	022	
Sample Date:	07/28/2020			Receiv	ved Date:	07/29	/2020	
Sample Time:	1600			Prep.	Date:	07/29	/2020	
Matrix:	WATER			Analys	sis Date:	08/03	/2020	
Amount Used:	1000 mL			Instru	ument ID:	AG5		
Final Volume:	1 mL			QC Bat	cch:	B1125	0	
<pre>% Moisture:</pre>	NA			Level	:	LOW		
						Data	······	Dilution
Parameter			LOD	LOQ	Result	Flag	Units	Factor
Trifluralin			0.200	0.200	ND		UG/L	1
Atrazine			0.200	0.200	0.910		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	0.970		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	77%

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

(a) DOD-QSM Accredited Analyte.

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

Report Date: 09/03/2020

Project Name: Project No:	SHELBYVILLE LAKE	LLE LAKE						N	Analysis ELAC Certi	Analysis: Inorganics NELAC Certified - IL100308	ics 00308
ARDL No: Field ID: Received:	008632-06 SVL-13 07/29/2020	20	Sampling Samplin Samplin	1 ԾԾ		SHELBYVILLE LAKE 07/28/2020 1600			Matrix: Moisture:	: WATER : NA	
Analyte	e e	LOD	год	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	en	0.0200	0.0300	ъ	0.0261	MG/L	NONE	350.1	NA	08/05/20 08115456	8115456
Nitrate as Nitrogen	rogen	0.0190	0.0200	Ŀ	0.374	MG/L	NONE	GREEN	NA	08/05/20 08135461	8135461
Phosphorus		0.00800	0.0100		0.187	MG/L	365.2	365.2	08/17/20	08/18/20 (08195493
Phosphorus, -ortho	rtho	0.00800	0.0100		0.0265	MG/L	NONE	365.2	NA	07/29/20 (07305428
Solids, Total Suspended	Suspended	2.0	2.00		13.4	MG/L	NONE	160.2	NA	07/30/20 (08045437
Solids, Volatile Suspen	le Suspen	2.0	2.00		5.8	MG/L	NONE	160.4	NA	07/30/20 08045438	8045438
Total Organic Carbon	Carbon	0.500	1.00	Ю	5.8	MG/L	NONE	415.1	NA	08/06/20 08135481	8135481

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-06, Inorganic Analyses

Lab Report No: 008632

Report Date: 08/04/2020

Project Name: Project No.:	SHELBYVILLE		An alytical	alysis: NH Method: 82		DES (827	70SIM-MO	D)
NELAC Certi:	fied - IL1003	808	Prep	Method: 35	510C			
Field ID:	SVL-11			ARDL 1	Lab No.:	00863	32-07	
Desc/Location:	SHELBYVILLE	LAKE		Lab F:	ilename:	E0803	3023	
Sample Date:	07/28/2020			Receiv	ved Date:	07/29	9/2020	
Sample Time:	1345			Prep.	Date:	07/29	9/2020	
Matrix:	WATER			Analys	sis Date:	08/03	3/2020	
Amount Used:	1000 mL			Instru	ument ID:	AG5		
Final Volume:	1 mL			QC Bat	cch:	B112	50	
% Moisture:	NA			Level	:	LOW		
						Data		Dilutior
Parameter			LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		****	0.200	0.200	ND		UG/L	1
Atrazine			0.200	0.200	0.900		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	1.31		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	71%	ĺ

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

(a) DOD-QSM Accredited Analyte.

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

SHELBYVILLE LAKE

Project Name:

09/03/2020 Report Date: Analysis: Inorganics

Project No:							Z	ELAC Certi	NELAC Certified - IL100308	00308
	7	Sampling	ing Loc'n:		SHELBYVILLE LAKE			Matrix:		
FIELA ID: SVL-11 Received: 07/29/2020	20	Samp Samp	Sampling Date: Sampling Time:		07/28/2020 1345			Moisture:	: NA	
						Ргер	Analysis	Prep	Analysis	Run
Analyte	LOD	LOQ	Flag	Result	Units	Method	Method	Date	Date	Number
Ammonia Nitrogen	0.0200	0.0300		DN	MG/L	NONE	350.1	NA	08/05/20 08115456	08115456
Chlorophyll-a, Correcte	1.0	1.00		7.0	MG/CU.M.	10200H	10200H	07/29/20	08/11/20 08135469	08135469
Nitrate as Nitrogen	0.0190	0.0200		1.68	MG/L	NONE	GREEN	NA	08/05/20 08135461	08135461
Pheophytin-a	1.0	1.00		8.7	MG/CU.M.	10200H	10200H	07/29/20	08/11/20 08135469	08135469
Phosphorus	0.00800	0.0100		0.0571	MG/L	365.2	365.2	08/17/20	08/18/20	08195493
Phosphorus, -ortho	0.00800	0.0100		ND	MG/L	NONE	365.2	NA	07/29/20	07305428
Solids, Total Suspended	2.0	2.00		5.6	MG/L	NONE	160.2	NA	07/30/20	08045437
Solids, Volatile Suspen	2.0	2.00		3.0	MG/L	NONE	160.4	NA	07/30/20	08045438
Total Organic Carbon	0.500	1.00	д	4.3	MG/L	NONE	415.1	NA	08/06/20 08135481	08135481

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-07, Inorganic Analyses

Lab Report No: 008632

Report Date: 08/04/2020

Project Name: Project No.:	SHELBYVILLE LAKE	Ana. alytical M	1	PESTICII 270C	DES (827	70SIM-MO	D)
NELAC Certi:	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-15		ARDL I	Lab No.:	00863	32-08	. <u></u>
Desc/Location:	SHELBYVILLE LAKE		Lab Fi	ilename:	E0803	3024	
Sample Date:	07/28/2020		Receiv	ved Date:	07/29	9/2020	
Sample Time:	1320		Prep.	Date:	07/29	9/2020	
Matrix:	WATER		Analys	sis Date:	08/03	3/2020	
Amount Used:	800 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	cch:	B1125	50	
% Moisture:	NA		Level	•	LOM		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.250	0.250	ND		UG/L	1
Atrazine		0.250	0.250	1.19		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	1.73		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	81%	
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Surrogate recoveries marked with '*' indicates they are outside standard limits.

(a) DOD-QSM Accredited Analyte.

	Report Date: 09/03/2020	Analysis: Inorganics NELAC Certified - IL100308
ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, Illinois 62864	д ¹⁴	
	008632	BYVILLE LAKE

LAKE		
SHELBYVILLE L		
Project Name:	Project No:	

ARDL No: 008632-08 Field ID: SVL-15 Received: 07/29/2020	3 20	Sampling Sampling Sampling		Loc'n: SHELB Date: 07/28 Time: 1320	SHELBYVILLE LAKE 07/28/2020 1320			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	ΓΟΟ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		DN	MG/L	NONE	350.1	NA	08/05/20 08115456	08115456
Chlorophyll-a, Correcte	1.0	1.00		ND	MG/CU.M.	10200H	10200H	07/29/20	08/11/20 08135469	08135469
Nitrate as Nitrogen	0.0190	0.0200		1.69	MG/L	NONE	GREEN	NA	08/05/20 08135461	08135461
Pheophytin-a	1.0	1.00		22.3	MG/CU.M.	10200H	10200H	07/29/20	08/11/20 08135469	08135469
Phosphorus	0.00800	0.0100		0.0441	MG/L	365.2	365.2	08/17/20	08/18/20	08195493
Phosphorus, -ortho	0.00800	0.0100		ND	MG/L	NONE	365.2	NA	07/29/20 07305428	07305428
Solids, Total Suspended	1.33	1.33		4.0	MG/L	NONE	160.2	NA	07/30/20 08045437	08045437
Solids, Volatile Suspen	1.33	1.33		2.27	MG/L	NONE	160.4	NA	07/30/20 08045438	08045438
Total Organic Carbon	0.500	1.00	В	4.0	MG/L	NONE	415.1	NA	08/06/20 08135481	08135481

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-08, Inorganic Analyses

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

Report Date: 09/03/2020

Project Name: SHELBYVILLE Project No:	ELBYVILLE LAKE			Analysis: Inorganics NELAC Certified - IL100308
AKDL NO: 008632-09	8632-09	Sampling Loc'n:	Sampling Loc'n: SHELBYVILLE LAKE	MALLIX: WAIER
Field ID: KAS-3	S-3	Sampling Date: 07/28/2020	07/28/2020	Moisture: NA

ARDL No: 008632-09 Field ID: KAS-3 Received: 07/29/2020	9 20	Sampling Samplin Samplin	00		SHELBYVILLE LAKE 07/28/2020 0915			Matrix: Moisture:	: WATER : NA	
Analyte	ГОД	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.192	MG/L	NONE	350.1	NA	08/05/20 08115456	08115456
Chlorophyll-a, Correcte	1.0	1.00		ΠN	MG/CU.M.	10200H	10200H	07/29/20	08/11/20	08135469
E. Coliform	1.0	1.00		425	COL/100 ML	NONE	1604	NA	07/28/20	07305427
Kjeldahl Nitrogen	0.190	0.200	ŗ	0.78	MG/L	351.2	351.2	08/17/20	08/20/20	08215498
Nitrate as Nitrogen	0.0380	0.0400		2.26	MG/L	NONE	GREEN	NA	08/05/20	08135461
Nitrite as Nitrogen	0.0200	0.0200		0.086	MG/L	NONE	354.1	NA	07/29/20	08045439
Pheophytin-a	1.0	1.00		3.1	MG/CU.M.	10200H	10200H	07/29/20	08/11/20	08135469
Phosphorus	0.00800	0.0100		0.174	MG/L	365.2	365.2	08/17/20	08/18/20	08195493
Phosphorus, -ortho	0.00800	0.0100		0.0783	MG/L	NONE	365.2	NA	07/29/20	07305428
Solids, Total Suspended	2.0	2.00		24.6	MG/L	NONE	160.2	NA	07/30/20	08045437
Solids, Volatile Suspen	2.0	2.00		2.4	MG/L	NONE	160.4	NA	07/30/20	08045438
Total Organic Carbon	0.500	1.00	Ю	4.0	MG/L	NONE	415.1	NA	08/06/20	08135481

