National Testing Laboratories, Ltd.
Quality Water Analysis

Corporate Headquarters
6571 Wilson Mills Road
Cleveland, Ohio 44143

Phone: 800-458-3330

This report package contains 20 pages

This package contains reports from the following laboratories:

- National Testing Laboratories, Ltd. (6 pages)
- Pace Analytical Services, Inc.- Minneapolis, MN (7 pages)
- Eurofins Eaton Analytical, Inc. (6 pages)

If you have any questions, please contact Susan Henderson at 1-800-458-3330.

NELAP ACCREDITED TNI LABORATORY

Laboratory ID: 0055

National Testing Laboratories, Ltd

556 South Mansfield, Ypsilanti, MI, 48197-5166
(440) 449-2525, Fax: (440) 449-8585

ANALYTICAL REPORTS

SAMPLE CODE: 392682

6/12/2019

Customer: Archie's Spring Water
Arch Abraham
45345 Telegraph Rd
Elyria , OH 44035

Source: Cherry Knoll Spring
Source City: Amherst
Source State: OH
Sample Temperature: 9.5 C
Field pH: 6.75

Date/Time Received: 4/2/2019 09:20

Collected by: D. Abraham

The results herein conform to TNI and ISO/IEC 17025:2005 standards, where applicable. These results may be used for compliance purposes, as required, unless otherwise narrated in the body of the report. The uncertainty of the test results are available upon request. All Dates and Times are reported as U.S. Eastern Time.

Legend:

Any 'Level Detected' marked with an asterisk (*) indicates that the value has exceeded the EPA Maximum Contaminant Level (MCL) or one of the Standards of Quality.

"ND" This contaminant was not detected at or above our lower reporting limit (LRL)

"NA" Not Analyzed

"Standard" This column indicates either the Maximum Contaminant Level (MCL) for EPA Primary Standards or the guideline values for EPA Secondary Standards.

"LRL" This column indicates the Lower Reporting Limit, which is the lowest level that the laboratory can detect a contaminant.

"DF" This column indicates the contaminant dilution factor.

Report Notes:

pH analysis has a 15 minute hold time from sampling to analysis. Analysis of pH past the 15 minute hold time should be considered an estimate.

Fed Id #	Contaminant	Method	Standard	Units	LRL	Level Detected		DF	Date/Time Sampled		Date Prepped	Date/Time Analyzed	
						Physical Factors							
1927	Alkalinity (Total as CaCO3)	2320B	--	mg/L	20	74		1	4/1/2019	13:22		4/15/2019	
1905	Apparent Color	2120B	15	CU	3	ND		1	4/1/2019	13:22		4/2/2019	15:35
1910	Corrosivity	2330B	--	SI		-0.92	R2	1	4/1/2019	13:22		5/10/2019	14:44
2905	Foaming Agents	5540C	0.5	mg/L	0.1	ND		1	4/1/2019	13:22		4/3/2019	13:10
						MBAS, calculated as Linear Alkylate Sulfonate (LAS), mol wt of 342.4 g/mole							
1915	Hardness (as CaCO3)	2340C	--	mg/L	10	110		1	4/1/2019	13:22		5/16/2019	
1920	Odor Threshold	2150B	3	ton	1	ND		1	4/1/2019	13:22		4/2/2019	13:15
1925	pH	150.1	6.5-8.5	pH Units		7.0		1	4/1/2019	13:22		4/2/2019	13:20
4254	pH Temperature	150.1	--	Deg, C		23		1	4/1/2019	13:22		4/2/2019	13:20
1930	Total Dissolved Solids	2540C	500	mg/L	5	190		1	4/1/2019	13:22		4/6/2019	
0100	Turbidity	2130B	1	NTU	0.1	0.1		1	4/1/2019	13:22		4/2/2019	13:35
						Inorganic Analytes - Other							
1004	Bromide	300.1	--	mg/L	0.005	0.015		1	4/1/2019	13:22		4/8/2019	
1017	Chloride	300.0	250	mg/L	1.0	2.6		1	4/1/2019	13:22		4/2/2019	15:12
1025	Fluoride	300.0	4.0	mg/L	0.10	ND		1	4/1/2019	13:22		4/2/2019	15:12
1040	Nitrate as N	300.0	10	mg/L	0.50	8.40		10	4/1/2019	13:22		4/2/2019	18:33
1041	Nitrite as N	300.0	1	mg/L	0.05	ND		1	4/1/2019	13:22		4/2/2019	15:12
1044	Ortho Phosphate	300.0	--	mg/L	2.0	ND		1	4/1/2019	13:22		4/2/2019	15:12
1055	Sulfate	300.0	250	mg/L	5.0	10.0		1	4/1/2019	13:22		4/2/2019	15:12

