DRAFT CORRECTIVE ACTION PLAN

August 2022

Clinton, AR Land Application of WWTP Effluent

PREPARED FOR:

CITY OF CLINTON, ARKANSAS



PREPARED BY:

SALT Engineers & Planners, Inc. 407 W. Arch Ave. Searcy, AR 72143



SALT Project # 08-22-03





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INTRODUCTION

The Arkansas Division of Environmental Quality – Office of Water Quality (OWQ) conducted a review of the Clinton, AR Land Application Permit (5130-WR2) and found multiple compliance issues. The violations are summarized below:

- Sampling Violations
- Incorrect Acreage on Annual Reports

In addition, OWQ suspected an over-application of effluent and asked for a Corrective Action Plan to establish a per acre daily application rate, and a water balance for the Wastewater Treatment Plant (WWTP).

WATER BALANCE

Water Sold to Sewer Customers

The City of Clinton has approximately 1,059 sewer customers. The table on the next page shows the total water sold to sewer customers for each month for 2019, 2020, and 2021. The 3-year average monthly water sold to sewer customers was 5.18 MG, or approximately 0.173 MGD. The 3-year maximum monthly water sold was in September 2019 at 6.66 MG, or approximately 0.222 MGD. The 3-year minimum monthly water sold was in December 2020 at 4.0 MG, or approximately 0.133 MGD.

The maximum monthly WWTP peaking factor, defined as total water treated divided by the total water sold to sewer customers, occurred in March 2019 at 6.68. The WWTP does not currently have an influent flow meter, therefore, the calculated monthly peaking factor is the only estimate available. The table on the next page also show the estimated Infiltration and Inflow (I/I). The maximum estimated I/I value occurred in March 2021, at 25.71 MG. Due to large daily and intra-day peaks in I/I, it isn't useful to report the estimated I/I as a daily average.

An influent flow meter is planned for installation at the WWTP so that more accurate values for peak I/I can be determined. The installation will require significant changes to the existing headworks structure, as detailed later in this report.

Water Sprayed on Irrigation Fields

The water sprayed values shown in the Water Balance Table were estimated based on the irrigation pump and system curve from the original installation, and the length of application. The estimated flow was 2,200 gpm. Impeller wear since installation has likely resulted in the water sprayed value being slightly over-estimated. Clinton staff have, in the past, installed a clamp-on ultra-sonic flow meter on the forcemain feeding the irrigation fields. Results from that period indicated a flow of approximately 1,900 gpm to the irrigation fields. This value was used in calculating the irrigation application rate and derived required acreage per application.

Water Sold – Date Sewer Customers Only		WWTP Effluent	Water Sprayed	Estimated I/I
	(MG)	(IVIG)	(IVIG)	(IVIG)
J-19	4.43	22.37		17.94
F-19	5.9	26.34		20.44
M-19	4.33	28.91		24.58
A-19	5.1		10.56	5.46
M-19	4.52		12.14	7.62
J-19	5.4		10.03	4.63
J-19	5.72		7.39	1.67
A-19				
S-19	6.66		4.75	-1.91
0-19	5.98		4.75	-1.23
N-19	5.34		7.39	2.05
D-19	4.34		6.33	1.99
2019	57.72	77.62	63.34	83.24
J-20	5.42	28.8		23.38
F-20	4.6	25.6		21
M-20 5.02		27.5		22.48
A-20 4.95		27.9		22.95
M-20	4.11	8.91	4.2	9
J-20	4.53	16.95	4.7	17.12
J-20	5.55		7.92	2.37
A-20	5.61		6.86	1.25
S-20	5.57		4.75	-0.82
O-20	4.95		3.69	-1.26
N-20 5.82			5.28	-0.54
D-20	4		5.8	1.8
2020	60.13	135.66	43.2	118.73
J-21	5.56	23.79		18.23
F-21	5.45	18.99		13.54
M-21	4.84	30.55		25.71
A-21	4.01		9.5	5.49
M-21	4.54		8.44	3.9
J-21	5.65		7.92	2.27
J-21	5.62		7.39	1.77
A-21	5.81		6.33	0.52
S-21	6.55		7.92	1.37
0-21	5.43		4.75	-0.68
N-21	4.91		8.97	4.06
D-21	5.03		6.86	1.83
2021	63.4	73.33	68.08	78.01

COMPLETED & PROPOSED CORRECTIVE ACTIONS

Action 1: Initial Irrigation Water Effluent Sampling

ESC Laboratories pulled a sample of the irrigation water and analyzed the missing parameters referenced in the OWQ's Request for Corrective Actions. The sample was collected July 25, 2022. The parameters and results are shown in the table below:

Parameter	Concentration	
Effluent Water Annual	Sampling	
рН	9.0 s.u.	
Total Solids	<10,000 mg/L	
Electrical Conductivity	1,831 µmho/cm	
Nitrate Nitrogen	1.661 mg/L	
Nitrite Nitrogen	0.139 mg/L	
Ammonia Nitrogen	<0.01 mg/L	
Total Kjeldahl Nitrogen	6.2 mg/L	
Total Phosphorus	3.02 mg/L	
Total Potassium	6.6241 mg/L	
Oil & Grease	<5.00 mg/L	
Carbonaceous Biochemical Oxygen Demand	8.7 mg/L	
Total Suspended Solids	55.0 mg/L	
Fecal Coliform Bacteria	1,733/100 mL	
Sodium Absorption Rate	51.3731	
Effluent Water 5-Year	Sampling	
Arsenic	0.0109 mg/L	
Cadmium	<0.02 mg/L	
Copper	<0.02 mg/L	
Lead	0.01458 mg/L	
Mercury	<0.005 mg/L	
Molybdenum	<0.05 mg/L	
Nickel	<0.02 mg/L	
Selenium	<0.015 mg/L	
Zinc	0.0447 mg/L	

Future samples will be pulled from the lagoon prior to beginning land application for the year. The lagoon samples are representative of the water to be land applied.

Action 2: Correction of Inaccurate Reporting of Acreage on Past Annual Report

Clinton staff have been totalizing the acreage applied to each day for the month and the sum of these values has been errantly used to calculate loading rates for the annual report. The available acreage for land application of effluent is 86 acres. ESC Laboratories has updated the annual reports. The reports are attached in Appendix B of this Corrective Action Plan.

Action 3: Calculation of Allowable Application Rate and Required Acreage

The application of wastewater to vegetated soil surfaces is termed slow rate land treatment. The Clinton land application system uses this type of treatment. Application rates for slow rate land treatment are set by the design percolation rate which depends primarily upon the saturated infiltration rate of the soil (K_{SAT}). Infiltration rates are affected by the ionic composition of the soil and water, the type and stage of vegetation, the rate and duration of water application, and the state of the soil surface. The *EPA Process Design Manual for Land Treatment of Municipal Wastewater Effluents* recommends that a considerable safety factor of 10 to 25 be applied when using published data on soil permeability. This accounts for intermittent applications (time for reaeration), variability of soil at site, and for the reduction in percolation with time (% saturation). The National Cooperative Soil Survey for Van Buren County, AR, published jointly by the U.S. Department of Agriculture (USDA) and the National Resource Conservation Service (NRCS) indicates that both soil types comprising the application fields have a moderately high to high K_{SAT} (capacity of the most limiting layer to transmit water) of 0.57 to 1.98 in/hr. A value of 1 in/hr was utilized for the application rate calculations used in this report. Appendix C contains the referenced soil survey.

Using a 25 safety factor (4% of published value) results in an adjusted K_{SAT} of 28.8 inches per month of allowed water. Subtracting the monthly average precipitation results in the values shown on the next page for allowable application of wastewater. The required acres value was calculated as the amount of land area required to limit the daily application of 456,000 gpd (1,900 gpm application rate x 4 hrs of application x 60 min/hr = 456,000 gpd). Due to more precipitation and less evapotranspiration during the cooler months, more acreage will be required for each application, than during the warmer months. Allowable application is calculated as the adjusted K_{SAT} value, mentioned above plus the monthly evapotranspiration less the monthly average precipitation. The monthly evapotranspiration exceeds the monthly average precipitation for the months of June, July, and August, therefore, the allowable application rate exceeds the adjusted published soil infiltration rate for those months. In all other months the precipitation is expected to exceed the evapotranspiration and reduce the allowable application below the adjusted soil infiltration rate.

Reaeration time is the primary factor in determining the cycle time for applications. However, the large safety factor recommended when using published K_{SAT} values already accounts for this by reducing the assumed infiltration rate considerably below the expected field rate. In addition, the value used from published data is the K_{SAT} of the most restrictive layer of soil, not an average of different soil horizons as would be used for collected in-situ data.

The figure below shows the calculated allowable loading for each month of the year using the rationale explained above.



The data is shown in table form below, including the required application area to limit the flow the calculated allowable application rate.

Month	Average Precipitation (in)	Allowable WW Application Rate (in)	Allowable WW Application Rate (in/day)	Req. Acres @ 1,900 gpm Irrigation Rate (Ac for 4-hr)
January	3.6	25.53	0.85	19.73
February	3.9	25.23	0.84	19.97
March	4.7	25.08	0.84	20.09
April	April 5.1		0.88	19.18
May	5.2	28.60	0.95	17.62
June	3.8	30.90	1.03	16.30
July	3.7	31.50	1.05	15.99
August	3.2	31.68	1.06	15.90
September	September 3.9 28.22 0.94 October 4.7 26.31 0.88		0.94	17.86
October			0.88	19.15
November	5.3	24.11	0.80	20.90
December 4.9 24.29		24.29	0.81	20.75
Yearly	52	87.70	-	-

The intermittent daily application of 4 hours per day requires a small enough acreage to limit the required area to less than 1/3 of the total available acreage of 86 acres, thus allowing a three-day rotation cycle between fields. This is shown in the figure below.



The length of application could be increased to 5 hours per day and still allow a three-day cycle. The figure and table below show the calculated required acres based on 5 hours per day of application.

Irrigation Field Required Acres (5-hr Application)



Month	Average Precipitation (in)	Allowable Monthly WW Application Rate (in)	Allowable WW Application Rate (in/application)	Req. Acres @ 1,900 gpm Irrigation Rate (Ac for 5-hr)
January	3.6	25.53	0.85	24.67
February	3.9	25.23	0.84	24.96
March	4.7	25.08	0.84	25.11
April	5.1	26.27	0.88	23.98
May	5.2	28.60	0.95	22.02
June	3.8	30.90	1.03	20.38
July	3.7	31.50	1.05	19.99
August	3.2	31.68	1.06	19.88
September	3.9	28.22	0.94	22.32
October	October 4.7		0.88	23.94
November	5.3	24.11	0.80	26.13
December 4.9 24.29		24.29	0.81	25.93
Yearly	52	87.70	-	-

Since the design infiltration rate has been reduced to 4% of the published value for the most restrictive soil layer, reaeration time has already been factored in. However, a three-day rotation for the application cycle will add an additional assurance of adequate reaeration of the vadose zone. In-situ data is scheduled to be collected by a soil science team from the University of Arkansas Division of Agriculture Extension Service, using a Saturo automatic Infiltrometer, pictured below. The data will be submitted according to the dates shown in the Corrective Action Schedule at the end of this report.