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-09, Inorganic Analyses

Lab Report	Lab Report No: 008632	5						Å	Report Date: 09/03/2020	09/03/2	020
Project Name: Project No:	SHELBYVILLE LAKE	E LAKE						N	Analysis: Inorganics NELAC Certified - IL100308	Analysis: Inorganics AC Certified - IL1003	ics 00308
ARDL No: Field ID: Received:	008632-10 LS MARINA 07/29/2020		Sampling Samplin Samplin		c'n: SHELI ate: 07/20 ime: 1250	Loc'n: SHELBYVILLE LAKE J Date: 07/28/2020 J Time: 1250			Matrix: Moisture:	Matrix: WATER isture: NA	
Analyte	t e	LOD	гоо	Flag	Result	Units	Prep Method	Prep Analysis Method Method	Prep Date	Analysis Date	Run Number
E. Coliform		1.0	1.00		2.0	COL/100 ML	NONE	1604	NA	07/28/20 07305427	07305427

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-10, Inorganic Analyses

	Report Date: 09/03/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	Analysis Prep Analysis Run Method Date Date Number	1604 NA 07/28/20 07305427	
Box 1566 62864				Prep Ar Method N	NONE	
ARDL, INC. Aviation Drive; P.O. B Mt. Vernon, Illinois 6			SHELBYVILLE LAKE 07/28/2020 1320	Units	COL/100 ML	
ARU ation DJ /ernon,				Result	17.0	
400 Avid Mt. V			Sampling Loc'n: Sampling Date: Sampling Time:	Flag		
			Samp Samj Samj	ΓΟÕ	1.00	
	o: 008632	SHELBYVILLE LAKE	008632-11 FIN MARINA 07/29/2020	TOD	1.0	
	Lab Report No:	Project Name: Si Project No:	ARDL No: 0 Field ID: F Received: 0	Analyte	E. Coliform	

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-11, Inorganic Analyses

566	Report Date: 09/03/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	Analysis Prep Analysis Run d Method Date Date Number	1604 NA 07/28/20 07305427
Box 1566 62864				Prep Method	NONE
ARDL, INC. Aviation Drive; P.O. F Mt. Vernon, Illinois é			SHELBYVILLE LAKE 07/28/2020 1415	Units	COL/100 ML
ARU Lion Di ernon,				Result	117
400 Aviat Mt. V€			Sampling Loc'n: Sampling Date: Sampling Time:	Flag R	
			Samp San San	LOQ	1.00
	: 008632	SHELBYVILLE LAKE	008632-12 SUL MARINA 07/29/2020	LOD	1.0
	Lab Report No: 008632	Project Name: SH Project No:	ARDL No: 00 Field ID: SU Received: 07	Analyte	E. Coliform

(a) DOD and/or NELAC Accredited Analyte.

Sample 008632-12, Inorganic Analyses

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

Lab Report No: 008632

Report Date: 08/04/2020

Project Name: SHELBYVILLE LAKE	-	s: NP PESI	CICIDES (82	270SIM-M	OD)
2	nalytical Metho				
NELAC Certified - IL100308	Prep Metho	ba: 3510C			
Field ID: NA	I	ARDL Lab No	008	532-01B1	
Desc/Location: NA	I	Lab Filenam	ne: E080	03014	
Sample Date: NA	F	Received Da	ate: NA		
Sample Time: NA	E	Prep. Date:	07/2	29/2020	
Matrix: QC Material	I	Analysis Da	ate: 08/0	03/2020	
Amount Used: 1000 mL]	Instrument	ID: AG5		
Final Volume: 1 mL	ς	QC Batch:	B11:	250	
% Moisture: NA	I	Level:	LOW		
				Data	
Parameter	LOD	LOQ	Result	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		R	esults	
Triphenylphosphate	30-130			 77%	

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

(a) DOD-QSM Accredited Analyte.

Blank for Run B11250, NP PESTICIDES (8270SIM-MOD)

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

Lab Report No: 008632

Report Date: 09/03/2020

LAKE
SHELBYVILLE
Name:
Project

NELAC Certified - IL100308

Analyte	LOD	ΓΟŐ	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number
(a) Iron	0.040	0.050	DN	MG/L	3010A	6010C	08/17/20	08/18/20	P7408	008632-01B1
(a) Manganese	0.004	0.005	QN	MG/L	3010A	6010C	08/17/20	08/18/20	P7408	008632-01B1
Ammonia Nitrogen	0.020	0.030	QN	MG/L	NONE	350.1	NA	08/05/20 (08115456	008632-01B1
Chlorophyll-a, Corre	1.0	1.0	QN	MG/CU.M.	10200H	10200H	07/29/20	08/11/20 (08135469	008632-04B1
E. Coliform	1.0	1.0	QN	COL/100 ML	NONE	1604	NA	07/28/20 (07305427	008632-05B1
Kjeldahl Nitrogen	0.19	0.20	DN	MG/L	351.2	351.2	08/17/20	08/20/20 (08215498	008632-09B1
Nitrate as Nitrogen	0.019	0.020	DN	MG/L	NONE	GREEN	NA	08/05/20 (08135461	008632-06B1
Nitrite as Nitrogen	0.020	0.020	DN	MG/L	NONE	354.1	NA	07/29/20 (08045439	008632-09B1
Pheophytin-a	1.0	1.0	DN	MG/CU.M.	10200H	10200H	07/29/20	08/11/20 (08135469	008632-04B1
Phosphorus	0.008	0.010	DN	MG/L	365.2	365.2	08/17/20	08/18/20 (08195493	008632-01B1
Phosphorus, -ortho	0.008	0.010	DN	MG/L	NONE	365.2	NA	07/29/20 (07305428	008632-03B1
Solids, Total Suspen	1.0	1.0	DN	MG/L	NONE	160.2	NA	07/30/20 (08045437	008632-01B1
Solids, Volatile Sus	1.0	1.0	QN	MG/L	NONE	160.4	NA	07/30/20 (08045438	008632-01B1
Total Organic Carbon	0.50	1.0	QN	MG/L	NONE	415.1	NA	08/05/20 (08135480	008632-01B1
Total Organic Carbon	0.50	1.0	0.84	MG/L	NONE	415.1	NA	08/05/20 0	08135481	008632-02B1

(a) DOD and/or NELAC Accredited Analyte Inorganic Method Blanks for 008632

Page 1 of 1

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	ARDL, INC.	NC.	BLANK 400 Av	5	SPIKE/SPIKE DU iation Drive;	UPLICAT P.O. B	SPIKE/SPIKE DUPLICATE REPORT iation Drive; P.O. Box 1566	Mt. Vernon, IL	rnon,		62864	
Lab Report No:	008632								Re	Report Date:	te: 08/04/2020	/2020
Project Name: SHELBYVILLE LAKE Project No.:	HELBYVILLE LAKE		Anal	Analysis: NP F	ESTICID	PESTICIDES (8270SIM-MOD)	IM-MOD)	Anal	Analytical Method: Prep Method:	1	8270C 3510C	
Matrix: Amount Used:]	QC Material 1000 mL			QC Batch: Level:	B11250 LOW	250		Prep. 1 Analys	Prep. Date: Analysis Date:	07/29/2020 08/03/2020	2020 2020	
		Spike	ke	Spike	Spike	Duplicate	Duplicate	Duplicate	Recovery		RPD	
Pari	Parameter	Result	lt	Level	% Rec	Result	Level	% Rec	Limits	RPD	Limit	
Trif	Trifluralin	2.81	11	4	70	1	-	1	30-130	1	ł	
Ati	Atrazine	2.82	12	4	71	;		-	30-130	ł	-	
Meti	Metribuzin	2.82	12	4	71		1	!	30-130	1	}	
Ali	Alachlor	2.91	1	4	73	}	1	1	30-130		1	
Meto	Metolachlor	2.92	2	4	73	ł	1	1	30-130	!	-	
Chloi	Chlorpyrifos	2.95	5	4	74		1		30-130	!	1	
Cyar	Cyanazine	2.99	6	4	75	ł	ł	i	30-130	1	1	
Pendir	Pendimethalin	3.02	2	4	76	1	1	ł	30-130	;	1	
	SURROG	SURROGATE RECOVERIES:	ERIES:		Spike %R		Duplicate %R	%R Limits				
	Triphe	Triphenylphosphate	late		69.8	8	1	30-130				

(a) DOD-QSM Accredited Analyte.

'*' indicates a recovery outside of standard limits. Spike Blanks for 008632-01, NP PESTICIDES (8270SIM-MOD)

Page 1 of 1

ARDL Report 8632 - Page 25 of 33

AR	ARDL, INC.	400 A	400 Aviation Drive; P.O.	1 Drive		POX				
Lab Report No: 00	008632								Report Da	Date: 09/03/2020
Project Name:	SHELBYVILLE LAKE	LE LAKE							NELAC Cel	Certified - IL100308
	LCS 1	LCS 1	LCS 1	LCS 2	LCS 2	LCS 2	% Rec	Mean	Analytical	QC Lab
Analyte	Result	Level	% Rec	Result	Level	% Rec	Limits	% Rec	Run	Number
(a) Iron	4.9	5.0	66		1	1	87-115	}	P7408	008632-01C1
(a) Manganese	0.77	0.75	103		ł	8	90-114	1	P7408	008632-01C1
Ammonia Nitrogen	1.0	1.0	101		ł	1	80-120	ł	08115456	008632-01C1
Kjeldahl Nitrogen	1.2	1.0	118	ł	1	ł	80-120		08215498	008632-09C1
Nitrate as Nitrogen	0.93	1.0	93	1	1	1	80-120	1	08135461	008632-06C1
Nitrite as Nitrogen	1.1	1.0	110	ł	ł	ł	80-120	1	08045439	008632-09C1
Phosphorus	0.67	0.67	101	ł		ł	80-120	ł	08195493	008632-01C1
Phosphorus, -ortho	0.10	0.10	102	ł	ł	-	80-120	ł	07305428	008632-03C1
Total Organic Carbon	19.9	20.0	100	1	1	-	76-120	ł	08135480	008632-01C1
Total Organic Carbon	20.0	20.0	100	1	ł	-	76-120	ł	08135481	008632-02C1
NOTE: Any values tabulated above marked with an	abulated above m	arked with		k are outs	asterisk are outside of acceptable limits.	eptable li	mits.			
NOTE: Any values tabulated above marked (a) DOD and/or NELAC Accredited Analyte	cabulated above m AC Accredited An	arked with alyte		k are outs.	ide of acce	eptable li	mits.			