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ANALYTICAL REPORTS

SAMPLE CODE: 392682

6/12/2019

Fed Id #	Contaminant	Method	Standard	Units	LRL	Level Detected	DF	Date/Time Sampled		Date Prepped	Date/Time Analyzed
					Organic Analytes - Trihalomethanes						
2943	Bromodichloromethane	524.2 THMs	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2942	Bromoform	524.2 THMs	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2941	Chloroform	524.2 THMs	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2944	Dibromochloromethane	524.2 THMs	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2950	Total THMs	524.2 THMs	0.080	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
					Organic Analytes - Volatiles						
2986	1,1,1,2-Tetrachloroethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2981	1,1,1-Trichloroethane	524.2	0.2	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2988	1,1,2,2-Tetrachloroethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2985	1,1,2-Trichloroethane	524.2	0.005	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2978	1,1-Dichloroethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2977	1,1-Dichloroethene	524.2	0.007	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2410	1,1-Dichloropropene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2420	1,2,3-Trichlorobenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2414	1,2,3-Trichloropropane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2378	1,2,4-Trichlorobenzene	524.2	0.07	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2418	1,2,4-Trimethylbenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2968	1,2-Dichlorobenzene	524.2	0.6	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2980	1,2-Dichloroethane	524.2	0.005	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2983	1,2-Dichloropropane	524.2	0.005	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2424	1,3,5-Trimethylbenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2967	1,3-Dichlorobenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2412	1,3-Dichloropropane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2969	1,4-Dichlorobenzene	524.2	0.075	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2416	2,2-Dichloropropane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2965	2-Chlorotoluene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2966	4-Chlorotoluene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2030	4-Isopropyltoluene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2990	Benzene	524.2	0.005	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2993	Bromobenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2430	Bromochloromethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2214	Bromomethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2982	Carbon Tetrachloride	524.2	0.005	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2989	Chlorobenzene	524.2	0.1	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2216	Chloroethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2210	Chloromethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2380	cis-1,2-Dichloroethene	524.2	0.07	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019

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2228	cis-1,3-Dichloropropene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2408	Dibromomethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2212	Dichlorodifluoromethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2964	Dichloromethane	524.2	0.005	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2992	Ethylbenzene	524.2	0.7	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2246	Hexachlorobutadiene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2994	Isopropylbenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2251	Methyl Tert Butyl Ether	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2247	Methyl-Ethyl Ketone	524.2	--	mg/L	0.005	ND	1	4/1/2019	13:22		4/12/2019
2248	Naphthalene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2422	n-Butylbenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2997	o-Xylene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2963	p and m-Xylenes	524.2	--	mg/L	0.0010	ND	1	4/1/2019	13:22		4/12/2019
	Due to the limitation of EPA Method 524.2, p and m isomers of Xylene are reported as aggregate.										
2998	Propylbenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2428	sec-Butylbenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2996	Styrene	524.2	0.1	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2426	tert-Butylbenzene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2987	Tetrachloroethene	524.2	0.005	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2991	Toluene	524.2	1	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2979	trans-1,2-Dichloroethene	524.2	0.1	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2224	trans-1,3-Dichloropropene	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2984	Trichloroethene	524.2	0.005	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2218	Trichlorofluoromethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2904	Trichlorotrifluoroethane	524.2	--	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2976	Vinyl Chloride	524.2	0.002	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
2955	Xylenes (Total)	524.2	10	mg/L	0.0005	ND	1	4/1/2019	13:22		4/12/2019
	Organic Analytes - Others										
2931	1,2-Dibromo-3-chloropropane	504.1	0.0002	mg/L	0.00001	ND	1	4/1/2019	13:22	4/11/2019	4/11/2019
2946	1,2-Dibromoethane	504.1	0.00005	mg/L	0.00001	ND	1	4/1/2019	13:22	4/11/2019	4/11/2019
2105	2,4-D	515.4	70	ug/L	0.1	ND	1	4/1/2019	13:22	4/10/2019	5/1/2019
2066	3-Hydroxycarbofuran	531.2	--	ug/L	1.0	ND	1	4/1/2019	13:22		4/17/2019
2051	Alachlor	525.2	2	ug/L	0.2	ND	1	4/1/2019	13:22	4/5/2019	4/15/2019
2047	Aldicarb	531.2	7	ug/L	1.0	ND	1	4/1/2019	13:22		4/17/2019
2044	Aldicarb sulfone	531.2	7	ug/L	1.0	ND	1	4/1/2019	13:22		4/17/2019
2043	Aldicarb sulfoxide	531.2	7	ug/L	1.0	ND	1	4/1/2019	13:22		4/17/2019
2356	Aldrin	505	--	mg/L	0.00007	ND	1	4/1/2019	13:22	4/8/2019	4/9/2019
2050	Atrazine	525.2	3	ug/L	0.1	ND	1	4/1/2019	13:22	4/5/2019	4/15/2019
2625	Bentazon	515.4	--	ug/L	1	ND	1	4/1/2019	13:22	4/10/2019	5/1/2019
2306	Benzo(A)pyrene	525.2	0.2	ug/L	0.1	ND	1	4/1/2019	13:22	4/5/2019	4/15/2019
2076	Butachlor	525.2	--	ug/L	0.2	ND	1	4/1/2019	13:22	4/5/2019	4/15/2019