Another important consideration for the land application of wastewater effluent is the depth to groundwater. The water depth in the sampling wells is recorded at each well sampling event. The figure below shows the data for 2019 – 2021.

The table below summarizes the data for each well. The well locations are shown on the map on the next page.

Date	Well #13	Well #14	Well #16	Well #17
3/28/19	10	9	8.67	12
6/27/19	8.17	9.83	-	11.5
3/23/20	5.5	4.08	-	7.17
7/24/20	9.33	8.25	-	12.75
10/22/20	8.08	9.67	-	12.58
3/19/21	9.75	9.33	-	11.83
6/24/21	13.42	11.08	-	12.5
12/13/21	9.67	10.25	-	14.25
Average	9.24	8.94	18.58	11.82
Min	5.5	4.08	8.67	7.17
Max	13.42	11.08	20	14.25



The OWQ has requested that soil morphology be utilized to estimate the seasonal high water table. Clinton Water will use a local Designated Representative, as licensed by the Arkansas Department of Health to perform the soil morphology assessment and estimate the depth to the seasonal high water table. The data will be submitted according to the dates shown in the Corrective Action Schedule at the end of this report.



The OWQ has requested the installation of additional monitoring wells on the river side of the application fields. The wells will be drilled to auger refusal with an estimated depth of 15'-0", similar to the existing monitoring wells. The locations of the proposed wells are shown with the red stars on the map on the previous page.

Action 4: Installation of Influent Flow Meter

The WWTP is not equipped with an influent flow meter. To better understand the daily loadings and I/I within the Clinton collection system, an influent flow meter will be installed. Sufficient room isn't available within the current headworks structure or between it and the influent pump station to install flow meter. Rerouting of an influent force main will be required to place all inflow at a location that allows installation of an influent flow meter. The Plan shown in Appendix A conveys the conceptual design for the installation of an open channel flow meter along with headworks improvements.

Action 5: Installation of an Effluent Flow Meter for Land Application Water

The current method of estimating the amount of land application water is to take the pumped rate multiplied by the length of application. This should be fairly accurate but a totalizing flow meter is needed to more accurately measure the applied water. Clinton Water staff will install an electromagnetic flow meter in the irrigation water force main leading to the irrigation fields. The Plan in Appendix A shows a detail of the proposed installation.

PROPOSED CORRECTIVE ACTION SCHEDULE

Actions 1-3 have been completed as detailed above. The calculated application rate will be adjusted according to the field data collected from the in-situ infiltrometer and seasonal high water table evaluations. The remaining actions will be completed as shown.

Corrective Action	Completion Date
Initial Irrigation Water Effluent Sampling	Completed
Correction of Inaccurate Reporting of Acreage on Past Annual Report	Completed
Calculation of Allowable Application Rate and Required Acreage	Completed using Published K _{SAT} October 14, 2022 (using In-Situ Data)
In-Situ Saturated Infiltration Tests	September 30, 2022
Evaluation of Seasonal High Water Table	September 30, 2022
Final CAP (based on tests above)	October 14, 2022
Installation of Influent Flow Meter	May 31, 2023
Installation of an Effluent Flow Meter for Land Application Water	May 31, 2023
Installation of Additional Monitoring Wells	May 31, 2023

APPENDIX A FLOW METER INSTALLATION PLANS



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CLINTON WATER DEPARTMENT	EFF. LAND APP. MAG-METER				
	PROJECT #	SHEET			
WWTP EFF. LAND APP. CORRECTIVE ACTION PLAN	08-22-03	A2			

APPENDIX B ANNUAL REPORTS

Clinton Water & Sewer East Plant

Annual Report Permit AR0048836 & 5130-WR-2 January 2018 – December 2018



Environmental Services Company, Inc.

<u>Corporate Office</u> <u>13715 West Markham</u> <u>Little Rock, Arkansas 72211</u> <u>501-221-2565 (p)</u> <u>501-221-1341 (f)</u> <u>www.esclabs.com</u> Carlsbad, New Mexico 575-887-7372 (7ESC) Albuquerque, New Mexico 888-372-3477 Springdale, Arkansas 479-750-1170

Clinton Water and Sewer Department Clinton, AR East WWTP 5130-WR-2 Irrigation Water Calendar Year 2018

			2018 Application Data				Total
		Annual	Million	Number	Gallons	Pounds	Application
Parameter	0	Concentration	Gallons/	of	per	per	Since 2003
		(mg/L)	Year	Acres	Acre-Year	Acre	Pounds/Acre
CBOD	<	2.0000	60.192	86.00	699,907.0	11.682	
Sodium Absorption Ratio		23.7447	60.192	86.00	699,907.0	138.693	
Fecal Coliform	<	1.0000	60.192	86.00	699,907.0	5.841	
Total Suspended Solids		3.0000	60.192	86.00	699,907.0	17.523	
Potassium		5.5523	60.192	86.00	699,907.0	32.431	
Total Phosphorus		0.2150	60.192	86.00	699,907.0	1.256	
Total Kjeldahl Nitrogen		8.8667	60.192	86.00	699,907.0	51.790	686.19
Ammonia Nitrogen		4.4867	60.192	86.00	699,907.0	26.207	177.28
Nitrate + Nitrite Nitrogen		0.6767	60.192	86.00	699,907.0	3.952	113.61
BOD-5	<	22.7000	60.192	86.00	699,907.0	132.591	1,170.80
Arsenic	<	0.0100	60.192	86.00	699,907.0	0.058	0.54
Cadmium	<	0.0040	60.192	86.00	699,907.0	0.023	0.25
Copper	<	0.0038	60.192	86.00	699,907.0	0.022	0.29
Lead	<	0.0101	60.192	86.00	699,907.0	0.059	0.65
Mercury	<	0.0010	60.192	86.00	699,907.0	0.006	0.10
Selenium		0.0100	60.192	86.00	699,907.0	0.058	0.74
Zinc		0.1424	60.192	86.00	699,907.0	0.832	5.21
Conductivity, minimum (mhos/cm)*		415.00					
Conductivity, maximum (mhos/cm)*		187.00					
pH, minimum (SU)*		7.48					
pH, maximum (SU)*		8.10					
Nitrogen Application Rate (lbs N/acre/year)		24.71					

Crop Grown: Bermuda Hay

*Current year values

Sample ID	Clinton East	40.24 LA PB 3						
Control Number	1802010337							
				1.0			4.1	2
	15	t Quarter	2nc	d Quarter	3rc	l Quarter	4th	n Quarter
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date Results (mg/Kg)		Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	02/19/18	4.680						
Ammonia Nitrogen	02/19/18	0.3070						
PAN	02/19/18	4.98						
Phosphorous	02/19/18	482.35						
Potassium	02/19/18	2300.00						
Arsenic	02/19/18	14.50						
Cadmium	02/19/18	<2.50						
Copper	02/19/18	12.00						
Lead	02/19/18	22.50						
Magnesium	02/19/18	1741.00						
Mercury	02/19/18	<.1277						
Nickel	02/19/18	33.00						
Zinc	02/19/18	109.50						
Conductivity (mhos/cm)	02/19/18	30.50						
pH (SU)	02/19/18	6.80						

Sample ID	Clinton East	40.24 LA PB 30						
Control Number	1802010338							
	1 st	Quarter	2m	1 Quarter	3rc	Quarter	∆th	Quarter
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	DateResults (mg/Kg)		Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	02/19/18	10.350						
Ammonia Nitrogen	02/19/18	1.39						
PAN	02/19/18	11.74						
Phosphorous	02/19/18	485.13						
Potassium	02/19/18	1413.50						
Arsenic	02/19/18	16.50						
Cadmium	02/19/18	<2.50						
Copper	02/19/18	10.50						
Lead	02/19/18	17.00						
Magnesium	02/19/18	991.50						
Mercury	02/19/18	<.1195						
Nickel	02/19/18	28.00						
Zinc	02/19/18	75.50						
Conductivity (mhos/cm)	02/19/18	19.59						
pH (SU)	02/19/18	6.90						

Sample ID	Clinton East	55.57 LA PB 10						
Control Number	1802010088							
		0		10			4.1	0
	15	Quarter	2nc	d Quarter	310	l Quarter	4tr	Quarter
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	02/19/18	4.030						
Ammonia Nitrogen	02/19/18	0.5260						
PAN	02/19/18	4.55						
Phosphorous	02/19/18	460.41						
Potassium	02/19/18	1061.50						
Arsenic	02/19/18	9.00						
Cadmium	02/19/18	<2.50						
Copper	02/19/18	6.50						
Lead	02/19/18	12.00						
Magnesium	02/19/18	845.00						
Mercury	02/19/18	<.1176						
Nickel	02/19/18	17.50						
Zinc	02/19/18	61.50						
Conductivity (mhos/cm)	02/19/18	42.80						
pH (SU)	02/19/18	7.11						

Sample ID	Clinton East	55.57 LA PB 3						
Control Number	1802010339							
			2	10	2		4.1	2
	15	Quarter	2nc	d Quarter	310	l Quarter	4th	Quarter
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date Results (mg/Kg)		Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	02/19/18	3.10						
Ammonia Nitrogen	02/19/18	0.3560						
PAN	02/19/18	3.45						
Phosphorous	02/19/18	391.48						
Potassium	02/19/18	850.00						
Arsenic	02/19/18	8.00						
Cadmium	02/19/18	<2.50						
Copper	02/19/18	7.00						
Lead	02/19/18	10.50						
Magnesium	02/19/18	782.50						
Mercury	02/19/18	<.1188						
Nickel	02/19/18	17.50						
Zinc	02/19/18	50.50						
Conductivity (mhos/cm)	02/19/18	27.00						
pH (SU)	02/19/18	6.80						

Sample ID	Clinton East	55.57 LA PB 30						
Control Number	1802010340							
	1	0	2	10	2		4.1	0
	1st	Quarter	2nc	d Quarter	310	Quarter	4tr	Quarter
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date Results (mg/Kg)		Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	02/19/18	4.150						
Ammonia Nitrogen	02/19/18	0.2950						
PAN	02/19/18	4.44						
Phosphorous	02/19/18	412.92						
Potassium	02/19/18	1176.50						
Arsenic	02/19/18	9.00						
Cadmium	02/19/18	<2.50						
Copper	02/19/18	7.00						
Lead	02/19/18	12.50						
Magnesium	02/19/18	881.50						
Mercury	02/19/18	<.1196						
Nickel	02/19/18	19.50						
Zinc	02/19/18	62.00						
Conductivity (mhos/cm)	02/19/18	249.00						
pH (SU)	02/19/18	6.83						

Sample ID	Clinton East	LA Airport 9						
Control Number	1802010341							
				10			4.1	0
	15	Quarter	2no	d Quarter	310	l Quarter	4th	Quarter
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	02/19/18	9.390						
Ammonia Nitrogen	02/19/18	1.68						
PAN	02/19/18	11.07						
Phosphorous	02/19/18	297.01						
Potassium	02/19/18	1066.00						
Arsenic	02/19/18	8.00						
Cadmium	02/19/18	<2.50						
Copper	02/19/18	6.00						
Lead	02/19/18	9.50						
Magnesium	02/19/18	735.50						
Mercury	02/19/18	<.1304						
Nickel	02/19/18	17.00						
Zinc	02/19/18	45.00						
Conductivity (mhos/cm)	02/19/18	12.52						
pH (SU)	02/19/18	6.96						

Sample ID	Clinton East	LA WD 13						
Control Number	1802010342							
				1.0		1.0	4.1	2
	Ist	Quarter	2n	d Quarter	3rc	l Quarter	4th	n Quarter
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	02/19/18	9.060						
Ammonia Nitrogen	02/19/18	1.47						
PAN	02/19/18	10.53						
Phosphorous	02/19/18	382.10						
Potassium	02/19/18	1716.00						
Arsenic	02/19/18	12.00						
Cadmium	02/19/18	<2.50						
Copper	02/19/18	7.50						
Lead	02/19/18	14.50						
Magnesium	02/19/18	1094.00						
Mercury	02/19/18	<.1306						
Nickel	02/19/18	21.50						
Zinc	02/19/18	64.50						
Conductivity (mhos/cm)	02/19/18	12.07						
pH (SU)	02/19/18	7.22						

Environmental Services Company, Inc.