Inorganic LCS Results for 008632

Lab Report No:	ARDL, INC. 008632	INC.	MATRIX 400 Av	·H	SPIKE/SPIKE DUPLICATE ation Drive; P.O. Box	LICATE REPORT). Box 1566		Mt. Vernon, IL Repoi	n, IL Report	IL 62864 Report Date:	08/04/2020
Project Name: SHELBYVILLE LAKE Project No.:	HELBYVILLE LAK	E	Analysis:	NP	PESTICIDES (8	(8270SIM-MOD)		Analytical Prep	ical Method: Prep Method:	d: 8270C d: 3510C	
Field ID: SVL-1 Desc/Location: SHELBYVILLE LAKE Sample Date: 07/28/2020 Sample Time: 1015 Matrix: WATER	SVL-1 SHELBYVILLE LA 07/28/2020 1015 WATER	КЕ	Lee % An	Prep. Date: Amount Used: % Moisture: QC Batch: Level:	07/29/2020 1: 1000 mL NA B11250 LOW	20		ARDL Lab No.: Lab Filename: Received Date Analysis Date		008632-01 07/29/2020 08/03/2020	
		Sample	WS	SM	MS	MSD	MSD	MSD	% Rec		RPD
Parameter	cer	Result	Result	lt Level	% Rec	Result	Level	% Rec	Limits	RPD	Limit
Trifluralin	alin	QN	2.69	4	67.3	2.83	4	70.8	30-130	5.1	30
Atrazine	ne	0.420	3.3	11 4	72.3	3.35	4	73.3	30-130	1.2	30
Metribuzin	nzin	0.350	3.34	4 4	74.8	3.37	4	75.5	30-130	6.0	30
Alachlor	or	ND	2.99	9 4	74.8	2.88	4	72	30-130	3.7	30
Metolachlor	llor	2.64	5.41	1 4	69.3	5.31	4	66.8	30-130	1.9	30
Chlorpyrifos	cifos	QN	2.87	17 4	71.8	2.83	4	70.8	30-130	1.4	30
Cyanazine	ne	QN	3.03	13 4	75.8	3.03	4	75.8	30-130	0	30
Pendimethalin	lin	DN	3.1	4	77.5	3.15	4	78.8	30-130	1.6	30
	SURROG	SURROGATE RECOVERIES:	RIES:		MS %R	MSD %R	%R Limits	mits			

30-130

70

69

Triphenylphosphate

(a) DOD-QSM Accredited Analyte.

'nc' indicates sample >4X spike level.

'*' indicates a recovery outside of standard limits.

Matrix Spikes for 008632-01, NP PESTICIDES (8270SIM-MOD)

Page 1 of 1

ARDL Report 8632 - Page 27 of 33

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

Lab Report No: 008632

Report Date: 09/03/2020

SHELBYVILLE LAKE

Project Name:

NELAC Certified - IL100308

Matrix Res WATER WATER WATER WATER WATER WATER	lt Result .40 1.4	,	SΕ	MSD	MSD	MSD	% Rec		220		QC Lab
WATER WATER WATER WATER WATER WATER WATER	.40 1.4	Level	% Rec	Result	Level	% Rec	Limits	RPD	Limit	Run	Number
WATER WATER WATER WATER WATER WATER		1.0	96	1.3	1.0	92	87-115	e	20	P7408	008632-01MS
WATER WATER WATER WATER WATER	.35 0.85	0.50	66	0.82	0.50	94	90-114	ю	20	P7408	008632-01MS
WATER WATER WATER WATER	.38 2.5	2.0	108	2.6	2.0	111	75-125	с	20	08115456	008632-01MS
WATER WATER WATER WATER	.78 2.0	0.80	154 *	2.1	0.80	170 *	75-125	9	20	08215498	008632-09MS
WATER WATER WATER	.37 1.1	1.0	73 *	1.1	1.0	72 *	75-125	Ч	20	08135461	008632-06MS
WATER WATER	.15 0.98	0.83	100	1.0	0.83	105	75-125	ß	20	08195493	008632-01MS
WATER	.10 0.21	0.10	111	0.21	0.10	111	75-125	0	20	07305428	008632-03MS
	.9 8.9	5.0	100	9.0	5.0	103	76-120	1	20	08135480	008632-01MS
Total Organic Carbon WATER 4.2	.2 9.3	5.0	101	9.4	5.0	103	76-120	1	20	08135481	008632-02MS
Total Organic Carbon WATER 4.3	.3 9.2	5.0	98	8.9	5.0	92	76-120	e	20	08135481	008632-07MS

Inorganic Matrix Spikes for 008632

(a) DOD and/or NELAC Accredited Analyte.

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

		8		
64	09/03/2020	ed - IL100308	QC Lab Number	008632-04D1 008632-04D1 008632-01D1 008632-01D1
m, IL 62864	Report Date:	NELAC Certified	Analytical Run	08135469 08135469 08045437 08045438
Mt. Vernon,	ц	N	Mean (Smp,D1,D2)	
SAMPLE DUPLICATE REPORT on Drive; P.O. Box 1566			Percent Diff	494 138 * NC
PLICAT P.O.			Units	MG/CU.M. MG/CU.M. MG/L MG/L
SAMPLE DUE 400 Aviation Drive;			Second Duplicate	
400 Avia		KE	First Duplicate 1	27.9 3.9 10.0 0
INC.	N	SHELBYVILLE LAKE	Sample Conc'n	16.9 21.3 ND ND
ARDL, INC.	Lab Report No: 008632	Project Name: SHELB	Analyte	Chlorophyll-a, Corrected Pheophytin-a Solids, Total Suspended Solids, Volatile Suspend

* indicates that agreement between duplicates is greater than 20%. See Case Narrative for exceptions. (a) DOD and/or NELAC Accredited Analyte Sample Duplicates for 008632



Sample Receipt Information

Including as appropriate:

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

ARDL Data Package 8632

SOZ CHAIN OF CUSTODY RECORD	PRESERVATION	CHEMICAIS CHEMICAIS	CC FINAL PH IF KNOWN	SAMPLE LOCATION	X	X	X	X	X	X	X	X	X	X	X	X						
300		//////	(S), (II; / / / / /										X χ							NSTRUCTIONS:		
on, IL 62864 149 Fax		NEN 100	150 N 0 1		X X X X X	X X X	X X X	X X X	X X X X	X X X	X X X	X X X	X X	X	X	X				The	*Preserved with H ₂ SO ₄ #Preserved with HNO ₃	
P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864 (618) 244-3235 Phone (618) 244-1149 Fax					X X X	X X X X	X X X	X X X X	x <mark>x</mark> x	X X X	X X X X	X	X X X X	X	X	x				Refeixed by Kanature)	Received by: (Signature)	Shipping Ticket No.
P.O. Box 1566, 400 Aviation (618) 244-3235 Phone			ABL.	DATE	7/20/20 Lot 5	dici 1	1235	01410	1450	1600	1345	1320	0315	0361	0621	1415				Date Time Be	Time 19140	Time 1940
ARDL, Inc.	PROJECT / Shelbyville Lake	SAMPLERS: (Signature)	B. Greeking / Anthese	SAMPLE NUKIBÈR	(SVL-1 7	Z SVL-2	3 SVL-2-10	4 SVL-4	5 SVL-12	6 SVL-13	7 SVL-11	B SVL-15	KAS-3	O LS Marina	FIN Marina	2 SUL Marina	AF	RDL	Rep			-

o V ຮ PURCHASE ORDER NO: _

	<u>COOLER RECEIPT REI</u> ARDL, INC.	PORT	
	01.20	P.1 (1. C 2	
AR	5° #: 0	ooler # <u>Ked (1 of 2</u> umber of Coolers in Shipme	nt: Z
Dro	A	ate Received: 07/29/2	
FIU	Value Durok	-0 4	
A.	RUSKOSKIO KIVEI PRELIMINARY EXAMINATION PHASE: Date cooler was opened 07/29/2	V	
1.	Did cooler come with a shipping slip (airbill, etc.)?		YES NO
	If YES, enter carrier name and airbill number here: ARDL COU	rier - Valevie	
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?	Δ	NO
5.	Were custody papers sealed in a plastic bag? Hand deliver e	20	YES Ň
6.	Were custody papers filled out properly (ink, signed, etc.)?	2	YES NO N/A
7.	Were custody papers signed in appropriate place by ARDL personnel?		
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 V	O Observed Cooler Temp	$\frac{2.2 \text{ c}}{100 \text{ factor}}$
В.		nature) DCB	
10.	Describetype of packing in cooler B LOOSE ICE/M	etted Ice	
11.			
12.	Did all containers arrive unbroken and were labels in good condition?		
13.	Were sample labels complete?		
14.	Did all sample labels agree with custody papers? See $Mote$		
15.			
16.	Was pH correct on preserved water samples?		
17.	Was a sufficient amount of sample sent for tests indicated?		
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 NA
	Comments and/or Corrective Action:	Sample Tr	
1	E-Coli sample for KAS-3	Fraction F	Fraction
		Area # A	Area #
	has not marked on the Col	Walk-In By E	Зу
		DCB	- ,
		07/29/2020	Dn .
-		UTIMILUCU	
		Chain-of-Custody #	
(1	By: Signature) $D(B)$ Date: $D \neq 129/2020$		

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	COOLER RECEIPT REPO	ORT
	OI 72	$\left(\begin{array}{c} 1 \\ 2 \end{array} \right)$
ARI	DL #: 8632 Cod	oler# <u>Green(2</u> ofZ)
	Nur	nber of Coolers in Shipment:
Pro	ject: <u>Shelby Ville Lake</u> Dat	e Received 07/29/2020
A.	Raskaskia Kiver PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 07/29/2020	Signature) DCB
1.	Did cooler come with a shipping slip (airbill, etc.)?	YES NO
	If YES, enter carrier name and airbill number here: ARDL COV	rier - 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?	
5.	Were custody papers sealed in a plastic bag? Fland delivered	
6.	Were custody papers filled out properly (ink, signed, etc.)?	YES N/A
7.	Were custody papers signed in appropriate place by ARDL personnel?	VES NO N/A
8.	Was project identifiable from custody papers? If YES, enter project name at the top	o of this form
9.	Was a separate container provided for measuring temperature? YES_V_NO_	Observed Cooler Temp. 2.0 c
В.	•	ture) DCB Correction factor <u>O.U</u> C
10.	Describe type of packing in cooler: LOOSE CC	
11.	Were all samples sealed in separate plastic bags?	
12.	Did all containers arrive unbroken and were labels in good condition?	NO
13.	Were sample labels complete?	VES NO
14.	Did all sample labels agree with custody papers?	
15.	Were correct containers used for the tests indicated?	
16.	Was pH correct on preserved water samples?	
17.	Was a sufficient amount of sample sent for tests indicated?	VES 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:	Sample Transfer
1	TKN sample For KAS-3	Fraction Fraction
		Area # Area #
	was not marked on the CoC	Walk-in
		By DCR
		On On On
		0712912020
		Chain-of-Custody #
(E	By: Signature) DCB Date: 07/29/2020	

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Environmental | Analytical | Management | Safety

Customer Name: SLCOE

Project Name: Shelbyville Lake/Kaskaskia River

Samples Received at ARDL: 10/20/20

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

<u>www.ardlinc.com</u>

Date: 11/24/20

Lab Name: ARDL, Inc.