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ANALYTICAL REPORTS

SAMPLE CODE: 392682

6/12/2019

Fed Id #	Contaminant	Method	Standard	Units	LRL	Level Detected		DF	Date/Time Sampled		Date Prepped	Date/Time Analyzed
2021	Carbaryl	531.2	--	ug/L	1.0	ND		1	4/1/2019	13:22		4/17/2019
2046	Carbofuran	531.2	40	ug/L	1.0	ND		1	4/1/2019	13:22		4/17/2019
2959	Chlordane	505	0.002	mg/L	0.0001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2031	Dalapon	515.4	200	ug/L	1	ND		1	4/1/2019	13:22	4/10/2019	5/1/2019
2035	Di(2-ethylhexyl) adipate	525.2	400	ug/L	0.2	ND		1	4/1/2019	13:22	4/5/2019	4/15/2019
2039	Di(2-ethylhexyl) phthalate	525.2	6	ug/L	0.6	ND		1	4/1/2019	13:22	4/5/2019	4/15/2019
2440	Dicamba	515.4	--	ug/L	1	ND		1	4/1/2019	13:22	4/10/2019	5/1/2019
2933	Dichloran	505	--	mg/L	0.001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2070	Dieldrin	505	--	mg/L	0.00002	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2041	Dinoseb	515.4	7	ug/L	0.2	ND		1	4/1/2019	13:22	4/10/2019	5/1/2019
2032	Diquat	549.2	20	ug/L	0.4	ND		1	4/1/2019	13:22	4/5/2019	4/25/2019
2033	Endothall	548.1	100	ug/L	9	ND		1	4/1/2019	13:22	4/8/2019	4/17/2019
2005	Endrin	505	0.002	mg/L	0.00001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2034	Glyphosate	547	700	ug/L	6	ND		1	4/1/2019	13:22		4/11/2019
2065	Heptachlor	505	0.0004	mg/L	0.00001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2067	Heptachlor Epoxide	505	0.0002	mg/L	0.00001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2274	Hexachlorobenzene	505	0.001	mg/L	0.0001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2042	Hexachlorocyclopentadiene	505	0.05	mg/L	0.0001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2010	Lindane	505	0.0002	mg/L	0.00002	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2022	Methomyl	531.2	--	ug/L	1.0	ND		1	4/1/2019	13:22		4/17/2019
2015	Methoxychlor	505	0.04	mg/L	0.0001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2045	Metolachlor	525.2	--	ug/L	0.2	ND		1	4/1/2019	13:22	4/5/2019	4/15/2019
2595	Metribuzin	525.2	--	ug/L	0.2	ND		1	4/1/2019	13:22	4/5/2019	4/15/2019
2626	Molinate	525.2	--	ug/L	0.2	ND		1	4/1/2019	13:22	4/5/2019	4/15/2019
2036	Oxamyl	531.2	200	ug/L	1.0	ND		1	4/1/2019	13:22		4/17/2019
2934	Pentachloronitrobenzene	505	--	mg/L	0.0001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2326	Pentachlorophenol	515.4	1	ug/L	0.04	ND		1	4/1/2019	13:22	4/10/2019	5/1/2019
2040	Picloram	515.4	500	ug/L	0.1	ND		1	4/1/2019	13:22	4/10/2019	5/1/2019
2077	Propachlor	525.2	--	ug/L	0.2	ND		1	4/1/2019	13:22	4/5/2019	4/15/2019
2110	Silvex 2,4,5-TP	515.4	50	ug/L	0.2	ND		1	4/1/2019	13:22	4/10/2019	5/1/2019
2037	Simazine	525.2	4	ug/L	0.1	ND		1	4/1/2019	13:22	4/5/2019	4/15/2019
2627	Thiobencarb	525.2	--	ug/L	0.2	ND		1	4/1/2019	13:22	4/5/2019	4/15/2019
2383	Total PCBs	505	0.0005	mg/L	0.0005	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2910	Total Phenols	420.4	--	mg/L	0.001	ND	R2	1	4/1/2019	13:22		4/4/2019
2020	Toxaphene	505	0.003	mg/L	0.001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019
2055	Trifluralin	505	--	mg/L	0.001	ND		1	4/1/2019	13:22	4/8/2019	4/9/2019