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WTR

Collected By: JGK

Delivery By : JGK

Purchase Order :

Work Order :

Control Number:	1806010510	Sample	Date	:	06/28	8/18
Customer Name :	CLINTON, EAST IW	Sample	Time	:	1022	
Customer/Permit	No. : 619 / AR0048836 001	Sample	Туре	:	GRAB	WWATER
Report Date : 08	3/02/22	Sample	From	:	EAST	IRRIGATION

			Laboratory Ana	alysis			Quality ;	Assurance
Ana	alysis						Precision	Accuracy
<u>Date</u>	Time By	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
06/28	1700 PJC	BOD, 5-day	17.0	mg/L		SM 2011 5210 B	0.00	95.1 *
07/03	1400 PJC	Ammonia as N, (HACH/SM)	5.89	mg/L		SM 2011 4500-NH3-G	2.26	101.1 *
07/02	1230 CLB	Kjeldahl Nitrogen Total	12.60	mg/L		SM 2011 4500-NorgB	3.35	90.5
07/05	1718 RAH	Potassium	5.5523	mg/L		EPA 200.8	4.08	107.0 *
07/05	1718 RAH	Copper	< 0.0030	mg/L		EPA 200.8	7.11	107.5 *
07/05	1718 RAH	Zinc	0.0100	mg/L		EPA 200.8	3.10	101.5 *
07/05	1718 RAH	Arsenic	< 0.0100	mg/L		EPA 200.8	4.54	102.6 *
07/05	1718 RAH	Selenium	< 0.0100	mg/L		EPA 200.8	1.04	103.5 *
06/28	1025 JGK	Spec. Conductance @ 25 C	214.000	umho/c		EPA 120.1	0.00	N/A *
07/05	1718 RAH	Cadmium	< 0.00400	mg/L		EPA 200.8	1.80	106.5 *
07/06	1550 RAH	Mercury	< 0.0010	mg/L		EPA 245.7	2.69	98.9 *
07/05	1718 RAH	Lead	< 0.01000	mg/L		EPA 200.8	0.30	103.8 *
07/03	1545 NTR	Nitrate + Nitrite	0.54	mg/L		HACH 10206	0.94	99.2 *
07/06	0800 RAH	Sodium Absorption Ratio	23.7447	Ratio		AGRN 724		

* QA data shown is from a different sample or standard on the same date.

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Signature

Environmental Services

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2565	Fax: 501-221-1341		CF	iain o	F CUS	STOL	YC										
(Client Information				Pro	oject Info	ormation					Req	luest	ted	Para	met	ers
Client:	Clinton, East IW			Permit/Pro	ject #:		AR00488	336									
Address:	P.O. Box 277			Purchase (Order #:												
	Clinton, AR 72031			Work Orde	er#							() T					
Phone:	501-745-4320		******	Sampler N	ame(s):	J·K	Sur	schild				02(9					
Fax:	501-745-2164											Z +		ients			
Contact:	Mr. Phil Graham			and Signat	ure(s):	$\overline{\Box}$	6011	· _1				NO3		omn			
ESC Client Number:	619			1		$\overline{}$						(Å.		ee C			
Sample Ider	ntification	Ι	Sample	Collection		I	Sample (Containers			(3.)	-N(1	(16.A	ls (S			
Identification	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	tive	#	BOD	NH3	TKN	Meta			
Irrigation Water	1806010510	Gaplix	1022	Grab	Wwater	Plastic	1/2 Gal	Cool < 6° C	Ì	1	Х		r t			-	-
	1	1	()	Grab	Wwater	Plastic	1 Liter	Cool < 6* C, H2SO4 to pH <2		1		x	x				
		ч	i,	Grab	Wwater	Plastic	1 Liter	HNO3 to pl	1<2	1				х		-	
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						r					Regu	ilar	\square		Speci	al	
Belinguished By: (Signature and Printe	d Name)	Date		Received for Lab	By: (Signature and			Date		e A	Were	: samp Yes	vies pro	operly	preser	/ed: No Γ	-
	<u>Chię</u>	ICA O DIOY	(<u>, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10</u>	DFlow D	ata	Field Test	Time	Analy	st	Resi	ult	Resu	lt	l	Jnits	l
Comments: Metals: He	g(50.15), Cu(29.HW), 1	Zn(30.HW),	As(33.HW),	Se(34.HW)	Analyst: Time:		pH: Conduct:	1023	<u>r</u>	\sim	7,0	48	7.1	18	S.U.	<u> </u>	
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Environmental Services Company, Inc.

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Collected By: JJM

Delivery By : JJM

Purchase Order :

Work Order :

Control Number: 1808010370 Customer Name : CLINTON, EAST IW Customer/Permit No. : 619 / AR0048836 001 Report Date : 09/04/18 Sample Date : 08/22/18 Sample Time : 0950 Sample Type : GRAB WWATER Sample From : IRRIGATION WATER

		Laboratory Analysi	s			Quality 1	Assurance
Analysis						Precision	Accuracy
Date Time By	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
08/24 0800 DAH	BOD, 5-day	39.30 mg/L			SM 2011 5210 B	0.65	103.9 *
08/24 0715 NTR	Ammonia as N, (HACH/SM)	1.78 mg/L			H/SM 11 10205/4500	1.75	100.0 *
08/31 1320 NTR	Total Kjeldahl Nitrogen	6.0 mg/L			02/2014 HACH 10242	2.30	100.3 *
08/22 0954 JJM	рН	7.5 S.U.			SM 2000 4500-H+B	0.00	N/A *
08/28 1600 PJC	Copper	0.00500 mg/L			EPA 200.8	2.80	94.2 *
08/28 1600 PJC	Zinc	0.3910 mg/L			EPA 200.8	6.26	97.1 *
08/28 1600 PJC	Arsenic	< 0.0100 mg/L			EPA 200.8	0.30	96.8 *
08/28 1600 PJC	Selenium	< 0.0100 mg/L			EPA 200.8	2.23	94.1 *
08/22 0954 JJM	Spec. Conductance @ 25 C	415.000 umho	/c		SM1997 2510B	0.00	N/A
08/28 1600 PJC	Cadmium	< 0.0040 mg/L			EPA 200.8	0.24	93.6 *
08/28 1600 PJC	Mercury	< 0.0010 mg/L			EPA 245.1	10.26	103.4 *
08/28 1600 PJC	Lead	0.0102 mg/L			EPA 200.8	2.81	90.3 *
08/29 0930 CLB	Nitrate + Nitrite	1.03 mg/L			HACH 10206	19.00	90.4 *

* QA data shown is from a different sample or standard on the same date.

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Signature

Environmental Inc.

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146 Little Bock AB 72211

Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

ļ	(Client Information			1	Pi	oiect Ir	formatio	n				0					
Client:		Clinton, East IW		*****	Permit/Pr	niect #·			2000				Rec		sted	Para	ame	ters
Address:		P.O. Box 277			Purchase	Order #		AR0048	3836									
		Clinton, AR 72031			Work Ord	lor#												
Phone:		501-745-4320			Samplar	C #	Tou	Do M	H_{-}				2(91.					
Fax:	*******	501-745-2164				vame(s):	<u></u>	<u> 11/ 11/2</u>	Urer		-	Ì	о Х		its)			
Contact:		Mr. Phil Graham			- Ond Signa		1-	-Ant	-AA				33 +		umer			
ESC Client Nu	umber:	619			anu Signa	iture(s):	492	1 116	Mer				ž.		Con			
Sar	nple Iden	tification	l	Sample	Collection	/	$\frac{}{1}$						15.A	ତ୍	See			
Identifica	ation	ESC Control #	Data	Time	Turne	T		Sample	Containe	rs		n D	3-N(V(16	als (
Irrigati	on Water	1808010270	& Inilia	MACA	Type	Matrix	Туре	Volume	Preserv	vative	# 2	B	Ë	Ϋ́Υ	Met			
		120000510	010410	0120	Grab	Wwater	Plastic	1 Liter	Cool ≤ 6°	с	1	X				T	T	
*****		t			Grab	Wwater	Plastic	8 oz	H2SO4 to pH <2	2	1		X	X				
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(Signa	A .	Name)	Date	Time	Received By: (Sig	gnature and Printed	1 Name)		Date	Time	Tu	sed? Irnarc	ound:	<u>vo</u> į		Intact?		
Inquisted By Sigha	iture and Printed	Tamerela Millor	Manglin	Time	Repeived for Lab I	By: (Signature and	Printed Nam	ie)	Data	Time	Re	egular	<u>г Г</u>	$\overline{\mathcal{N}}$	-	Specia		
part v.v			0/2419	UB/	ITTIStim	o Loun Cl	pristing	Brown	8-22-18	1505	5	ere sa Y	es		perly p	reserve		— I
Comments: N	Aetals: Hg(50.15), Cu(29.HW), Z	n(30.HW), A	s(33.HW).	Se(34,HW)	Analyst:		Field Test	Time	Analyst	Re	esult	F	₹esul	t	Ur	nits	
	Ja(48.HVV),	Pb(82.HW), 00.MD	·····	<u>`</u> <u>//</u>		Time:		Conduct:	0 494	133	N Z	7.c 7.c	<u>i</u>	114	[\$	S.U.	s	
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Environmental Services Company, Inc.