ARDL Report No.: 8669

CASE NARRATIVE

<u>Customer</u> Sample No.	<u>Date</u> <u>Collected</u>	<u>Lab ID</u> <u>Number</u>	Analyses Requested
SVL-1	10/20/20	8669-01	NP Pesticides, Metals(1), Inorganics(2)
SVL-2	10/20/20	8669-02	NP Pesticides, Inorganics(2)(3)
SVL-2-10	10/20/20	8669-03	Metals(1), Inorganics(2)
SVL-4	10/20/20	8669-04	NP Pesticides, Inorganics(2)(3)
SVL-12	10/20/20	8669-05	NP Pesticides, Inorganics(2)
SVL-13	10/20/20	8669-06	NP Pesticides, Inorganics(2)
SVL-11	10/20/20	8669-07	NP Pesticides, Inorganics(2)(3)
SVL-15	10/20/20	8669-08	NP Pesticides, Inorganics(2)(3)
LS Marina	10/20/20	8669-09	E Coli
FIN Marina	10/20/20	8669-10	E Coli
SUL Marina	10/20/20	8669-11	E Coli
KAS-3	10/20/20	8669-12	E. Coli, Inorganics(2)(3)(4)

(1) Including iron and manganese.

(2) Including ammonia, nitrate, orthophosphate, 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

Trifluralin was 22.4% high and pendamethalin was 22.2% high in the CCV. The closing CCV passed criteria for all analytes. No trifluralin or pendamethalin was detected in any field sample.

PREPARATION BLANK

Results of the preparation blanks were undetected.

<u>LABORATORY CONTROL SAMPLE</u> The LCS analyses met recovery criteria.

MATRIX SPIKE

The matrix spike and matrix spike duplicate met recovery criteria.

"Test everything, keep the good" 1 Thes. 5:21

Project Name: Shelbyville Lake/Kaskaskia River

ARDL Report No.: 8669

CASE NARRATIVE (Continued)

DUPLICATE

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

INTERNAL STANDARD

All internal standard criteria were met.

SURROGATE

All surrogate recovery criteria were met.

INORGANIC FRACTION

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

<u>PREPARATION BLANK</u> Results of the preparation blanks were undetected.

<u>LABORATORY CONTROL SAMPLE</u> 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 iron and TOC. 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 pheophytin-a. The parent sample has 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

Page 2 of 2

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 8669

N:\ARDL Case Narratives\ARDL Data Package Contents.pdf - Revised June 21, 2019

Authorized By: DSD-QAO

ARDL Report 8669 - Page 3 of 33

Lab Report No: 008669

Report Date: 10/30/2020

-	SHELBYVILLE LAKE		-	PESTICI	DES (82	70SIM-MO	D)
Project No.:		alytical M					
NELAC Certi	fied - IL100308	Prep M	ethod: 3	510C			
Field ID:	SVL-1		ARDL	Lab No.:	00860	59-01	
Desc/Location:	SHELBYVILLE LAKE		Lab F:	ilename:	E1028	3005	
Sample Date:	10/20/2020		Receiv	ved Date:	10/20	0/2020	
Sample Time:	1045		Prep.	Date:	10/22	2/2020	
Matrix:	WATER		Analy	sis Date:	10/28	3/2020	
Amount Used:	900 mL		Instr	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	cch:	B1128	31	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.222	0.222	ND		UG/L	1
Atrazine		0.222	0.222	0.800		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	0.900		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	72%	ĺ

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

(a) DOD-QSM Accredited Analyte.

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

Lab Report No: 008669

Report Date: 11/23/2020

Project Name: Project No:	SHELBYVILLE LAKE	LE LAKE						Ν	Analysis: ELAC Certifie	Analysis: Inorganics NELAC Certified - IL100308	ics 00308
ARDL No: Field ID: Received:	008669-01 SVL-1 10/20/2020	0	Sampling Samplin Samplin	00		SHELBYVILLE LAKE 10/20/2020 1045			Matrix: Moisture:	: WATER : NA	
Analyte	0	LOD	ΓΟŎ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron		0.0400	0.0500	Ь	0.886	MG/L	3010A	6010C	10/27/20	11/04/20	P7447
(a) Manganese		0.00400	0.00500		0.0397	MG/L	3010A	6010C	10/27/20	11/04/20	P7447
Ammonia Nitrogen	en	0.0200	0.0300		ND	MG/L	NONE	350.1	NA	10/26/20	10275659
Nitrate as Nitrogen	rogen	0.0190	0.0200		0.665	MG/L	NONE	GREEN	NA	10/22/20	10265654
Phosphorus		0.00800	0.0100		0.0744	MG/L	365.2	365.2	10/26/20	10/27/20	10285665
Phosphorus, -ortho	rtho	0.0080	0.010		0.0083	MG/L	NONE	365.2	NA	10/21/20	10225653
Solids, Total Suspended	Suspended	2.0	2.00		10.2	MG/L	NONE	160.2	NA	10/26/20	10285661
Solids, Volatile Suspen	le Suspen	2.0	2.00		3.6	MG/L	NONE	160.4	NA	10/26/20	10285662
Total Organic Carbon	Carbon	0.500	1.00	ŗ	16.0	MG/L	NONE	415.1	NA	11/06/20	11235716

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-01, Inorganic Analyses

Lab Report No: 008669

Report Date: 10/30/2020

Project No.:	SHELBYVILLE LAKE Ana fied - IL100308	alytical M	-		DES (827	70SIM-MO	D)
Field ID:	SVL-2		ARDL 1	Lab No.:	00866	59-02	
	SHELBYVILLE LAKE		Lab F:	ilename:	E1028	8008	
Sample Date:	10/20/2020		Receiv	ved Date:	10/20	0/2020	
Sample Time:	1115		Prep.	Date:	10/22	2/2020	
Matrix:	WATER		Analy	sis Date:	10/28	3/2020	
Amount Used:	1000 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	tch:	B1128	31	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.200	0.200	ND		UG/L	1
Atrazine		0.200	0.200	0.760		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	0.860		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 RECOV	ERIES:	Lim	its		Re	sults	
Iriphenylphosph		30-	130		:	81%	

Triphenylphosphate 30-130

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

(a) DOD-QSM Accredited Analyte.

Page 1 of 1

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, Illinois 62864	Report Date: 11/23/2020	KE Analysis: Inorganics NELAC Certified - IL100308	Sampling Loc'n: SHELBYVILLE LAKE Matrix: WATER Sampling Date: 10/20/2020 Sampling Time: 1115	Prep Analysis Prep Analysis Run LOQ Flag Result Units Method Method Date Date Number	00 0.0300 0.0421 MG/L NONE 350.1 NA 10/26/20 10275659 1.00 15.4 MG/CU.M. 10200H 1021/20 10/28/20 10295667 90 0.0200 0.698 MG/L NONE GREEN NA 10/22/20 10265654 90 0.0200 0.698 MG/L NONE GREEN NA 10/22/20 10265654 1.00 J 2.4 MG/L 10200H 10/21/20 10/28/20 10265654 00 0.0100 J 2.4 MG/L NONE 365.2 365.2 10/21/20 10/227/20 10265665 80 0.0114 MG/L NONE 365.2 NA 10/21/20 10225665 1.0 12.0 MG/L NONE 365.2 NA 10/21/20 10225665 1.0 1.0 10/21/20 10/21/20 10/227/20 10225665 1.0 1.0 1.0 10/21/20 10/227/20
400 Aviation Mt. Vernc			Sampling Loc'n: Sampling Date: Sampling Time:	Flag	0 5 0 0
	69	LE LAKE	0	LOD	0.0200 1.0 0.0190 1.0 0.00800 0.0080 0.0080 0.500 0.500
	Lab Report No: 008669	Project Name: SHELBYVILLE LAKE Project No:	ARDL No: 008669-02 Field ID: SVL-2 Received: 10/20/2020	Analyte	Ammonia Nitrogen Chlorophyll-a, Correcte Nitrate as Nitrogen Pheophytin-a Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-02, Inorganic Analyses

Lab Report No: 008669	569						ጟ	keport vare:	: TT/23/2020	020
Project Name: SHELBYVILLE LAKE Project No:	LIE LAKE						N	Analysis: Inor NELAC Certified -	: Inorganics fied - IL1003	ganics IL100308
ARDL No: 008669-03 Field ID: SVL-2-10 Received: 10/20/2020		Sampling Samplin Samplin		Loc'n: SHELE Date: 10/20 Time: 1130	SHELBYVILLE LAKE 10/20/2020 1130			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
(a) Iron	0.0400	0.0500		0.523	MG/L	3010A	6010C	10/27/20	11/04/20	P7447
(a) Manganese	0.00400	0.00500		0.0603	MG/L	3010A	6010C	10/27/20	11/04/20	P7447
Ammonia Nitrogen	0.0200	0.0300		QN	MG/L	NONE	350.1	NA	10/26/20	10275659
Nitrate as Nitrogen	0.0190	0.0200		0.612	MG/L	NONE	GREEN	NA	10/22/20	10265654
Phosphorus	0.00800	0.0100		0.109	MG/L	365.2	365.2	10/26/20	10/27/20	10285665
Phosphorus, -ortho	0.0080	0.010		0.014	MG/L	NONE	365.2	NA	10/21/20	10225653
Solids, Total Suspended	1.0	1.0		16.0	MG/L	NONE	160.2	NA	10/26/20	10285661
Solids, Volatile Suspen	2.50	2.50		4.0	MG/L	NONE	160.4	NA	10/26/20	10285662
Total Organic Carbon	0.500	1.00		16.0	MG/L	NONE	415.1	NA	11/06/20	11235716