Qualifiers:

R2: The laboratory is not accredited for this analyte. The resulting value should be used for informational purposes only.

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ANALYTICAL REPORTS

SAMPLE CODE: 392682

6/12/2019

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Analyst	Tests
PC	2320B,2120B,5540C,2340C,2150B,150.1,2130B
SAH	2330B
CF	2540C
SG	300.1,300.0
SB	524.2 THMs,524.2,531.2,549.2,547
JPT	504.1,515.4,505
JF	525.2,548.1
DHG	420.4

Christine MacMillan, Technical Director

Laboratory ID: 0055

National Testing Laboratories, Ltd

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ANALYTICAL REPORTS

SAMPLE CODE: 392681

4/11/2019

Customer: Archie's Spring Water
Arch Abraham
45345 Telegraph Rd
Elyria , OH 44035

Source: Cherry Knoll Spring
Source City: Amherst
Source State: OH
Sample Temperature: 9.5 C
Field pH: 6.75

Date/Time Received: 4/2/2019 09:20
Collected by: D. Abraham

The results herein conform to TNI and ISO/IEC 17025:2005 standards, where applicable. These results may be used for compliance purposes, as required, unless otherwise narrated in the body of the report. The uncertainty of the test results are available upon request. All Dates and Times are reported as U.S. Eastern Time.

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"ND" This contaminant was not detected at or above our lower reporting limit (LRL)

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"DF" This column indicates the contaminant dilution factor.

Report Notes:

Fed Id #	Contaminant	Method	Standard	Units	LRL	Level Detected		DF	Date/Time Sampled		Date Prepped	Date/Time Analyzed	
						Microbiologicals							
3114	E. Coli	9223B	1	MPN/100 mL	1	ND		1	4/1/2019	13:22		4/2/2019	12:40
3001	Standard Plate Count	9215B	500	CFU/ml	1	4	A6	1	4/1/2019	13:22		4/2/2019	12:30
				Pour Plate Method, 35°C/48hr, Plate Count Agar									
3000	Total Coliform	9223B	1	MPN/100 mL	1	ND		1	4/1/2019	13:22		4/2/2019	12:40

Qualifiers:

A6: The colony count for SPC bacteria is outside the method specifications and the result should be considered as estimated CFU per milliliter.

Analyst	Tests
GK	9223B
CF	9215B

Sarah Buchanan

Sarah Buchanan, Project Manager

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Susan Henderson
National Testing Laboratories
6571 Wilson Mills Road
Cleveland OH 44143

Product Source

Sample ID: 392682
Source Name: Cherry Knoll Spring
Source Location: Amherst OH
PWS ID: N/A
Laboratory Sample ID: 10469615001
Date Sampled: 04/01/2019 @ 13:22
Date Received: 04/04/2019 @ 09:05

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Report Summary:

Enclosed are analytical results of one drinking water sample analyzed for 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613B by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

The results reported for this sample and the associated quality control samples were all within the criteria described in Method 1613B. If you have any questions or concerns regarding these results, please contact Joanne Richardson, your Pace Project Manager.