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Control Number: 1811010350	Sample Date : 11/19/18	Collected By: TMO
Customer Name : CLINTON, EAST IW	Sample Time : 1335	Delivery By : TMO
Customer/Permit No. : 619 / AR0048836 001	Sample Type : GRAB WWATER	Work Order :
Report Date : 12/04/18	Sample From : IRRIGATION WATER	Purchase Order :

Analysis			<u>Quality</u>	Assurance			
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	<u>% Recovery</u>
11/21 0630 DWC	BOD, 5-day	11.80 mg/L			SM 2011 5210 B	12.73	106.6 *
11/21 1300 TCF	Ammonia as N, (HACH/SM)	5.79 mg/L			H/SM 11 10205/4500	2.19	98.9 *
11/27 0900 TCF	Total Kjeldahl Nitrogen	8.0 mg/L			02/2014 HACH 10242	2.13	101.0
11/19 1339 TMO	рн	8.1 S.U.			SM 2000 4500-H+B	0.00	N/A *
11/30 1200 PJC	Copper	0.00330 mg/L			EPA 200.8	2.42	101.1
11/30 1200 PJC	Zinc	0.0261 mg/L			EPA 200.8	2.90	99.3
11/30 1200 PJC	Arsenic	< 0.0100 mg/L			EPA 200.8	9.60	96.2
11/30 1200 PJC	Selenium	< 0.0100 mg/L			EPA 200.8	1.74	95.5
11/19 1339 TMO	Spec. Conductance @ 25 C	187.000 umho,	/c		SM1997 2510B	0.00	N/A
11/30 1200 PJC	Cadmium	< 0.0040 mg/L			EPA 200.8	0.05	98.1
11/21 1500 PJC	Mercury	< 0.0010 mg/L			EPA 245.1	2.48	88.0
11/30 1200 PJC	Lead	< 0.0100 mg/L			EPA 200.8	7.75	97.9
11/21 1545 TCF	Nitrate + Nitrite	0.46 mg/L			HACH 10206	1.49	101.0 *

* QA data shown is from a different sample or standard on the same date.

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Signature

Environmental Services

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146

Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2565	Fax: 501-221-1341		Cŀ	iain c	DF CU	STO	DY										
	Client Information			Project Information							Requested Parameter						ters
Client:	Clinton, East IW			Permit/Project #: AR00488			836		2004 taxtoo japo ija		Ì				T		
Address:	P.O. Box 277	P.O. Box 277		Purchase Order #:													
	Clinton, AR 72031	1 Work		Work Orde	Work Order #						÷		.				
Phone:	501-745-4320		Sampler Name(s):		Timothy O'Nent					02(9							
Fax:	Fax: 501-745-2164									ž +		ents					
Contact:	Mr. Phil Graham			and Signature(s):		Tin	Tranno St O'llard					NO3		uuio			
ESC Client Number:	619						provides & D My CE			*****		.A),		Se C			
Sample Iden	itification		Sample	Collection		Sample Conta		Containers	ntainers		(r)	N(15	16.C	ls (S			
Identification	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	BO	NH3-	TKN(Vieta			
Irrigation Water	1811010 350	11-19-18	1335	Grab	Wwater	Plastic	1 Liter	Cool < 6° C	;	1	x		r 1			\neg	
		• •		Grab	Wwater	Plastic	8 oz	Cool ≤ 6* C, H2SO4 to pH <2		1		x	х			$\neg \uparrow$	
				Grab	Wwater	Plastic	1 Liter	HNO3 to pl	H <2	1				X		+	
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Relinquished By: (Signature and Printed Name) Date Time Received By: (Signature and Printed Name)			Date	Tim	e	Used	? round	? N· Intact?									
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When the signature and Printed	imstu O'Negl	Date 11-19-18	$1/_{0}$	Received for Lab	By: (Signature and A	Printed Name	ter	Date 11-19-18	16/	e /	Were	sampl Yes	les pro	Sperly	preserv	/ed:	
		Flow Data Field Test		Time	Analy	st	Resu	It Result			i	Units					
Comments/ Metals: Hg(50.15), Cu(29.HW), Zn(30.HW), As(33.HW), Se(34.HW			Se(34.HW)	Analyst:		pH:	1339	Th	10	81		81	\Box	S.U.			
Ca(48.HVV), Pb(82.HVV), UU.MD		Reading:		Conduct:	1339	<u>-</u> 114	0	18	고미	18	2.9	U MH	JS				
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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 18 Customer Name : CL Customer/Permit No Report Date : 01/1	01010088 JINTON, EAST 001 0. : 495 / AR0048836 001 2/18	Composite I Sample Time Sample Type Sample From	Date:01/03/18 -01/04/ 2 : 0900-0900/1210(1-4 2 : 24 HR COMP/GRAB WW 3 : FINAL EFFLUENT	/18 Colled 4) Delive V Work (Purcha	cted By: PG/TC ery By : TCF Drder : ase Order :	F
	Labor	atory Analysis			Quality	Assurance
Analysis	Darcameter	Pocult No	ouentity	Method	Precision & PDD	& Recovery

Date Time By	Palalleter	RESULC	MOLES	Qualicity	FICCIIOU		<u>a necovery</u>
01/04 1207 TCF	Dissolved Oxygen	12.10 mg/L		57.48 #/day	HACH 10360 R1.2	0.96	N/A *
01/05 1630 PJC	Ammonia as N, (HACH/SM)	2.25 mg/L	(b)	10.69 #/day	SM 2011 4500-NH3-G	2.06	102.6 *
01/04 1207 TCF	pH	7.5 S.U.			SM 2011 4500-H+B	0.00	N/A *
01/11 0900 PJC	Solids, Total Suspended	3.00 mg/L		14.25 #/day	SM 2011 2540 D	0.00	N/A *
01/04 1910 TCF	E. Coliforms	< 1.0 / 100 m	L		06/2012 Colilert18		
01/04 1910 TCF	Fecal Coliform	< 1.0 /100m	1		06/2012 Colilert18		
01/05 0700 JJM	BOD, Carbonaceous	< 2.0 mg/L		9.50 #/day	SM 2011 5210 B	0.00	95.6 *
	F	low 0.570000 MGD					
				a .			
* QA data sho	own is from a different sam	ple or standard on t	ne same	date.			
(b) Exceeds F	ermit Limits for Average Co	oncentration					

Signature _ Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146

Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2565	Fax: 501-221-1341		С	HAIN C	DF CU	STO	DY									
	Client Information				Pr	oject Inf	ormation		hore and the	T	R	eque	sted	Para	mete	ers
Client:	Clinton, East 001			Permit/Pro	ject #:		AR0048	836								
Address:	P.O. Box 277			Purchase	Order #:							E)				
	Clinton, AR 72031			Work Orde	er#				-	-		oli(43	r l			
Phone:	501-745-4320			Sampler N	ame(s):	Phil brahay					ں س					
Fax:	501-745-2164						2.2.00	_			<u>;</u>]	Ē.	5			
Contact:	Mr. Phil Graham			and Signat	and Signature(s):		Dack	ha			202	(43				
ESC Client Number:	495 (3X per week)			7	.,		00000	10			V .	iform				
Sample Identification Sam			Sample	e Collection	Illection Sample Containers					N/15	al Col					
Identification	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	tive	#	DeD DeD	Fec				
Final Effluent	120/010022	1-3-18 1-4-18	0900	24Hr. Comp	Wwater	Plastic	1/2 Gal	Cool ≤ 6° C		1	x					+ -
	1	1-3-18	0900	24Hr. Comp	Wwater	Plastic	8 oz	Cool < 6° C, H2SO4 to pH <2		1		x				+-1
•		1-4-18	1210	Grab	Wwater	Whirlpak	4 oz	Cool ≤ 6 °C		2		X				+
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Pelinquished But (Signature and Print																
This Brie th	St brahan	1-2-18	10 Am	Received by: (Sig	mature and Printed	(Relation	Faitha	Date 1-4-18	Time 120		ustody sed?	Seals:	7	Intact?		-
Relinquished By: (Signature and Print	ted Name)	Date	Time	Received By: (Sig	nature and Printed	d Name)	1) Town	Date	Time	<u>,</u> T	urnaro	und:	ζ			
Relinquished By: (Signature and Print	ted Name)	Date	Time	Received for Lab	By: (Signature and	Printed Name	9)	Date	Time	R 9 W	egular /ere sa	mples	properly	Specia preserv	l ed:	
her tatti	Trevor Forthum	1-9-18	1700	Truston	akaun (bisting	Brun	1-5-18	080	0	Ye	s V	1	No	›	
Comments:					Analyst: Tr	ala F	Field Test	1)me	Analys	t R	esult	Res	sult	U	nits	
Flow-dire	ict read from m	eter			Time:	205	Grab DO:	1207	Tri	unar #	13.			mg/L		
Samola perpused .	a secured and	or for la	I		Reading: C	1,600000	E Coli Start	19/0		-						
entry received in	IT GECHNEL CODIE			回於於治		11-10	Fecal Start:	1910	TCF	T	his D	ocum	ent is	Page	óf	

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 18 Customer Name : CI Customer/Permit No Report Date : 01/1	301010351 LINTON, EAST 001 5. : 495 / AR0048836 001 18/18	Compos Sample Sample Sample	ite Date:0 Time : 13 Type : CO From : FI	01/05/18 -01/06 00-1300/1300(1- 0MP/GRAB WWATER NAL EFFLUENT	5/18 Coll -6) Deli Work Purc	ected By: PG/PG very By : PJC Order : hase Order :	JC
	Lab	oratory Analys	is			Quality	Assurance
Analysis Date <u>Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	* RPD	<pre>% Recovery</pre>

Date IIIIE Dy	Taranecer		<u> </u>	<u></u> Xuuu	11001100	· · · · · · · · · · · · · · · · · · ·	
01/09 1430 JJM	Ammonia as N, (HACH/SM)	2.50 mg/L	(b)	11.25 #/day	SM 2011 4500-NH3-G	1.01	112.0 *
01/12 1430 CLB	Phosphorus, Total (as P)	0.215 mg/L		0.97 #/day	EPA 365.1	6.45	91.2 *
01/11 0900 PJC	Solids, Total Suspended	< 1.00 mg/L		4.50 #/day	SM 2011 2540 D	1.60	N/A *
01/06 1600 PJC	BOD, Carbonaceous	2.0 mg/L		9.00 #/day	SM 2011 5210 B	0.00	95.0
01/08 1520 DAH	Nitrate + Nitrite	3.62 mg/L		16.29 #/day	HACH 10206	5.46	90.6 *
	Flow	0.540000 MGD					
						6.	