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-03, Inorganic Analyses

Lab Report No: 008669

Report Date: 10/30/2020

Project Name: Project No.:	SHELBYVILLE LAKE Ar	Ana halytical M		PESTICII 270C	DES (827	OSIM-MO	D)
NELAC Certi:	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-4		ARDL 1	Lab No.:	00866	9-04	
Desc/Location:	SHELBYVILLE LAKE		Lab F	ilename:	E1028	009	
Sample Date:	10/20/2020		Receiv	ved Date:	10/20	/2020	
Sample Time:	1440		Prep.	Date:	10/22	/2020	
Matrix:	WATER		Analys	sis Date:	10/28	/2020	
Amount Used:	1000 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	ch:	B1128	1	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.200	0.200	ND		UG/L	1
Atrazine		0.200	0.200	0.340		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	74%	
			_

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

(a) DOD-QSM Accredited Analyte.

Lab Report No: 008	008669						ц	Report Date:	: 11/23/2020	020
Project Name: SHELBYVI Project No:	SHELBYVILLE LAKE							Analysis: Inorganics NELAC Certified - IL100308	: Inorganics fied - IL1003	ics 00308
ARDL No: 008669-04 Field ID: SVL-4 Received: 10/20/2020	14 120	Sampling Samplin Samplin			SHELBYVILLE LAKE 10/20/2020 1440			Matrix: Moisture:	: WATER : NA	
Analyte	TOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen Chlorophyll-a, Correcte Nitrate as Nitrogen Pheophytin-a Phosphorus Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon	0.0200 1.0 0.0190 1.0 0.0080 0.0080 0.0080 1.0 1.0 1.0 0.500	0.0300 1.00 1.00 1.00 0.0100 0.010 1.0 1.0 1		0.369 31.8 0.15 10.2 0.213 0.045 26.4 6.8 24.0	MG/L MG/CU.M. MG/L MG/L MG/L MG/L MG/L MG/L	NONE 10200H NONE 10200H 365.2 NONE NONE NONE NONE	350.1 10200H GREEN 10200H 365.2 365.2 365.2 160.2 160.4 415.1	NA 10/21/20 NA 10/21/20 10/26/20 NA NA NA NA	10/26/20 10275659 10/28/20 10295667 10/22/20 10265654 10/28/20 10295665 10/21/20 10285665 10/21/20 10285665 10/26/20 10285661 10/26/20 10285662 11/06/20 11235716	10275659 10295667 10265654 10285667 10285665 10285661 10285661 10285661 10285662 11235716

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-04, Inorganic Analyses

Lab Report No: 008669

Report Date: 10/30/2020

Project Name: Project No.:	SHELBYVILLE LAKE Ana	Ana alytical M		P PESTICIE 270C	DES (827	0SIM-MO	D)
NELAC Certi:	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-12		ARDL 1	Lab No.:	00866	9-05	
Desc/Location:	SHELBYVILLE LAKE		Lab F	ilename:	E1028	010	
Sample Date:	10/20/2020		Receiv	ved Date:	10/20	/2020	
Sample Time:	1540		Prep.	Date:	10/22	/2020	
Matrix:	WATER		Analys	sis Date:	10/28	/2020	
Amount Used:	1000 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	ch:	B1128	1	
<pre>% Moisture:</pre>	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	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	77%
	· · · · ·	

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

(a) DOD-QSM Accredited Analyte.

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

Lab Report No: 008669

Report Date: 11/23/2020

Project Name: SHELBYVI Project No:	SHELBYVILLE LAKE						N	Analysis: ELAC Certif:	Analysis: Inorganics NELAC Certified - IL100308	ics 00308
ARDL No: 008669-05 Field ID: SVL-12 Received: 10/20/2020)5)20	Sampling Samplin Samplin	ampling Loc'n: Sampling Date: Sampling Time:		SHELBYVILLE LAKE 10/20/2020 1540			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	ГОД	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen Nitrate as Nitrogen Phosphorus, -ortho Solids, Total Suspended Solids, Volatile Suspen Total Organic Carbon	0.0200 0.0190 0.00800 0.0080 0.0080 1.0 1.0	0.0300 0.0200 0.0100 1.0 6.67 1.00		0.0483 0.026 ND 0.12 41.3 6.67 26.0	1/9W NG/L MG/L MG/L NG/L	NONE NONE 365.2 NONE NONE NONE	350.1 GREEN 365.2 365.2 160.4 415.1	NA NA NA NA NA NA NA NA	10/26/20 10275659 10/22/20 10265654 10/27/20 10285665 10/21/20 10285665 10/26/20 10285661 10/26/20 10285661 11/06/20 11235716	10275659 10265654 10285665 10285665 10285661 10285661 10285662 11235716

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-05, Inorganic Analyses

Lab Report No: 008669

Report Date: 10/30/2020

Project Name: Project No.:	SHELBYVILLE LAKE Ana	Ana alytical M	-	PESTICIE 270C	DES (827	0SIM-MO	D)
NELAC Certi:	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-13		ARDL 1	Lab No.:	00866	9-06	
Desc/Location:	SHELBYVILLE LAKE		Lab F:	ilename:	E1028	011	
Sample Date:	10/20/2020		Receiv	ved Date:	10/20	/2020	
Sample Time:	1245		Prep.	Date:	10/22	/2020	
Matrix:	WATER		Analys	sis Date:	10/28	/2020	
Amount Used:	1000 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	tch:	B1128	1	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.200	0.200	ND		UG/L	1
Atrazine		0.200	0.200	0.510		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	76%	

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

(a) DOD-QSM Accredited Analyte.

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

> 008669 Lab Report No:

Report Date: 11/23/2020

Project Name: Project No:	SHELBYVILLE LAKE	LE LAKE						N	Analysis ELAC Certi	Analysis: Inorganics NELAC Certified - IL100308	Lcs 00308
ARDL No: Field ID: Received:	008669-06 SVL-13 10/20/2020	0	Sampling Samplin Samplin			SHELBYVILLE LAKE 10/20/2020 1245			Matrix: Moisture:	: WATER : NA	
Analyte	0	LOD	ГОŎ	Flag	Result	t Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Numbe <i>r</i>
Ammonia Nitrogen	en	0.0200	0.0300		0.41	MG/L	NONE	350.1	NA	10/26/20 10275659	L0275659
Nitrate as Nitrogen	rogen	0.0190	0.0200		0.322	2 MG/L	NONE	GREEN	NA	10/22/20 10265654	L0265654
Phosphorus		0.00800	0.0100		0.291	1 MG/L	365.2	365.2	10/26/20	10/27/20 10285665	L0285665
Phosphorus, -ortho	rtho	0.0080	0.010		0.055	5 MG/L	NONE	365.2	NA	10/21/20 10225653	L0225653
Solids, Total Suspended	Suspended	1.0	1.0		43.3	MG/L	NONE	160.2	NA	10/26/20	10285661
Solids, Volatile Suspen	le Suspen	6.67	6.67		8.67	MG/L	NONE	160.4	NA	10/26/20 10285662	10285662

11/06/20 11235716

NA

415.1

NONE

MG/L

25.0

1.00

0.500

Total Organic Carbon

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-06, Inorganic Analyses

Lab Report No: 008669

Report Date: 10/30/2020

Project Name: Project No.:	SHELBYVILLE LAKE Ana	Ana Alytical M		PESTICII 270C	DES (827	70SIM-MO	D)
NELAC Certi	fied - IL100308	Prep M	ethod: 35	510C			
Field ID:	SVL-11		ARDL 1	Lab No.:	00860	59-07	
Desc/Location:	SHELBYVILLE LAKE		Lab F:	ilename:	E1028	3012	
Sample Date:	10/20/2020		Receiv	ved Date:	10/20	0/2020	
Sample Time:	1400		Prep.	Date:	10/22	2/2020	
Matrix:	WATER		Analys	sis Date:	10/28	3/2020	
Amount Used:	900 mL		Instru	ument ID:	AG5		
Final Volume:	1 mL		QC Bat	cch:	B1128	31	
% Moisture:	NA		Level	:	LOW		
					Data		Dilution
Parameter		LOD	LOQ	Result	Flag	Units	Factor
Trifluralin		0.222	0.222	ND		UG/L	1
Atrazine		0.222	0.222	0.778		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	0.522		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.

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-07, Inorganic Analyses

Lab Report No: 008669

Report Date: 10/30/2020

Project Name: Project No.: NELAC Certi:	SHELBYVILLE LAKE A fied - IL100308	nalytical N		270C	DES (8270SIN	M-MOD)
Field ID:	SVL-15		ARDL 1	Lab No.:	008669-08	8
Desc/Location:	SHELBYVILLE LAKE		Lab F:	ilename:	E1028013	
Sample Date:	10/20/2020		Receiv	ved Date:	10/20/202	20
Sample Time:	1430		Prep.	Date:	10/22/20:	20
Matrix:	WATER		Analys	sis Date:	10/28/202	20
Amount Used:	900 mL		Instru	ument ID:	AG5	
Final Volume:	1 mL		QC Bat	tch:	B11281	
% Moisture:	NA		Level	:	LOW	
					Data	Dilution
Parameter		LOD	LOQ	Result	Flag Un	its Factor
Trifluralin		0.222	0.222	ND	UG	/L 1
Atrazine		0.222	0.222	0.778	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	0.511	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.