Pace Project Number:
10469615

Report Prepared Date:
April 12, 2019

This report has been reviewed by:

Joanne Richardson

April 12, 2019
Joanne Richardson,
(612) 607-6453
(612) 607-6444 (fax)

NELAP ACCREDITED TNI LABORATORY

Report of Laboratory Analysis

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Minnesota - Pet	1240
Alabama	40770	Mississippi	MN00064
Alaska - DW	MN00064	Missouri - DW	10100
Alaska - UST	17-009	Montana	CERT0092
Arizona	AZ0014	Nebraska	NE-OS-18-06
Arkansas - DW	MN00064	Nevada	MN00064
Arkansas - WW	88-0680	New Hampshire	2081
CNMI Saipan	MP0003	New Jersey (NE	MN002
California	2929	New York	11647
Colorado	MN00064	North Carolina	27700
Connecticut	PH-0256	North Carolina -	27700
EPA Region 8+	via MN 027-053	North Carolina -	530
Florida (NELAP	E87605	North Dakota	R-036
Georgia	959	Ohio - DW	41244
Guam	17-001r	Ohio - VAP	CL101
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon - Primar	MN300001
Illinois	200011	Oregon - Secon	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky - DW	90062	South Dakota	NA
Kentucky - WW	90062	Tennessee	TN02818
Louisiana - DE	03086	Texas	T104704192
Louisiana - DW	MN00064	Utah (NELAP)	MN00064
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Massachusetts	M-MN064	West Virginia -	382
Michigan	9909	West Virginia -	9952C
Minnesota	027-053-137	Wisconsin	999407970
Minnesota - De	via MN 027-053	Wyoming - UST	2926.01

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interferencepresent

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDEInterference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = SeeDiscussion

REPORT OF LABORATORY ANALYSIS

Report No.....10469615_1613DW_DFR

National Testing Laboratories, Ltd.

Quality Water Analysis

CHAIN OF CUSTODY

Initiated by: ☐ Client ☑ National Testing Laboratories, Ltd. ☐ Other

CLIENT/COMPANY NAME:

CLIENT COMMENTS:

TYPES OF SAMPLES:

DRINKING WATER = D SOIL SAMPLE = S
GROUND WATER = G SLUDGE/WASTE = W
POOL WATER = P OTHER TYPE = O

WO#: 10469615

10469615

SAMPLE #	COLLECTION DATE	COLLECTION TIME	SAMPLE SITE DESCRIPTION	SAMPLE TYPE	# OF CONTAINERS	TEST(S) REQUESTED PER SAMPLE (X): Dioxin	LAB #
392682	04/1/19	1322	2128316	D	2	X	
392547	3/27/19	1330	2123353	D	2	X	

RECEIVER SIGNATURE CONFIRMS THAT THE BOTTLES RECEIVED ARE CONSISTENT WITH THE REQUIRED TESTING PROTOCOL.

SAMPLED BY: (Signature) (1)	DATE	TIME	RELINQUISHED BY: (Signature) (4)	DATE	TIME
SHIPPED BY: (Signature) (2)	DATE 4/3/19	TIME 1400	RECEIVED BY: (Signature) (5)	DATE	TIME
RECEIVED BY: (Signature) (3) Courier Pace	DATE 4/4/19	TIME 0905	RELINQUISHED BY: (Signature) (6)	DATE	TIME
			RECEIVED BY: (Signature) (7)	DATE	TIME

LABORATORY COMMENTS:

COC-001 2/22/11

T-26

See instructions on reverse side →

National Testing Laboratories, Ltd.
Quality Water Analysis
1-800-458-3330

Beverage - Source Water

Order Number: 2128316
Order Date: 3/4/2019
Sample Number: 392682
Product: FDABASE G
Paid: No Method: P.O.:
TSR: SBW

Elyria OH 44035

Date Sampled: 04 / 1 / 19
Time Sampled: 13 : 22 Please Use Military Time, e.g. 3:00pm = 15:00
Check Time Zone: ☒ EST ☐ CST ☐ MST ☐ PST

Source Water Information:

PWS ID# (if applicable): —
Source Name: Cherry Knoll Spring
City & State: Amherst OH
(If Different than Above)
Sample Collected By: D
(Signature)
Sample Collected By: Damon Abraham
(Please Print)
Sample Temperature: 9.5°c Field pH: 6.75
Measured at Source By: Damon Abraham
Form Completed By: Damon Abraham
Additional Comments:

For Laboratory Use ONLY

Lab Accounting Information:
Payment $:
Check #:

Lab Comments/Special Instructions:
2019 Spring Source Water

Dioxin

State Forms:
5°c

Lab Sample Information:
Date Received: 4 / 2 / 19
Time Received: 09 : 20
Received By: DF
☒ Sample receipt criteria checked & acceptable.
☐ Deviations from acceptable sample receipt criteria noted on PSA form.