* QA data shown is from a different sample or standard on the same date. (b) Exceeds Permit Limits for Average Concentration

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Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2565	Fax: 501-221-1341		C	HAIN C	OF CU	STO	DY		*							
	Client Information				Pr	oject Inf	ormation				Ι	Req	ueste	d Pa	rame	eters
Client:	Clinton, East 001			Permit/Pro	ject #:		AR0048	836								
Address:	P.O. Box 277			Purchase	Order #:				-				3.IE)			
	Clinton, AR 72031			Work Orde	er#								oli(4			
Phone:	501-745-4320			Sampler N	ame(s):	Phile	spaha						с ш			
Fax:	501-745-2164					59	he Co	A			8.)		ΞE),			
Contact:	Mr. Phil Graham			and Signat	ure(s):	Pl.D	Auch	in a			SS(2		1 (43			
ESC Client Number:	: 495 (3X per week)	6				1 st				Ë Ĉ	(Y')	liforn				
Sample	Identification		Sample	e Collection		and	Sample	Containers	5		D(70	-N(15	al Co			
Identification	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	tive	#	CBO	NH3	Fec			
Final Effluent	1801010351	1-5-18	18rc	24Hr. Comp	Wwater	Plastic	1/2 Gal	Cool ≤ 6° C	-	1	x					
		-16-18	1300	24Hr. Comp	Wwater	Plastic	8 oz	Cool < 6* C, H2SO4 to pH <2		1		x				
		1-6=18	1300	Grab	Wwater	Whirlpak	4 oz	Cool ≤ 6 °C		2			x			
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14																
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Relinquished By: (Signature and	Printed Name)	Date	Time	Received By: (Sig	nature and Printed	Name)	/	Date	Time		Custor	dy Sea	ls:			
Relinquished By: (Signature and	Printed Name)	Date	Time	Réceived By: (Sig	nature and Printed	i Name)		Date	Time		Turnar	round:		Intac	я? 	
Relinquished By://Signature and	Printed Name) a	Date	Time	Perceived for Lab E	aur (Signaturo and	Printed Name		Data	Time	F	Regula	ar		Spec	cial	
1164 0.	The Calt	1-6-17	1500	Thistong	Baunch	Instina	Brown	1-6-18	080	5) (Vere s	Yes		ly prese	No	- I
O company and a					Flow D	ata	Field Test	Time	Analys	it F	Resul	lt F	Result	\square	Units	
Comments:					Time: 1307	JC	Grab pH: Grab DO:	1305	PIC	\leq	7.9 10.9		$\frac{1.9}{1.0}$	S.U.		
thead fl	un from meter,				Reading: . (030000			10							
sample receive	ed tor lab via s	jecure	—— i		Units: MG	()	E Coli Start	1512	PTC DTC		Thie	Deer	iment i	e Poo	01 -	of 1
WUBID COOLE	21.						i ecal Stall.	1512	FUC		1115	Docu	ment	Srage	= _ C	<u>л т</u>

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Control Number: 1802010337	Sample Date : 02/19/18	Collected By: TCF
Customer Name : CLINTON, EAST 40.24 LA PB 3	Sample Time : 1215	Delivery By : TCF
Customer Number : 3004	Sample Type : GRAB SOIL	Work Order :
Report Date : 02/28/18	Sample From : EAST LA 40.24 PB3	Purchase Order :

				Laboratory An	<u>alysis</u>				Ouality /	Assurance
Ana	alysi	s							Precision	Accuracy
Date	<u>Time</u>	<u>By</u>	Parameter	Result		<u>Notes</u>	Quantity	Method	% RPD	% Recoverv
02/23	1630	CLB	Ammonia Nitrogen	0.3070	mg/kg			SM 1997 4500-NH3 C	1.17	98.2 *
02/22	1520	RAH	Mercury	< 0.1277	mg/Kg			SW-846 7474 02/07	4.78	89.5 *
02/27	1030	CLB	Nitrate Nitrogen	4.680	mg/kg			SM 2000 4500-NO3 E	4.35	98.2 *
02/26	1600	CLB	Phosphorous, Total (as P)	482.3500	mg/kg			EPA 365.3	2.19	94 6 *
02/27	1231	RAH	Magnesium	1741.00	mg/Kg			SW-846 6020A	2.37	111 6 *
02/27	1231	RAH	Potassium	2300.00	mg/Kg			SW-846 6020A	2.32	98 7 *
02/23	0900	CLB	pH Soil	6.80	S.U.			SW846 9045C	0.00	N/A *
02/27	1231	RAH	Nickel	33.00	mg/Kg			SW-846 6020A	0.21	983*
02/27	1231	RAH	Copper	12.00	mg/Kg			SW-846 6020A	0.35	98.2 *
02/27	1231	RAH	Zinc	109.50	mg/Kg			SW-846 6020A	1.09	107 5 *
02/28	1530	CLB	Nitogen, Plant Available	4.98	mg/kg			33 MSA 2nd Ed	0.00	100.0 *
02/27	1231	RAH	Arsenic	14.50	mg/Kg			SW-846 6020A	1.50	100 6 *
02/23	0900	CLB	Specific Conductance	30.5000	umhos			EPA (MOD) 9050A	0.00	N/A *
02/27	1231	RAH	Cadmium	< 2.50	mg/Kg			SW-846 6020A	0.22	100 8 *
02/27	1231	RAH	Lead	22.50	mg/Kg			SW-846 6020A	2.41	95 1 *
										22.1
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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 1802010338	Sample Date : 02/19/18	Collected Bv. TCF
Customer Name : CLINTON, EAST 40.24 LA PB 30	Sample Time : 1230	Delivery By . TCF
lustomer Number : 3003	Sample Type : GRAB SOIL	Work Order :
Report Date : 03/02/18	Sample From : EAST LA 40.24 PB30	Purchase Order :

_				Laboratory Analysis				Quality 1	Assurance
An	alysis	3						Precision	Accuracy
<u>)ate</u>	<u>Time</u>	<u>By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
)2/23	1630	CLB	Ammonia Nitrogen	1.3900 mg/kg			SM 1997 4500-NH3 C	1.17	98.2 *
)2/22	1520	RAH	Mercury	< 0.1195 mg/Kg			SW-846 7474 02/07	4.78	895 *
)2/27	1030	CLB	Nitrate Nitrogen	10.350 mg/kg			SM 2000 4500-NO3 E	4.35	98.2 *
)2/26	1600	CLB	Phosphorous, Total (as P)	485.1300 mg/kg			EPA 365.3	2 19	94 6 *
)2/27	1231	RAH	Magnesium	991.50 mg/Kg			SW-846 6020A	2.37	111 6 *
)2/27	1231	RAH	Potassium	1413.50 mg/Kg			SW-846 6020A	2 32	98 7 *
)2/23	0900	CLB	pH Soil	6.90 S.U.			SW846 9045C	0 00	N/A *
)2/27	1231	RAH	Nickel	28.00 mg/Kg			SW-846 6020A	0.21	
)2/27	1231	RAH	Copper	10.50 mg/Kg			SW-846 6020A	0.35	99.5 *
)2/27	1231	RAH	Zinc	75.50 mg/Kg			SW-846 6020A	1 09	107 5 *
)2/28	1530	CLB	Nitogen, Plant Available	11.74 mg/kg			33 MSA 2nd Ed	0.00	100.0 *
)2/27	1231	RAH	Arsenic	16.50 mg/Kg			SW-846 6020A	1 50	100.0 *
)2/23	0900	CLB	Specific Conductance	19.5900 umhos			EPA (MOD) 9050A	0.00	100.0 ×
)2/27	1231	RAH	Cadmium	< 2.50 mg/Kg			SW-846 6020A	0.00	N/A *
)2/27	1231	RAH	Lead	17.00 mg/Kg			SW-846 6020A	0.22	100.8 *
							5 010 0020A	2.41	95.1 *

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 1802010088	Sample Date : 02/19/18	Collected By, TCF
Customer Name : CLINTON, EAST 55.57 LA PB 10	Sample Time : 1145	Delivery By : TCF
Customer/Permit No. : 511 / AR0048836 001	Sample Type : GRAB SOIL	Work Order
Report Date : 02/28/18	Sample From : EAST LA 55.57 PB10	Purchase Order :

-			Laboratory Analysis				Quality ;	Assurance
Ana	lysis						Precision	Accuracy
Date_	<u>Time</u> By	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
02/23	1630 CLB	Ammonia Nitrogen	0.5260 mg/kg			SM 1997 4500-NH3 C	1,17	98.2
02/22	1520 RAH	Mercury	< 0.1176 mg/Kg			SW-846 7474 02/07	4 78	20.2 80 5
02/27	1030 CLB	Nitrate Nitrogen	4.030 mg/kg			SM 2000 4500-NO3 E	4 35	00.5 00 7 *
02/26	1600 CLB	Phosphorous, Total (as P)	460.4100 mg/kg			EPA 365.3	2 19	90.2 "
02/27	1231 RAH	Magnesium	845.00 mg/Kg			SW-846 6020A	2.10	111 6
02/27	1231 RAH	Potassium	1061.50 mg/Kg			SW-846 6020A	2.37	111.0
02/23	0900 CLB	pH Soil	7.11 S.U.			SW846 9045C	2.52	20./ N/N 4
02/27	1231 RAH	Nickel	≥ 17.50 mg/Kg			SW-846 6020A	0.00	N/A *
02/27	1231 RAH	Copper	6.50 mg/Kg			SW-846 6020A	0.21	98.3
02/27	1231 RAH	Zinc	61.50 mg/Kg			SW-846 6020A	1 00	98.2
02/28	1530 CLB	Nitogen, Plant Available	4.55 mg/kg			33 MSA 2nd Ed	1.09	107.5
02/27	1231 RAH	Arsenic	9.00 mg/Kg			SW-846 60207	0.00	100.0
02/23	0900 CLB	Specific Conductance	42.8000 umhos				1.50	100.6
02/27	1231 RAH	Cadmium	< 2.50 mg/Kg			SW-846 60207	0.00	N/A *
02/27	1231 RAH	Lead	12.00 mg/Kg			SW-846 6020A	0.22	100.8
						5W-840 8020A	2.41	95.1

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Control Number: 1802010339	Sample Date : 02/19/18	Collected By: TCF
Customer Name : CLINTON, EAST 55.57 LA PB 3	Sample Time : 1155	Delivery By : TCF
Customer Number : 3002	Sample Type : GRAB SOIL	Work Order :
Report Date : 02/28/18	Sample From : EAST LA 55.57 PB3	Purchase Order :

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				Laboratory Analys	sis			Quality 1	Assurance
An	alysis	3						Precision	Accuracy
Date	<u>Time</u>	<u>By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	응 RPD	<pre>% Recoverv</pre>
02/23	1630	CLB	Ammonia Nitrogen	0.3560 mg/	'kg		SM 1997 4500-NH3 C	1.17	98.2 *
02/22	1520	RAH	Mercury	< 0.1188 mg/	'Kg		SW-846 7474 02/07	4.78	89.5 *
02/27	1030	CLB	Nitrate Nitrogen	3.100 mg/	'kg		SM 2000 4500-NO3 E	4.35	98.2 *
02/26	1600	CLB	Phosphorous, Total (as P)	391.4800 mg/	'kg		EPA 365.3	2.19	94.6 *
02/27	1231	RAH	Magnesium	782.50 mg/	'Kg		SW-846 6020A	2.37	111.6 *
02/27	1231	RAH	Potassium	850.00 mg/	'Kg		SW-846 6020A	2.32	98.7 *
02/23	0900	CLB	pH Soil	6.80 S.U	J.		SW846 9045C	0.00	N/A *
02/27	1231	RAH	Nickel	17.50 mg/	'Kg		SW-846 6020A	0.21	98.3 *
02/27	1231	RAH	Copper	7.00 mg/	'Kg		SW-846 6020A	0.35	98.2 *
02/27	1231	RAH	Zinc	50.50 mg/	'Kg		SW-846 6020A	1.09	107.5 *
02/28	1530	CLB	Nitogen, Plant Available	3.45 mg/	'kg		33 MSA 2nd Ed	0.00	100.0 *
02/27	1231	RAH	Arsenic	8.00 mg/	'Kg		SW-846 6020A	1.50	100.6 *
02/23	0900	CLB	Specific Conductance	27.0000 umh	los		EPA (MOD)9050A	0.00	N/A *
02/27	1231	RAH	Cadmium	< 2.50 mg/	'Kg		SW-846 6020A	0.22	100.8 *
02/27	1231	RAH	Lead	10.50 mg/	κg		SW-846 6020A	2.41	95.1 *
				R					