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

Lab Report No: 008669

SHELBYVILLE LAKE

Project Name:

Report Date: 11/23/2020

Analysis: Inorganics NELAC Certified - IL100308

Project No:							Z	NELAC Certified - IL100308	fied - IL1	00308
ARDL No: 008669-08 Field ID: SVL-15 Received: 10/20/2020	20	Samp1 Samp Samp	Sampling Loc'n: Sampling Date: Sampling Time:		SHELBYVILLE LAKE 10/20/2020 1430			Matrix: Moisture:	: WATER : NA	
Analyte	LOD	LOQ	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		0.0896	MG/L	NONE	350.1	NA	10/26/20 10275659	10275659
Chlorophyll-a, Correcte	1.0	1.00		36.3	MG/CU.M.	10200H	10200H	10/21/20	10/28/20	10295667
Nitrate as Nitrogen	0.0190	0.0200		0.178	MG/L	NONE	GREEN	NA	10/22/20	10265654
Pheophytin-a	1.0	1.00		10.7	MG/CU.M.	10200H	10200H	10/21/20	10/28/20	10295667
Phosphorus	0.00800	0.0100		0.126	MG/L	365.2	365.2	10/26/20	10/27/20	10285665
Phosphorus, -ortho	0.0080	0.010		0.019	MG/L	NONE	365.2	NA	10/21/20	10225653
Solids, Total Suspended	1.0	1.0		16.0	MG/L	NONE	160.2	NA	10/26/20	10285661
Solids, Volatile Suspen	4.0	4.00		5.2	MG/L	NONE	160.4	NA	10/26/20	10285662
Total Organic Carbon	0.500	1.00		16.0	MG/L	NONE	415.1	NA	11/06/20	11235716

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-08, Inorganic Analyses

Mt. Vernon, Illinois 62864	Report Date: 11/23/2020	Analysis: Inorganics NELAC Certified - IL100308	Sampling Loc'n: SHELBYVILLE LAKE Matrix: WATER Sampling Date: 10/20/2020 Sampling Time: 1144	Prep Analysis Prep Analysis Run Flag Result Units Method Method Date Date Number	57.0 COL/100 ML NONE 1604 NA 10/20/20 10225651
	lo: 008669	SHELBYVILLE LAKE	008669-09 LS MARINA 10/20/2020	LOD LOQ	1.0 1.0
	Lab Report No: 008669	Project Name: S Project No:	ARDL No: 0 Field ID: L Received: 1	Analyte	E. Coliform

ARDL, INC. 400 Aviation Drive; P.O. Box 1566

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-09, Inorganic Analyses

	Report Date: 11/23/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	sis Prep Analysis Run od Date Date Number	4 NA 10/20/20 10225651
.566				p Analysis od Method	E 1604
Box 1566 62864				Prep Method	NONE
ARDL, INC. Aviation Drive; P.O. ft. Vernon, Illinois			SHELBYVILLE LAKE 10/20/2020 1345	Units	COL/100 ML
AR iation D Vernon,				Result	162
400 Avi Mt.			Sampling Loc'n: Sampling Date: Sampling Time:	Flag	
			Samr San San	LOQ	1.00
	: 008669	SHELBYVILLE LAKE	008669-10 FIN MARINA 10/20/2020	LOD	1.0
	Lab Report No: 008669	Project Name: SH Project No:	ARDL No: 00 Field ID: FI Received: 10	Analyte	E. Coliform

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-10, Inorganic Analyses

	Report Date: 11/23/2020	Analysis: Inorganics NELAC Certified - IL100308	Matrix: WATER Moisture: NA	Analysis Prep Analysis Run Method Date Date Number	1604 NA 10/20/20 10225651
Box 1566 62864				Prep Method	NONE
ARDL, INC. Aviation Drive; P.O. E ft. Vernon, Illinois 6			SHELBYVILLE LAKE 10/20/2020 1445	Units	COL/100 ML
ARL ation Dr Vernon,				Result	175
400 Avi Mt.			Sampling Loc'n: Sampling Date: Sampling Time:	Flag	
			Sam San San	LOQ	1.00
	No: 008669	SHELBYVILLE LAKE	008669-11 SUL MARINA 10/20/2020	LOD	1.0
	Lab Report No:	Project Name: Project No:	ARDL No: Field ID: Received:	Analyte	E. Coliform

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-11, Inorganic Analyses

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

008669 Lab Report No: Project Name: SHELBYVILLE LAKE

Project No:

Report Date: 11/23/2020

Analysis: Inorganics NELAC Certified - IL100308

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ARDL No: 008669-12 Field ID: KAS-3 Received: 10/20/2020	20	Sampl Samp Samp	Sampling Loc'n: Sampling Date: Sampling Time:		SHELBYVILLE LAKE 10/20/2020 0915			Matrix: Moisture:	: WATER : NA	
Analyte	TOD	год	Flag	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Ammonia Nitrogen	0.0200	0.0300		QN	MG/L	NONE	350.1	NA	10/26/20 1	10275659
Chlorophyll-a, Correcte	1.0	1.00		15.4	MG/CU.M.	10200H	10200H	10/21/20	10/28/20 1	10295667
E. Coliform	1.0	1.00		75.0	COL/100 ML	NONE	1604	NA	10/20/20 1	10225651
Kjeldahl Nitrogen	0.190	0.200		QN	MG/L	351.2	351.2	11/10/20	11/11/20 1	11185698
Nitrate as Nitrogen	0.0190	0.0200		0.663	MG/L	NONE	GREEN	NA	10/22/20 1	10265654
Nitrite as Nitrogen	0.0200	0.0200		DN	MG/L	NONE	354.1	NA	10/21/20 1	10225652
Pheophytin-a	1.0	1.00		1.7	MG/CU.M.	10200H	10200H	10/21/20	10/28/20 1	10295667
Phosphorus	0.00800	0.0100		0.070	MG/L	365.2	365.2	10/26/20	10/27/20 1	10285665
Phosphorus, -ortho	0.0080	0.010		0.0083	MG/L	NONE	365.2	NA	10/21/20 1	10225653
Solids, Total Suspended	1.0	1.0		9.8	MG/L	NONE	160.2	NA	10/26/20 1	10285661
Solids, Volatile Suspen	2.50	2.50		DN	MG/L	NONE	160.4	NA	10/26/20 1	10285662
Total Organic Carbon	0.500	1.00		27.0	MG/L	NONE	415.1	NA	11/06/20 1	11235716

(a) DOD and/or NELAC Accredited Analyte.

Sample 008669-12, Inorganic Analyses

Page 1 of 1

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

Lab Report No: 008669

Report Date: 10/30/2020

Project Name: Project No.:	SHELBYVILLE LAKE	Analys Analytical Meth	sis: NP PEST	CICIDES (82	270SIM-M	OD)
	fied - IL100308	-	nod: 3510C			
Field ID:	NA		ARDL Lab No	.: 008	569-01B1	
Desc/Location:	NA		Lab Filenam	ne: E102	28003	
Sample Date:	NA		Received Da	te: NA		
Sample Time:	NA		Prep. Date:	10/2	22/2020	
Matrix:	QC Material		Analysis Da	ate: 10/2	28/2020	
Amount Used:	1000 mL		Instrument	ID: AG5		
Final Volume:	1 mL		QC Batch:	B11:	281	
% Moisture:	NA		Level:	LOW		
					Data	
Parameter		LOD	LOQ	Result	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 RECOV	ERIES	Limit	<u> </u>	R,	esults	
				10	85%	
riphenylphosph	ate	30-13	0		85%	

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

(a) DOD-QSM Accredited Analyte.

Mt. Vernon, IL 400 Aviation Drive; P.O. Box 1566 BLANK SUMMARY REPORT ARDL, INC.

Lab Report No: 008669

Report Date: 11/23/2020

62864

Project Name: SHELBYVILLE LAKE

NELAC Certified - IL100308

Analyte	ГОР	ГОД	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number
(a) Iron	0.040	0.050	QN	MG/L	3010A	6010C	10/27/20	11/04/20	P7447	008669-01B1
(a) Manganese	0.004	0.005	QN	MG/L	3010A	6010C	10/27/20	11/04/20	P7447	008669-01B1
Ammonia Nitrogen	0.020	0.030	QN	MG/L	NONE	350.1	NA	10/26/20	10275659	008669-01B1
Chlorophyll-a, Corre	1.0	1.0	DN	MG/CU.M.	10200H	10200H	10/21/20	10/28/20	10295667	008669-02B1
E. Coliform	1.0	1.0	QN	COL/100 ML	NONE	1604	NA	10/20/20	10225651	008669-09B1
Kjeldahl Nitrogen	0.19	0.20	ΠN	MG/L	351.2	351.2	11/10/20	11/11/20	11185698	008669-12B1
Nitrate as Nitrogen	0.019	0.020	DN	MG/L	NONE	GREEN	NA	10/22/20	10265654	008669-01B1
Nitrite as Nitrogen	0.020	0.020	DN	MG/L	NONE	354.1	NA	10/21/20	10225652	008669-12B1
Pheophytin-a	1.0	1.0	QN	MG/CU.M.	10200H	10200H	10/21/20	10/28/20	10295667	008669-02B1
Phosphorus	0.008	0.010	QN	MG/L	365.2	365.2	10/26/20	10/27/20	10285665	008669-02B1
Phosphorus, -ortho	0.008	0.010	DN	MG/L	NONE	365.2	NA	10/21/20	10225653	008669-01B1
Solids, Total Suspen	1.0	1.0	DN	MG/L	NONE	160.2	NA	10/26/20	10285661	008669-04B1
Solids, Volatile Sus	1.0	1.0	QN	MG/L	NONE	160.4	NA	10/26/20	10285662	008669-04B1
Total Organic Carbon	0.50	1.0	QN	MG/L	NONE	415.1	NA	11/06/20	11235716	008669-01B1

(a) DOD and/or NELAC Accredited Analyte Inorganic Method Blanks for 008669

	ARDL, INC.	INC.	BLANK 400 Av	5	SPIKE/SPIKE DU iation Drive;	DUPLICAT	SPIKE/SPIKE DUPLICATE REPORT iation Drive; P.O. Box 1566		Mt. Vernon, IL		62864	
Lab Report No:	008669								£	eport	Report Date:	10/30/2020
Project Name: Project No.:	SHELBYVILLE LAKE	ы	Ane	Analysis: NP	PESTICIDES	1	(8270SIM-MOD)	Anal	Analytical Method: Prep Method:	ical Method: Prep Method:	1: 8270C 1: 3510C	
Matrix: Amount Used:	QC Material 1000 mL			QC Batch: Level:	L: B11281 LOW	281		Prep. Analys	Prep. Date: Analysis Date:		10/22/2020 10/28/2020	
μ.	Parameter	Spike Result	ike ilt	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits		RPD	RPD Limit
1L	Trifluralin	3.75	75	4	94	I I	1	1	30-130			
	Atrazine	3.61	51	4	06	1	!	!	30-130			
W	Metribuzin	3.46	16	4	87			1	30-130			-
	Alachlor	3.39	39	4	85	;	-	1	30-130			
Me	Metolachlor	3.65	55	4	91	1	ł	1	30-130		1	-
C	Chlorpyrifos	3.49	61	4	87	1	1	1	30-130		1	-
U	Cyanazine	3.69	59	4	92		-	!	30-130		1	
Pen	Pendimethalin	3.78	78	4	95			-	30-130		-	
	SURROG	SURROGATE RECOVERIES:	FRIES:		Spike %R		Duplicate %R	%R Limits				
	Triphe	Triphenylphosphate	late		86.5	.5	-	30-130				

(a) DOD-QSM Accredited Analyte.