INCOMPLETE INFORMATION MAY DELAY ANALYSIS AND/OR INVALIDATE RESULTS

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 06Feb2019 Page 1 of 1
	Document No.: F-MN-L-213-rev.25	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: National Testing Laboratories

Project #: WO#: 10469615

PM: JMR Due Date: 04/15/19

CLIENT: NTL

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial See Exception ☐

Tracking Number: 1Z AW4 931 01 6795 0170

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

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

Thermometer: ☐ G87A9155100842 ☒ G87A9170600254 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** _____ °C

Correction Factor: True **Cooler Temp Corrected w/temp blank:** _____ °C

Average Corrected Temp (no temp blank only): 2.6 °C **See Exceptions** ☒

USDA Regulated Soil: (☒ N/A, water sample/Other: _____)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

Date/Initials of Person Examining Contents: CG 4/4/19

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☒ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☐ Yes	☒ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. If no, write ID/ Date/Time on Container Below: **See Exception** ☐
Matrix: ☒ Water ☐ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☒ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **See Exception** ☐
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): N/A

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jeanne Richardson **Date:** 4-4-19

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

Labeled by: _____

PaceAnalyticalServices,LLC.
1700ElmStreet
Minneapolis,MN,55414

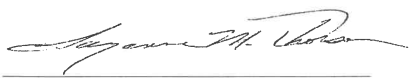
Tel612-607-1700
Fax612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID.....392682 Date Collected.....04/01/2019 Spike.....200 pg
Client..... National Testing Laborato Date Received.....04/04/2019 IS Spike.....2000 pg
Lab Sample ID..... 10469615001 Date Extracted.....04/09/2019 CS Spike.....200 pg

	Sample 392682	Method Blank	Lab Spike	Lab Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
LOQ	5.0 pg/L	5.0 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	105%	103%
pg Recovered	--	--	210pg/L	206pg/L
Spike Recovery Limit	--	--	73-146%	73-146%
RPD				2.0%
IS Recovery	**67%**	63%	51%	66%
pg Recovered	1349 pg/L	1259 pg/L	1022 pg/L	1315 pg/L
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**86%**	82%	69%	96%
pg Recovered	172 pg/L	164 pg/L	139 pg/L	192 pg/L
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	E190411A_09	E190410A_05	E190410A_06	E190410A_07
Analysis Date	04/11/2019	04/10/2019	04/10/2019	04/10/2019
Analysis Time	15:26	11:04	11:30	11:56
Analyst	SMT	SMT	SMT	SMT
Volume	0.982L	0.966L	0.989L	0.976L
Dilution	NA	NA	NA	NA
ICAL Date	12/15/2018	12/15/2018	12/15/2018	12/15/2018
CCAL Filename	E190411A_05	E190410A_02	E190410A_02	E190410A_02

! = Outside the Control Limits
ND = Not Detected
LOQ = Limit of Quantitation
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD- $^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD- $^{37}Cl_4$]

Analyst: 

Project No.....10469615

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110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: National Testing Laboratories (Cleveland)

Attn: Susan Henderson
6571 Wilson Mills Road
Cleveland, OH 44143

Report: 447898
Priority: Standard Written
Status: Final
PWS ID: Not Supplied
Ohio Lab ID# 87775

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
4248237	392682 Order #2128316	335.4	04/01/19 13:22	Client	04/04/19 09:30

Report Summary

Note: Sample container for Method 331.0 was provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

ASM

Authorized Signature | Title

04/10/2019
Date

Client Name: National Testing Laboratories (Cleveland)
Report #: 447898

Client Name: National Testing Laboratories (Cleveland) Report #: 447898

Sampling Point: 392682 Order #2128316 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
57-12-5	Cyanide, Total	335.4	0.1 &	0.02	< 0.02	mg/L	04/06/19 16:25	04/06/19 17:03	4248237