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Signature

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 1802010340	Sample Date : 02/19/18	Collected By: TCF
Customer Name : CLINTON, EAST 55.57 LA PB 30	Sample Time : 1205	Delivery By · TCF
Customer Number : 3001	Sample Type : GRAB SOIL	Work Order :
Report Date : 02/28/18	Sample From : EAST LA 55.57 PB30	Purchase Order :

				Laboratory Analy	<u>sis</u>			Ouality I	Assurance
An	alysis	5						Precision	Accuracy
Date	<u>Time</u>	<u>By</u>	Parameter	Result	Notes	Quantity	Method	& RPD	* Recovery
02/23	1630	CLB	Ammonia Nitrogen	0.2950 mg	/kg		SM 1997 4500-NH3 C	1 17	98.2 *
02/22	1520	RAH	Mercury	< 0.1196 mg	/Kq		SW-846 7474 02/07	4 78	90.2 ×
02/27	1030	CLB	Nitrate Nitrogen	4.150 mg	/kq		SM 2000 4500-NO3 E	4 35	09.5 *
02/26	1600	CLB	Phosphorous, Total (as P)	412.9200 mg	/kg		EPA 365.3	2.55	94 6 +
02/27	1231	RAH	Magnesium	881.50 mg	/Kq		SW-846 6020A	2.17	24.0 ^ 111 C +
02/27	1231	RAH	Potassium	1176.50 mg	/Kq		SW-846 6020A	2.37	111.0 ~
02/23	0900	CLB	pH Soil	6.83 S.U	Ű.		SW846 9045C	2.32	א / זפ ע/ זא
02/27	1231	RAH	Nickel	19.50 mg	/Ka		SW-846 6020A	0.00	
02/27	1231	RAH	Copper	7.00 mg	/Ka		SW-846 6020A	0.21	98.3 *
02/27	1231	RAH	Zinc	62.00 mg	/Ka		SW-846 6020A	1 00	98.2 *
02/28	1530	CLB	Nitogen, Plant Available	4.44 mg	/kg		33 MSA 2nd Ed	1.09	107.5 *
02/27	1231	RAH	Arsenic	9.00 mg	/Ka		SW-846 60200	0.00	100.0 *
02/23	0900	CLB	Specific Conductance	249.0000 um	nos			1.50	100.6 *
02/27	1231	RAH	Cadmium	< 2.50 mg	/Ka		SW-846 60207	0.00	N/A
02/27	1231	RAH	Lead	12 50 mg	/Ka		SW-846 6020A	0.22	100.8 *
,				12.50 mg/	1.3		5W-846 6020A	2.41	95.1 *

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 1802010341	Sample Date : 02/19/18	Collected By: TCF
Customer Name : CLINTON, EAST LA AIRPORT9	Sample Time : 1130	Delivery By : TCF
Customer Number : 2959	Sample Type : GRAB SOIL	Work Order :
Report Date : 02/28/18	Sample From : EAST LA AIRPORT 9	Purchase Order :

				Laboratory Analys	sis			Quality 1	Assurance
An	alysi	s						Precision	Accuracy
Date	<u>Time</u>	<u>By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recoverv
02/23	1630	CLB	Ammonia Nitrogen	1.6800 mg/	'kg		SM 1997 4500-NH3 C	1.17	98.2 *
02/22	1520	RAH	Mercury	< 0.1304 mg/	'Kg		SW-846 7474 02/07	4.78	89.5 *
02/27	1030	CLB	Nitrate Nitrogen	9.390 mg/	'kg		SM 2000 4500-NO3 E	4.35	98.2 *
02/26	1600	CLB	Phosphorous, Total (as P)	297.0100 mg/	'kg		EPA 365.3	2.19	94.6 *
02/27	1231	RAH	Magnesium	735.50 mg/	'Kg		SW-846 6020A	2.37	111.6 *
02/27	1231	RAH	Potassium	1066.00 mg/	Кg		SW-846 6020A	2.32	98.7 *
02/23	0900	CLB	pH Soil	6.96 S.U	Γ.		SW846 9045C	0.00	N/A *
02/27	1231	RAH	Nickel	17.00 mg/	Кg		SW-846 6020A	0.21	98.3 *
02/27	1231	RAH	Copper	6.00 mg/	Кg		SW-846 6020A	0.35	98.2 *
02/27	1231	RAH	Zinc	45.00 mg/	Кg		SW-846 6020A	1.09	107.5 *
02/28	1530	CLB	Nitogen, Plant Available	11.07 mg/	kg		33 MSA 2nd Ed	0.00	100.0 *
02/27	1231	RAH	Arsenic	8.00 mg/	Kg		SW-846 6020A	1.50	100.6 *
02/23	0900	CLB	Specific Conductance	12.5200 umh	os		EPA (MOD)9050A	0.00	N/A *
02/27	1231	RAH	Cadmium	< 2.50 mg/	Kg		SW-846 6020A	0.22	100.8 *
02/27	1231	RAH	Lead	9.50 mg/	Kg		SW-846 6020A	2.41	95.1 *

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Control Number: 1802010342	Sample Date : 02/19/18	Collected By: TCF
Customer Name : CLINTON, EAST LA WD13	Sample Time : 1120	Delivery By : TCF
Customer Number : 2960	Sample Type : GRAB SOIL	Work Order :
Report Date : 02/28/18	Sample From : EAST LA WD13	Purchase Order :

				Laboratory Ana	<u>alysis</u>			1	Quality A	Assurance
Ana	alysis	3							Precision	Accuracy
<u>Date</u>	<u>Time</u>	<u>By</u>	Parameter	Result	<u>N</u>	<u>otes</u>	Quantity	Method	% RPD	% Recoverv
02/23	1630	CLB	Ammonia Nitrogen	1.4700	mg/kg			SM 1997 4500-NH3 C	1.17	98.2 *
02/22	1520	RAH	Mercury	< 0.1306	mg/Kg			SW-846 7474 02/07	4.78	89.5 *
02/27	1030	CLB	Nitrate Nitrogen	9.060	mg/kg			SM 2000 4500-NO3 E	4.35	98.2 *
02/26	1600	CLB	Phosphorous, Total (as P)	382.1000	mg/kg			EPA 365.3	2.19	94.6 *
02/27	1231	RAH	Magnesium	1094.00	mg/Kg			SW-846 6020A	2.37	111.6 *
02/27	1231	RAH	Potassium	1716.00	mg/Kg			SW-846 6020A	2.32	98.7 *
02/23	0900	CLB	pH Soil	7.22	S.U.			SW846 9045C	0.00	N/A *
02/27	1231	RAH	Nickel	21.50	mg/Kg			SW-846 6020A	0.21	98.3 *
02/27	1231	RAH	Copper	7.50	mg/Kg			SW-846 6020A	0.35	98.2 *
02/27	1231	RAH	Zinc	64.50	mg/Kg			SW-846 6020A	1.09	107.5 *
02/28	1530	CLB	Nitogen, Plant Available	10.53	mg/kg			33 MSA 2nd Ed	0.00	100.0 *
02/27	1231	RAH	Arsenic	12.00	mg/Kg			SW-846 6020A	1.50	100.6 *
02/23	0900	CLB	Specific Conductance	12.0700	umhos			EPA (MOD)9050A	0.00	N/A *
02/27	1231	RAH	Cadmium	< 2.50	mg/Kg			SW-846 6020A	0.22	100.8 *
02/27	1231	RAH	Lead	14.50	mg/Kg			SW-846 6020A	2.41	95.1 *

* QA data shown is from a different sample or standard on the same date.

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Environmental Servi Inc.

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146

Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

(Client Information		Project Information						Requested Parameters								
Client:	Clinton, City of (Ea	ast Land App	o)	Permit/Pro	oject #:										:	Т	
Address:	P.O. Box 277			Purchase	Purchase Order #:					6							
	Clinton, AR 7203	ļ		Work Orde	er#						(s	01.5	(W)	î			
Phone:	501-745-4320			Sampler N	lame(s):	Trev	ID F	a than	an		lent	souc	nd(3	33.A			
Fax:	Mr. Phil Graham		<u> </u>	1							L L L L L	3), I	ပိ	AN(
Contact:	501-745-2164			and Signa	ture(s):	Om	- 12	SIA			Ö	n(01	Spe	1), F			
ESC Client Number:	Various			1				w eg			See	roge	(;S),	a(01.			
Sample Ider	tification	1	Sample	Collection		Γ	Sample	Container	S		als (e Nit	H(23	nonia			
Identification	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	Meta	litrat	soil p	Amn			
East LA 40.24 PB3 (3004)	/8020/0337	2-19-18	1215	Grah	Soil	Glass	1 Liter	$Cool < 6^\circ$	2	1	<u>~</u>	×	v			\rightarrow	
East I A 40 24 PB30 (3003)	1802010338	2-19-18	1230	Grab	Soil	Glass	* 1 Liter	$Cool < 6^\circ$		1	- <u></u>	×.	Î	$\hat{\mathbf{v}}$			
East I A 55 57 PB10 (511)	1802010088	2-19-18	1145	Grab	Soil	Glass	1 Liter		$\left \right $	1	~		$\left \begin{array}{c} \uparrow \\ \downarrow \end{array} \right $	$\hat{}$			
East I A 55 57 PB3 (3002)	1702010-229	2-19-13	1155	Grab	Soil	Glass	1 Liter		$\left\{ - \right\}$	╶┤	~ v	$\hat{}$	Î	$\hat{}$			
East I A 55 57 PB30 (3001)	1702010340	2-19-18	12.05	Grab	Soil	Glass	1 Liter		$\frac{2}{2}$		^ v	$\hat{\mathbf{v}}$	- Û	Ĵ			
East LA 30:07 1 800 (0001)	1802010341	7-14-18	1430	Grab	Soil	Glass	1 Liter		$\langle $		^ v	<u></u>	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	-+		_
East LA MID13 (2060)	1802010242	2-19-18	1/10	Grab	Soil	Class	1 Liter		<u> </u>		<u>^</u>	$\hat{\mathbf{v}}$	$\hat{}$		\rightarrow		
	1007010392	0-1100	1120	Giab	301	Glass	I Liter		<u> </u>	-1	<u>~</u>	<u> </u>	$\stackrel{\mathbf{X}}{\rightarrow}$	<u>×</u>		+	
		-									·					+	
Relinquished By: (Signature and Printed	l I Name)	Date	Time	Received By: (Sig	I gnature and Printed	Name)	<u>[</u>	Date	Tim	e	Custo	idy Se	als:				
Relinquished By: (Signature and Printer	(Name)	Date	Time	Received Bur. /Sid	nature and Drinted	Nama)		Data			Jsed'	?	NO		Intact	<u>} </u>	
Nemiquianea by. (algnature and i nintec	mancy	Date	Tune	Necened by. (Si	Justone and curited	Name;		Date		e	Regul	ar	5		Speci	al Г	7
Relinguished By: (Signeture and Primer	Name)	Date 2 -12-00	Time	Received for Lab	By: (Signature and	Printed Name	Pres A	Date	Tim	e	Vere	sampl	es pro	perly	preserv	ed:	
Juni Tebbo //	Ever or Man	0 11 (8)		Rude	Flow Da	ita	Field Test	Time	Analys	St I	Resu	Yes Ilt	Resu	t I		o Inits	
Comments: Hg(01.14), N	In(12.HS), K(19.HS), Ni	28.HS), Cu(29	.HS), Zn(30.	HS)	Analyst:												
As(33.HS), (Ja(48.HS), Pb(82.HS),				Time: Reading:					-+		-					
					Units:			•		-+							<u></u>
							Fecal Start:			F	This	Doc	umer	nt is I	Page	1 of	/