'*' indicates a recovery outside of standard limits.

Spike Blanks for 008669-01, NP PESTICIDES (8270SIM-MOD)

Introduction in the image in the image. Repert Date: 11/10/10/10/10/10/10/10/10/10/10/10/10/1	AR	ARDL, INC.	400 Av	400 Aviation Drive; P.O.	חדדעם			DOCT YOU			
B: SHELBYVILLE LAKE NELAC Certified LC3 1 LC3 1 LC3 1 LC3 1 LC3 1 LC3 1 CC 1b Remult Level Remult Level Remult Remult Remult CC 1b Remult Les LC3 1 LC3 1 LC3 1 LC3 2 LC3 2 Remult Remult C 1b Remult Level Remult Level Remult Lovel Remult C 1b Prot Prot Number 0.72 0.73 97 Prot ProtProt Prot Prot Prot Prot Prot ProtProtProt Prot<)8669									ate: 11/23/2020
LC3 1 FRee Mean Analytical Result Level \$ Rec Result Level \$ Rec Res Ren Run 1 3.0 95 0.114 P1447 0.12 0.17 0.17 0.17 0.13 97 P1447 0.12 1.0 100 100 100 100 10125655 10.0 10.0 100 100 100 1025655 0.99 1.0 97 10225655 0.091 1.0 97 10225655 0.091 0.10 97 10225655 0.091 0.10 97 10225655 0.091 0.10 97 1022565 0.091 0.10 20.0 94	Project Name:	SHELBYVII	LE LAKE							NELAC Ce.	1
4.7 5.0 95 87-115 8747 0.72 0.75 97 90-114 8747 0.99 1.0 99 10275659 10.0 10.0 10.0 10 1025654 10.0 10.0 10 80-120 1025655 10.0 10.0 10 10 80-120 1025655 0.97 1.0 91 80-120 1022655 0.97 9.1 9.4 80-120 1022655 0.99 0.10 94 76-120 1022555 0.99 0.10 94 76-120 1022555 18.7 20.0 94 76-120 11235716 18.7 20.0 94	Analyte	LCS 1 Result		LCS 1 % Rec	LCS 2 Result	LCS 2 Level	LCS 2 % Rec	% Rec Limits	Mean * Rec	Analytical Run	QC Lab Number
0.72 0.73 97 90-114 7447 0.99 1.0 90 0-120 10 1025659 10.0 10.0 100 0-120 11255659 1.0 10 10 0-120 11255655 0.94 0.10 94 76-120 1025655 0.094 0.10 94 76-120 10235655 18.7 20.0 94 76-120 10235655 18.7 20.0 94 76-120 10235655 18.7 20.0 94 76-120 10235655 18.7 20.0 94 76-120 10235655 18.7 20.0 94 76-120 10235655 18.7 20.0 94 76-120 10235655 18.7 20.0 94 10235655 10235655 18.8 20.0		4.7	5.0	95	1			87-115		P7447	008669-01C1
0.99 1.0 99 80-120 1025659 10.0 10.0 10.0 80-120 1135698 1.0 1.0 10 80-120 1025653 0.97 1.0 97 80-120 1025653 0.97 1.0 94 80-120 1025653 0.94 0.10 94 76-120 1025653 18.7 20.0 94 76-120 1025653 18.7 20.0 94 76-120 1025653 18.7 20.0 94 76-120 1025653 18.7 20.0 94 76-120 1025653 18.7 20.0 94 1025653 1025653 18.7 20.0 94 1025654 18.7 20.0 94 <td< td=""><td>a) Manganese</td><td>0.72</td><td>0.75</td><td>76</td><td>!</td><td>1</td><td></td><td>90-114</td><td>-</td><td>P7447</td><td>008669-01C1</td></td<>	a) Manganese	0.72	0.75	76	!	1		90-114	-	P7447	008669-01C1
10.0 10.0 10.0 10.0 113569 1.0 1.0 100 10 10 10 10 1.0 1.0 100 10 10 10 10 10 0.97 1.0 97 10 10 10 10 10 0.97 1.0 97 10 10 10 10 10 0.93 0.67 97 10 97 10 10 1025653 0.93 0.10 94 10 10 10 10 10 0.93 0.10 94 10 10 10 10 0.93 0.10 94 10 10 10 10.7 20.0 94 10 10 10 10.93 10.0 10 10 10 10 10.9 10 10 10 10 10 10.9 10 10 10 10 10 10.9 10 10 10 10 10 10.9 10 10 10 10 10 10.9 10 10 10 10 10	monia Nitrogen	66.0	1.0	66		**	ł	80-120	1	10275659	008669-01C1
1.0 1.0 10 0. 80-120 1026664 0.97 1.0 97 80-120 1025665 0.65 0.65 0.67 97 80-120 1025655 0.094 0.10 94 80-120 1025655 18.7 20.0 94 76-120 1123576 18.7 20.0 94 76-120 1123576	eldahl Nitrogen	10.0	10.0	100	1	1	ł	80-120	!	11185698	008669-12C1
0.97 1.0 97 0 0 0 0.65 0.67 97 0 0 0 0.034 0.10 94 0 0 0 18.7 20.0 94 76-120 0 18.7 20.0 94 76-120 1025663 18.7 20.0 94 76-120 1033576	trate as Nitrogen	1.0	1.0	100	ł	ł	ł	80-120	ł	10265654	008669-01C1
0.65 0.67 97 80-120 10285665 0.034 0.10 94 7- 1022563 18.7 20.0 94 7- 1023565 18.7 20.0 94 7- 102 1123516 7- 1023553 1123516 1023553 1123516 1023553 1123516 1023553 1123516 1023553 1123516 <td< td=""><td>trite as Nitrogen</td><td>0.97</td><td>1.0</td><td>97</td><td>1</td><td>}</td><td>1</td><td>80-120</td><td>ł</td><td>10225652</td><td>008669-12C1</td></td<>	trite as Nitrogen	0.97	1.0	97	1	}	1	80-120	ł	10225652	008669-12C1
0.094 0.10 94 80-120 10225653 18.7 20.0 94 76-120 11235716 18.7 20.0 94 76-120 11235716 18.7 20.0 94 76-120 11235716 18.7 20.0 94 76-120 11235716 18.8 76-120 11235716 18.1 11235716 18.1 11235716 18.1	losphorus	0.65	0.67	97	ł	ł	ł	80-120	ł	10285665	008669-02C1
18.7 20.0 94 76-120 1133716 alues tabulated above marked with an asterisk are outside of acceptable limits.	losphorus, -ortho	0.094	0.10	94	ł	ł	1	80-120	ł	10225653	008669-01C1
	tal Organic Carbon	18.7	20.0	94	ł	L B	1	76-120	1	11235716	008669-01C1
	NOTE: Any values [†] (a) DOD and/or NE:	tabulated above m LAC Accredited Ar	arked with alyte		k are outsi	lde of acce	sptable li	mits.			

Page 1 of 1

Inorganic LCS Results for 008669

Lab Report No: 00	ARDL, INC. 008669		MATRIX SPIKE 400 Aviation		SPIKE DUPLICATE Drive; P.O. Box	ICATE REPORT . Box 1566		Mt. Vernon, IL Repoi	n, IL Report	62864 Date:	10/30/2020
Project Name: SHELBYVILLE LAKE Project No.:	LBYVILLE LAF	KE	Analysis:	AN	PESTICIDES (82	(8270SIM-MOD)		Analytical Prep	ical Method: Prep Method:	d: 8270C d: 3510C	
Field ID: SVL-1 Desc/Location: SHELE Sample Date: 10/20 Sample Time: 1045 Matrix: WATEF	SVL-1 SHELBYVILLE LAKE 10/20/2020 1045 WATER	AKE	Prep. I Amount % Moist QC Bato Level:	Prep. Date: Amount Used: % Moisture: QC Batch: Level:	10/22/2020 900 mL NA B11281 LOW	0		ARDL Lab No.: Lab Filename: Received Date Analysis Date		008669-01 10/20/2020 10/28/2020	
Parameter		Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD * Rec	% Rec Limits	Qay	RPD Limit
Trifluralin	ц	QN	3.97	4.44	89.3	3.82	4.44	86	30-130	3.7	30
Atrazine		0.800	4.67	4.44	87	4.46	4.44	82.3	30-130	4.6	30
Metribuzin	r.	Q 9	3.74	4.44	84.3	3.52	4.44	79.3	30-130	6.1	30
Metolachlor	ų	0.900	3.02 4.71	4.44	81.3 85.8	3.42 4.59	4.44	83	30-130	2.6	00
Chlorpyrifos	so	ND	3.71	4.44	83.5	3.54	4.44	79.8	30-130	4.6	30
Cyanazine		DN	3.94	4.44	88.8	3.71	4.44	83.5	30-130	6.1	30
Pendimethalin	цi	UN	3.99	4.44	8.8	3.84	4.44	86.5	30-130	3.7	30
	SURRC	SURROGATE RECOVERIES:	XIES:		MS &R	MSD &R	%R Limits	mits			
	Triph	Triphenylphosphate	e		84	80	30-130	30			

(a) DOD-QSM Accredited Analyte.