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL	SOQ
Symbol:	*	^	!	&

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

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110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: National Testing Laboratories

Attn: Susan Henderson
6571 Wilson Mills Road
Cleveland, OH 44143

Report: 451644
Priority: Rush Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
4288086	392682 Order #2128316	200.8	04/01/19 13:22	Client	05/09/19 09:45
4288086	392682 Order #2128316	245.1	04/01/19 13:22	Client	05/09/19 09:45
4288086	392682 Order #2128316	200.7	04/01/19 13:22	Client	05/09/19 09:45

Report Summary

Note: Sample container was provided by the client.

Note: The sample submitted for Method 245.1 analysis was received beyond the twenty-eight day holding time. The client was notified of the situation, and analysis was authorized by Suzette Berlet-Walker of NTL.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

ASM — 05/15/2019

Authorized Signature | Title | Date

Client Name: National Testing Laboratories
Report #: 451644

Client Name: National Testing Laboratories

Report #: 451644

Sampling Point: 392682 Order #2128316

PWS ID: Not Supplied

Metals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
7440-70-2	Calcium	200.7	---	0.1	**39**	mg/L	---	05/10/19 13:47	4288086
7439-89-6	Iron	200.7	0.3 &	0.020	< 0.020	mg/L	---	05/10/19 13:47	4288086
7439-95-4	Magnesium	200.7	---	0.1	**5.1**	mg/L	---	05/10/19 13:47	4288086
7440-09-7	Potassium	200.7	---	0.2	**0.9**	mg/L	---	05/10/19 13:47	4288086
7631-86-9	Silica, Total	200.7	---	0.1	**9.9**	mg/L	---	05/10/19 13:47	4288086
7440-23-5	Sodium	200.7	---	0.1	**2.3**	mg/L	---	05/10/19 13:47	4288086
7429-90-5	Aluminum	200.8	200 &	2.0	**5.9**	ug/L	---	05/10/19 14:44	4288086
7440-36-0	Antimony	200.8	6 &	1.0	< 1.0	ug/L	---	05/10/19 14:44	4288086
7440-38-2	Arsenic	200.8	10 &	1.0	< 1.0	ug/L	---	05/10/19 14:44	4288086
7440-39-3	Barium	200.8	1000 &	2.0	**8.7**	ug/L	---	05/10/19 14:44	4288086
7440-41-7	Beryllium	200.8	4 &	0.3	< 0.3	ug/L	---	05/10/19 14:44	4288086
7440-42-8	Boron	200.8	---	5.0	**15**	ug/L	---	05/10/19 14:44	4288086
7440-43-9	Cadmium	200.8	5 &	1.0	< 1.0	ug/L	---	05/10/19 14:44	4288086
7440-47-3	Chromium	200.8	50 &	0.9	< 0.9	ug/L	---	05/10/19 14:44	4288086
7440-50-8	Copper	200.8	1000 &	1.0	**2.0**	ug/L	---	05/10/19 14:44	4288086
7439-92-1	Lead	200.8	5 &	1.0	< 1.0	ug/L	---	05/10/19 14:44	4288086
7439-96-5	Manganese	200.8	50 &	2.0	< 2.0	ug/L	---	05/10/19 14:44	4288086
7440-02-0	Nickel	200.8	100 &	1.0	< 1.0	ug/L	---	05/10/19 14:44	4288086
7782-49-2	Selenium	200.8	10 &	2.0	< 2.0	ug/L	---	05/10/19 14:44	4288086
7440-22-4	Silver	200.8	25 &	2.0	< 2.0	ug/L	---	05/10/19 14:44	4288086
7440-28-0	Thallium	200.8	2 &	0.3	< 0.3	ug/L	---	05/10/19 14:44	4288086
7440-61-1	Uranium	200.8	30 &	1.0	< 1.0	ug/L	---	05/10/19 14:44	4288086
7440-66-6	Zinc	200.8	5000 &	5.0	< 5.0	ug/L	---	05/10/19 14:44	4288086
7439-97-6	Mercury	245.1	1 &	0.1	< 0.1	ug/L	05/14/19 16:28	05/15/19 14:19	4288086

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL	SOQ
Symbol:	*	^	!	&

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.