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 1803010322 Customer Name : CLINTON, EAST GW13 Customer/Permit No. : 507 / AR0048836 001 Report Date : 04/02/18	Sample Date : 03/26/18 Sample Time : 1031 Sample Type : GRAB WATER Sample From : EAST WELL #1	Collect Deliver Work Or 3 Purchas	Collected By: JJM Delivery By : JJM Work Order : Purchase Order :					
L	aboratory Analysis		Quality A	Assurance				
Analysis			Precision	Accuracy				
Date Time By Parameter	<u>Result</u> <u>Notes</u> <u>Quantity</u>	Method	<u>% RPD</u>	<pre>% Recovery</pre>				
03/27 0750 DWC Chloride (as Cl)	12.0 mg/L	SM1997 4500ClC	0.43	92.0 *				
03/26 1031 TIM pH	6 3 S II	SM 2000 4500-H+B	0 00	N/A				

03/26 1031 JJM	рН	6.3 S.U.	SM 2000 4500-H+B	0.00	N/A
03/27 1430 CLB	Solids, Total Dissolved	140.0 mg/L	SM1997 2540 C	0.00	N/A
03/26 1031 JJM	Spec. Conductance @ 25 C	260.000 umho/c	SM1997 2510B	0.00	N/A
03/29 1430 CLB	Nitrate + Nitrite	1.67 mg/L	HACH 10206	1.12	98.3 *
03/26 1031 JJM	Well Depth, Total	15.40 Feet		N/A	N/A
03/26 1031 JJM	Depth to Water	10.00 Feet		N/A	N/A
* QA data sho	own is from a different sample	e or standard on the same date.			

Signature Inc. Environmental

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Labor	atory Analysis	Quality Assurance
Customer/Permit No. : 508 / AR0048836 001 Report Date : 04/02/18	Sample Type : GRAB WATER Sample From : EAST WELL #14	Work Order : Purchase Order :
Customer Name : CLINTON, EAST GW14	Sample Time : 1052	Delivery By : JJM
Control Number: 1803010323	Sample Date : 03/26/18	Collected By: JJM

Date	Time By	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
03/27	0750 DWC	Chloride (as Cl)	5.0 mg/L			SM1997 4500ClC	0.43	92.0 *
03/26	1052 JJM	рН	7.0 S.U.			SM 2000 4500-H+B	0.00	N/A *
03/27	1430 CLB	Solids, Total Dissolved	82.0 mg/L			SM1997 2540 C	0.00	N/A *
03/26	1052 JJM	Spec. Conductance @ 25 C	126.400 umho	/c		SM1997 2510B	0.00	N/A *
03/29	1430 CLB	Nitrate + Nitrite	0.49 mg/L			HACH 10206	1.12	98.3 *
03/26	1052 JJM	Well Depth, Total	13.10 Feet				N/A	N/A
03/26	1052 JJM	Depth to Water	9.20 Feet				N/A	N/A
* 0	A data sho	wn is from a different samp	le or standard on	the same	date.			

Environmental Services Co., Inc. Signature

e am 2211 501)221-1341	Tel.	Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-11						
Sample D Sample T 001 Sample T Sample F	ate : 03/26/18 ime : ype : DRY WELL rom : EAST WELL #16	cted By: ery By : Drder : ase Order :						
Laboratory AnalysisResult0.00	Notes Quantity .	Method	Quality A Precision <u>% RPD</u> N/A	Accuracy <u>% Recovery</u> N/A				
sample or standard on the	he same date.							
	sample or standard on t	sample or standard on the same date.	sample or standard on the same date.	sample or standard on the same date.				

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Control Number: 1803010325 Customer Name : CLINTON, EAST Customer/Permit No. : 649 / AR Report Date : 04/02/18	GW17 0048747 001	Sample Da Sample Ti Sample Ty Sample Fr	te : 03 me : 10 pe : GR om : EA	/26/18 16 AB WATER ST WELL #17	Collect Deliver Work Or Purchas	ollected By: JJM elivery By : JJM ork Order : urchase Order : Quality Assurance		
Analysis <u>Date Time By</u> <u>Parame</u> 03/27 0750 DWC Chloride (as C 03/26 1016 JJM pH 03/27 1430 CLB Solids, Total 03/26 1016 JJM Spec. Conducta 03/29 1430 CLB Nitrate + Nitr 03/26 1016 JJM Well Depth, To 03/26 1016 JJM Depth to Water	Laborato	ery Analysis 2esult 1.0 mg/L 6.2 S.U. 94.0 mg/L 1.100 umho/c 4.31 mg/L 17.60 Feet 12.80 Feet	<u>Notes</u>	Quantity	<u>Method</u> SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality Precision % RPD 0.43 0.00 0.00 1.12 N/A N/A N/A	Assurance Accuracy <u>% Recovery</u> 92.0 * N/A * N/A * 98.3 * N/A N/A N/A	

* QA data shown is from a different sample or standard on the same date.

Signature Environmental Services Co., Inc.



		naing frances											,					
E	invironmental S	Services	Compar	ny				Samp	ler Na	ime(s)	: Ja	\$\A	<u>idle:</u>	•.	*****			
Ground	dwater Monitor	ing Chai	in of Cu	stody				ana S	Ignatu	Ire:	341L 5/75	ing	ler					
Sample Identification (Customer #)	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Denth		p	۰H	Samp	sle Dat Sp	<u>e:</u> ecific Co	onducta:	<u>1 VD</u> nce		Tempe Degr	erature ees C		1, TDS 1L lastic ≤ 6 Deg C)	103+N 02 (1 L Plastic 12S04)
Clinton Ea	ast Wells				#1	#2	#3	Time	#1	#2	#3	Timo	#1	#2	#2	Γ	004 -	<u>د</u>
#13 (507)	1803010322	1031		15' 4''	63	6.3	1.3	1078		710	711	107h	142	14.2	#3	Time Ir)36		v
#14 (508)	1803010323	1052	9'2"	13' 1"	7.0	7.0	6.905	HESP	1264	1263	1264	1057	136	13.6	136	10.57	×	Y
#16 (509)	1803010324	1006	ļ	14' 0"	Dir	tu V	N.e)			$\dot{ }$							Y	Y
#17 (649)	1803010325	1016	12'9	17' 6"	1.2	62	6.3	iozz	81.1	822	825	1020	11.4	14.4	ILLY	1/120	X	X
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H.																		

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Control Number: 1806010504 Customer Name : CLINTON, EAST GW13 Customer/Permit No. : 507 / AR0048836 001 Report Date : 07/06/18			Sample Date : 06/28/18 Sample Time : 1200 Sample Type : GRAB WATER Sample From : WELL #13	Collect Deliver Work Or Purchas	Collected By: JGK Delivery By : JGK Work Order : Purchase Order :				
			Laboratory Analysis		Quality 2	Assurance			
Ana.	lysis Dime Du	Devenetox	Bogult Notog Ouanti	tu Mothod	Precision	* Pogerrowr			
Date .	ITIME BY	<u>Parameter</u>	ResultNotesQuality		\sim RPD	<u>a Recovery</u>			
06/29 .	1530 DWC	Chiloride (as CI)		SM1997 4500C1C	0.00	102.5 *			
06/28 :	1200 JGK	рн	6.0 S.U.	SM 2000 4500-H+B	0.00	N/A *			
07/02 1	1030 NTR	Solids, Total Dissolved	135.0 mg/L	SM1997 2540 C	7.41	N/A			
06/28	1200 JGK	Spec. Conductance @ 25 C	258.000 umho/c	SM1997 2510B	0.00	N/A			
07/03 :	1545 NTR	Nitrate + Nitrite	1.44 mg/L	HACH 10206	0.94	99.2			
06/28	1200 JGK	Well Depth, Total	15.40 Feet		N/A	N/A			
06/28	1200 JGK	Depth to Water	9.10 Feet		N/A	N/A			

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Control Number: Customer Name : Customer/Permit Report Date : 0	1806010505 CLINTON, EAST GW14 No. : 508 / AR0048836 001 7/06/18	Sample Sample Sample Sample	Date : 06/2 Time : 1056 Type : GRAE From : WELL	8/18 WATER #14	Collec Delive Work O: Purchas	Collected By: JGK Delivery By : JGK Work Order : Purchase Order :			
Analysis <u>Date</u> <u>Time</u> <u>By</u> 06/29 1530 DWC 06/28 1056 JGK 07/02 1030 NTR 06/28 1056 JGK 07/03 1545 NTR 06/28 1056 JGK 06/28 1056 JGK	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	Laboratory Analysi <u>Result</u> 20.0 mg/L 5.5 S.U. 90.0 mg/L 132.600 umho 1.61 mg/L 13.10 Feet 9.00 Feet	<u>s</u> _ <u>Notes</u> /c	Quantity	Method SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Method Quality As SM1997 4500ClC 0.00 SM1997 2540 C 7.41 SM1997 2510B 0.00 HACH 10206 0.94 N/A N/A			

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Signature ________ Environmental Services Co., Inc.

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Control Number: 1806010506 Customer Name : CLINTON, EAST GW16 Customer/Permit No. : 509 / AR004883 Report Date : 07/02/18	Sampl Sampl 36 001 Sampl Sampl	Sample Date : 06/28/18Collected By:Sample Time : 1113Delivery By :Sample Type : DRY WELLWork Order :Sample From : WELL #16Purchase Order :							
Analysis <u>Date Time By</u> <u>Parameter</u> 06/28 1113 JGK Dry Well	Laboratory Analy 	<u>sis</u> <u>Notes</u>	<u>Quantity</u>	Method	Quality Precision <u>% RPD</u> N/A	Assurance Accuracy <u>% Recovery</u> N/A			
* QA data shown is from a differen	nt sample or standard o	n the same	date.						