'nc' indicates sample >4X spike level.

'*' indicates a recovery outside of standard limits.

Matrix Spikes for 008669-01, NP PESTICIDES (8270SIM-MOD)

Page 1 of 1

ARDL Report 8669 - Page 27 of 33

	62864
	IL
	Vernon,
REPORT	Mt.
UPLICATE	ĸ 1566
DUPLI	Box
н	Р.О.
K SPIKE/SPIKE	Drive;
MATRIX SP	400 Aviation
~	400 2
	INC.
	ARDL,

Lab Report No: 008669

Report Date: 11/23/2020

NE SHELBYVILLE LAKE Project Name:

IL100308
Т
Certified
ILAC

	Sample	Sample	SM	WS	SM	MSD	USM	MSD	% Rec		RPD		QC Lab
Analyte	Matrix	Result	Result	Level	* Rec	Result	Level	% Rec	Limits	RPD	Limit	Run	Number
(a) Iron	WATER	0.89	1.2	1.0	34 *	1.2	1.0	34 *	87-115	o	20	P7447	008669-01MS
(a) Manganese	WATER	0.040	0.50	0.50	92	0.50	0.50	92	90-114	Ч	20	P7447	008669-01MS
Ammonia Nitrogen	WATER	ΠN	1.8	2.0	89	2.0	2.0	66	75-125	11	20	10275659	008669-01MS
Nitrate as Nitrogen	WATER	0.67	1.5	1.0	84	1.5	1.0	86	75-125	Ч	20	10265654	008669-01MS
Phosphorus	WATER	0.083	0.93	0.83	102	0.95	0.83	105	75-125	2	20	10285665	008669-02MS
Phosphorus, -ortho	WATER	0.0083	0.11	0.10	98	0.11	0.10	101	75-125	т	20	10225653	008669-01MS
Total Organic Carbon	WATER	16.0	15.2	5.0	*	15.5	5.0	*	76-120	7	20	11235716	008669-01MS

Inorganic Matrix Spikes for 008669

(a) DOD and/or NELAC Accredited Analyte.

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

	62864
	IL
	Vernon,
	Mt.
I REPORT	Box 1566
DUPLICATE	Р.О.
SAMPLE DI	400 Aviation Drive;
	INC.
	ARDL,

Lab Report No: 008669

11/23/2020 Report Date:

> SHELBYVILLE LAKE Project Name:

NELAC Certified - IL100308

QC Lab	Number	008669-02D1	008669-02D1	008669-04D1	008669-04D1	
Analytical	Run	10295667	10295667	10285661	10285662	
Mean	(Smp,D1,D2)	8		-	1	
Percent	Diff	0	22*	ო	0	
	Units	MG/CU.M.	MG/CU.M.	MG/L	MG/L	
Second	Duplicate	1		1		
First	Conc'n Duplicate D	15.4	3.0	27.2	6.8	
Sample	Conc'n	15.4	2.4	26.4	6.8	
	Analyte	Chlorophyll-a, Corrected	Pheophytin-a	Solids, Total Suspended	Solids, Volatile Suspend	

Page 1 of 1 See Case Narrative for exceptions. * indicates that agreement between duplicates is greater than 20%. (a) DOD and/or NELAC Accredited Analyte

Sample Duplicates for 008669

Sample Receipt Information

Including as appropriate:

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

ARDL Data Package 8669

Authorized By: DSD-QAO

CHAIN OF CUSTODY RECORD	PRESERVATION	SPECIFY SPECIFY ADDED AND ED AND FINAL PH IF FINAL PH IF KNOWN		X	X	X	10/21/220 X	Sample X		X	X	X	X	See(X	X			-			
CHAIN OF C			REMARKS OR SAMPLE LOCATION				ecoli	No feed on this sa	DCB 10121 1202D					broken custody Sc							
8669		K 95	U, WS/L								•				X			INSTRUCTIONS:	, ,		
J		NSC NEHN N	CON	X X X X	X X	XX	X X	X X X	XX	X X	X X	X	X	X	XXX			REMARKS/SPECIAL INSTRUCTIONS:	*Preserved with H ₂ SO ₄ #Preserved with HNO ₃		
P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864 (618) 244-3235 Phone (618) 244-1149 Fax	S	2000 2000 2000 2000 2000 2000 2000 200	155 0-4 155 0-4 155 100-4 155 100-4 1000	XXXX	X.	XXXX	XXXXX	XXXX	XXXX	X	XXXXX				XXXXX			Received by: (Signature)		cket No.	
30x 1566, 400 Aviation (618) 244-3235 Phone		CONTAIN	GRAB NO. OI	X	X	×	X	X	X	X	X	X	X	X	×		-	Received by		Shipping Ticket No.	
P.O. Box 1566	· .	Trais Schuts	DATE TIME	2 rol act ac/al	1 1118	11 20	0440	1540	SHEN	0011	1430	541	1245	5445	1 0915			Date Time	Date Time	A	-
ARDL, Inc	PROJECT Shelbyville Lake	SAMPLERS: (Signature) <i>Ren Grubed</i>	SAMPLE NUMBER	I SVL-1	z SVL-2	3 SVL-2-10	4 SVL-4	5 SVL-12,	6 SVL-13	7 SVL-11	لا SVL-15	1 LS Marina /	• FIN Marina /	SUL Marina	2 KAS-3 /	AR		Relinquished by: (Signature)	Belinquished by: (Signature)	r Laboratory	O DURCHASE ORDER NO:

	COOLER RECEIPT ARDL, INC.			
ە ت	DL#: 8669	Cooler # Blue 2		
		Number of Coolers in Shipment: 2		
Pro	ject: <u>Shelbyville Lake</u>	Date Received: 10/20/2020		_
A.	PRELIMINARY EXAMINATION PHASE: Date cooler was opened:	/2020 (Signature) DCB	,	
1.	Did cooler come with a shipping slip (airbill, etc.)?	YES	Ø	9
	If YES, enter carrier name and airbill number here: <u>ARDL</u> (ourier - Valerie		
2.	Were custody seals on outside of cooler?		(NO)) _{N/A}
	How many and where?	,Seal Name:		
3.	Were custody seals unbroken and intact at the date and time of arrival?		NO	(NA)
4.	Did you screen samples for radioactivity using a Geiger Counter?			
5.	Were custody papers sealed in a plastic bag? flamed delivered	YES	NO	· .
6.	Were custody papers filled out properly (ink, signed, etc.)?			N/A
7.	Were custody papers signed in appropriate place by ARDL personnel?			N/A
8.	Was project identifiable from custody papers? If YES, enter project name a			N/A
9.	Was a separate container provided for measuring temperature? YES	NOObserved Cooler TempO.4 Correction factor	-	sample
В.	LOG-IN PHASE: Date samples were logged-in: 10/21/2020	_(Signature)_ <u>I)CI</u> B		
10.	Describe type of packing in cooler: LOOSE Ice			
11.	Were all samples sealed in separate plastic bags?		MO) N/A
12.	Did all containers arrive unbroken and were labels in good condition?) NO	
13.	Were sample labels complete?		NO	
14.	Did all sample labels agree with custody papers?		NO	
15.	Were correct containers used for the tests indicated?) NO	
16.	Was pH correct on preserved water samples?	YES) NO	N/A
17.	Was a sufficient amount of sample sent for tests indicated?		D 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	NIA
	Comments and/or Corrective Action:	Sample Transfer		
		Fraction Fraction		
-		Area # Area #		
		Walk-lp		
		By By		·.
	•	0n 0n 0n		
				~
	By: Signature) Date:	Chain-of-Custody #		
	ADMIN/FORMS/COOLER RECEIPT REPORT.doc Rev. 02/22/17	 نر		

ARDL Report 8669 - Page 32 of 33

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

	<u>COOLER RECEIPT RE</u> ARDL, INC.	EPORT			
. –		Cooler # Blue 1			
	•	Cooler # <u>DIVE_</u> Number of Coolers in Ship	ment: Z		
Pro		Date Received: 10/20/			-
A.	PRELIMINARY EXAMINATION PHASE: Date cooler was opened:	(Signature) DCB	enne 1983 - 2 30 8 20 - 1984,000 - 19	,	
1.	Did cooler come with a shipping slip (airbill, etc.)?		YES	NO)
	If YES, enter carrier name and airbill number here: ARDL CO	vrier-Valerie			
2.	Were custody seals on outside of cooler?		YES	NO	N/A
	How many and where?,Seal Date:,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?			NO	
5.	Were custody papers sealed in a plastic bag? Hand deliveud		YES	NÒ	
6.	Were custody papers filled out properly (ink, signed, etc.)?			NO	N/A
7.	Were custody papers signed in appropriate place by ARDL personnel?			NO	N/A
8.	Was project identifiable from custody papers? If YES, enter project name at the	e top of this form	YES	NO	N/A
9.	Was a separate container provided for measuring temperature? YES	0	p. $Z_1 \overline{Z}_1$	fra S	ample
в.	LOG-IN PHASE: Date samples were logged-in: 10/20/2620 (Si	gnature) DCR Cor			
10.	Describe type of packing in cooler: LOOSE CE				
11.	Were all samples sealed in separate plastic bags?		YES	\bigcirc	N/A
12.	, and the second s		\smile	NO	
13.	Were sample labels complete?			NO	
14.	Did all sample labels agree with custody papers?		ĒŠ	NO	
15.	Were correct containers used for the tests indicated?			NO	
16.	Was pH correct on preserved water samples?		YE9	NO	N/A
17.	Was a sufficient amount of sample sent for tests indicated?			NO	
18.	Were bubbles absent in VOA samples? If NO, list by sample #:		YES	NO	NA
19.	Was the ARDL project coordinator notified of any deficiencies?		YES	NO	NA
	Comments and/or Corrective Action:		Transfer		
I	ecal sample missing on	Fraction	Fraction		
μ	Con Supper Missing Chi	Area _l #	Area #		
	Sample SVL-12.	Walk-In	By		
		1)CB	by		
	•	on 10/21/2020	On		
		Levinsing Support and the second s	L		
/-		Chain-of-Custody #	- reals		
	By: Signature) DCB Date: 10/21/2020 ADMIN/FORMS/COOLER RECEIPT REPORT.doc Rev. 02/22/17		Д		
111. 1			•		

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