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	atory Analysis	Quality Assurance Precision Accuracy
Report Date : 07/06/18	Sample From : WELL #17	Purchase Order :
Customer Name : CLINTON, EAST GW17	Sample Time : 1047	Delivery By : JGK
Control Number: 1806010507	Sample Date : 06/28/18	Collected By: JGK

Date	Time	<u>By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	<u> </u>	<u>% Recovery</u>
06/29	1530	DWC	Chloride (as Cl)	10.0 mg/L			SM1997 4500ClC	0.00	102.5 *
06/28	1047	JGK	рН	5.4 S.U.			SM 2000 4500-H+B	0.00	N/A *
07/02	1030	NTR	Solids, Total Dissolved	100.0 mg/L			SM1997 2540 C	7.41	N/A *
06/28	1047	JGK	Spec. Conductance @ 25 C	88.900 umho/	'c		SM1997 2510B	0.00	N/A *
07/03	1545	NTR	Nitrate + Nitrite	6.06 mg/L			HACH 10206	0.94	99.2 *
06/28	1047	JGK	Well Depth, Total	17.60 Feet				N/A	N/A
06/28	1047	JGK	Depth to Water	12.00 Feet				N/A	N/A

* QA data shown is from a different sample or standard on the same date.

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Environmental Services Co., Inc.



Groun	Environmental Services Company Little Rock, AR 72211 Groundwater Monitoring Chain of Custody									ame(s) ure: te:	: J	K	nor	nsul Ezil	<u>i</u> i d	****		
Sample Identification (Customer #)	Control Number	Sample Time:	Depth To Water	Total Well Depth		рН			Sp	ecific Co	onducta	nce		Temp Degi	erature rees C		CI, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (1 L Plastic
Clinton Ea	ast Wells	T			#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
#13 (507)	1806010504	1200	9'1'	15' 4"	6.0	6.0	6.0	(20)	258	258	255	1200	21.2	21.1	21.7	1700	x	x
#14 (508)	1806010505	1056	9'0''	13' 1"	5.5	5.5	5.5	1056	132.6	1.32.6	132.6	105L	19.0	19.0	19.0	1051	x	x
#16 (509)	1806010506	1113		14' 0"			C	GY		he	11						x	x
#17 (649)	1866010507	1047	12'0"	17' 6"	5.4	૬.५	5.4	1047	કજ-૧	889	88.9	1047	19.)	19,1	19,1	1047	X	 X
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Relinquished	by: J. Kours	child	Time:	1700	א R	eceive	d By La	b: This	stimat	Zour	<u>^</u>		Date	: (e-à	3818	5 Tin	ne: 1700)
Comments	Ut Comments.																	

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number:	1808010371	Sample Date	: 08/22/18	Collected By: JJM				
Customer Name :	CLINTON, EAST GW13	Sample Time	: 1055	Delivery By : JJM				
Customer/Permit	No. : 507 / AR0048836 001	Sample Type	: GRAB WATER	Work Order :				
Report Date : 0	99/04/18	Sample From	1 : EAST WELL #13	Purchase Order :				
Analysis <u>Date</u> <u>Time</u> <u>By</u> 08/29 1315 DWC 08/22 1055 JJM 08/22 1055 JJM 08/29 0930 CLB 08/22 1055 JJM 08/22 1055 JJM	L Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	Result No 1.0 mg/L 6.1 S.U. 76.0 mg/L 147.100 umho/c 1.58 mg/L 15.40 Feet 7.80 Feet 7.80 Feet	tes Quantity	Method SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality Precision <u>% RPD</u> 0.00 0.53 0.00 19.00 N/A N/A	Accuracy Accuracy <u>% Recovery</u> 101.9 * N/A * N/A * 90.4 N/A N/A N/A		

* QA data shown is from a different sample or standard on the same date.

Signature Environmental Services Co., Inc.

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a 11

Customer Name : CLINTON, EAST GW14 Customer/Permit No. : 508 / AR0048836 001 Report Date : 08/30/18	Sample Date : 08/22/18 Sample Time : 1110 Sample Type : GRAB WATER Sample From : EAST WELL #14	Collect Deliver Work Or Purchas	ed By: JJM y By : JJM der : e Order :	
Labor Analysis Date Time By Parameter 08/29 1315 DWC Chloride (as Cl) 08/22 1110 JJM pH 08/24 1245 PJC Solids, Total Dissolved 08/22 1110 JJM Spec. Conductance @ 25 C 08/29 0930 CLB Nitrate + Nitrite 08/22 1110 JJM Well Depth, Total 08/22 1110 JJM Depth to Water	ResultNotesQuantity7.0 mg/L6.0 S.U.6.0 S.U.80.0 mg/L134.000 umho/c1.11 mg/L13.10 Feet7.60 Feet	Method SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality 7 Precision % RPD 0.00 0.53 0.00 19.00 N/A N/A	Accuracy Accuracy <u>% Recovery</u> 101.9 * N/A * N/A * 90.4 * N/A N/A N/A

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Environmental Services Co., Inc.

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number:	1808010373	Sample Date :	08/22/18	Collected By: JJM				
Customer Name :	CLINTON, EAST GW16	Sample Time :	1014	Delivery By : JJM				
Customer/Permit	No. : 509 / AR0048836 001	Sample Type :	GRAB WATER	Work Order :				
Report Date : 0	8/30/18	Sample From :	EAST WELL #16	Purchase Order :				
Analysis <u>Date Time By</u> 08/29 1315 DWC 08/22 1014 JJM 08/24 1245 PJC 08/22 1014 JJM 08/29 0930 CLB 08/22 1014 JJM 08/22 1014 JJM	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	<u>Result</u> <u>Notes</u> <u>Result</u> <u>Notes</u> < 0.1 mg/L 6.5 S.U. 68.0 mg/L 81.200 umho/c 0.41 mg/L 14.00 Feet 9.00 Feet	Quantity	Method SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality Precision % RPD 0.00 0.53 0.00 19.00 N/A N/A	Assurance Accuracy <u>% Recovery</u> 101.9 * N/A * N/A * 90.4 * N/A N/A		

* QA data shown is from a different sample or standard on the same date.

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number:	1808010374	Sample Date :	08/22/18	Collected By: JJM				
Customer Name :	CLINTON, EAST GW17	Sample Time :	1035	Delivery By : JJM				
Customer/Permit	No. : 649 / AR0048747 001	Sample Type :	GRAB WATER	Work Order :				
Report Date : 0	8/30/18	Sample From :	EAST WELL #17	Purchase Order :				
Analysis <u>Date</u> <u>Time</u> <u>By</u> 08/29 1315 DWC 08/22 1035 JJM 08/24 1245 PJC 08/22 1035 JJM 08/29 0930 CLB 08/22 1035 JJM 08/22 1035 JJM	<u>Parameter</u> Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	<u>Result</u> <u>Note</u> <u>Result</u> <u>Note</u> 0.1 mg/L 6.0 S.U. 108.0 mg/L 100.400 umho/c 4.10 mg/L 17.60 Feet 10.50 Feet 	<u>3</u> Quantity	<u>Method</u> SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality Precision % RPD 0.00 0.53 0.00 19.00 N/A N/A	Assurance Accuracy <u>% Recovery</u> 101.9 * N/A * N/A * 90.4 * N/A N/A N/A		

* QA data shown is from a different sample or standard on the same date.

Environmental Services Co., Inc. Signature

E Ground	nvironmental S Little Rock, dwater Monitori	ervices AR 722 ing Chai	Compar 211 in of Cus	ıy stody				Samp and S Samp	ler Nai ignatu ble Dat	me(s) re:	50 12h 8-2	sh Male 2-18	Mo	ller				
Sample Identification (Customer #)	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth		p	Н		Sp	ecific Co	onductar	nce		Tempe Degr	erature ees C		Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (1 L Plastic H2SO4)
Clinton Ea	st Wells				#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
#13 (507)	1808010371	1055	7'8'	15′ 4″	6-1	h-1	6-1	100	147.1	147.2	147.1	1099	226	22.6	222	1059	x	x
#14 (508)	1808010372	1110	7'6"	13′ 1″	6.0	6.1	60	lliz	1346	[34.]	134.1	1113	21.6	21.6	12.6	MZ	Х	. X
#16 (509)	(808010373	1014	9'	14' 0''	65	1hS	64	1014	81.2	91.Z	81,2	1015	233	23.3	23.3	1014	X	X
#17 (649)	1808010374	(035	10:511	. 17′ 6″	6.0	ğ.q	Š.J	1036	100.4	[00]	00.3	1037	21.0	21.0	210	1036	. X	x
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	1 0	NA	-		_				h			1						
Relinquiched	by: AAH ME	<u>III</u>	Time	1900	5	Receive	ed Bv L	ab: MA	INTIMO	Rou	in	d	Dat	e: 8-2	2-18	Ті	me: 1505	Š
Comments	: (/		1 1 1 1 1 1		5l			C		C								
AC	v																	

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Analysis	Labo	Pratory Analysis	Quality Assurance Precision Accuracy
Customer Name : CLIN Customer/Permit No. Report Date : 11/27/2	10N, HASI GW13 : 507 / AR0048836 001 18	Sample lime : 1245 Sample Type : GRAB WATER Sample From : WELL #13	Dellvery By : TMO Work Order : Purchase Order :
Control Number: 1811	010351	Sample Date : 11/19/18	Collected By: TMO

<u>Date</u>	<u>Time</u>	<u>By</u>	Parameter	Result	<u>Notes</u>	<u>Quantity</u>	Method	<u> </u>	<u>% Recovery</u>
11/26	1230	DWC	Chloride (as Cl)	10.0	mg/L		SM1997 4500ClC	0.00	100.0 *
11/19	1245	TMO	рН	6.2	S.U.		SM 2000 4500-H+B	0.00	N/A *
11/20	0630	ATL	Solids, Total Dissolved	112.0	mg/L .		SM1997 2540 C	0.80	N/A *
11/19	1245	TMO	Spec. Conductance @ 25 C	85.700	umho/c		SM1997 2510B	0.00	N/A *
11/21	1545	TCF	Nitrate + Nitrite	3.37	mg/L		HACH 10206	1.49	101.0 *
11/19	1245	TMO	Well Depth, Total	15.40	Feet			N/A	N/A
11/19	1245	TMO	Depth to Water	13.40	Feet			N/A	N/A

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Environmental Services Co., Inc.

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: Customer Name : Customer/Permit Report Date : 1	1811010352 CLINTON, EAST GW14 No. : 508 / AR0048836 001 1/27/18	Sample D Sample T Sample T Sample F	Date : 11/ Cime : 122 Cype : GRA Crom : WEL	19/18 5 B WATER L #14	Collec Delive Work O Purcha	ted By: TMO ry By : TMO rder : se Order :	
Analysis		Laboratory Analysis	Ł			Quality A	Assurance
Date Time By	Parameter	Result	Notes	Quantity	Method	% RPD	& Recovery
$\frac{DQCCC}{11/26}$ $\frac{1100}{1230}$ DWC	Chloride (as Cl)	10.0 mg/L		<u>quarioroj</u>	SM1997 4500ClC	0.00	100.0 *
11/19 1225 TMO	на	6.6 S.U.			SM 2000 4500-H+B	0.00	N/A *
11/20 0630 ATL	Solids, Total Dissolved	100.0 mg/L			SM1997 2540 C	0.80	N/A *
11/19 1225 TMO	Spec. Conductance @ 25 C	83.900 umho/	с		SM1997 2510B	0.00	N/A *
11/21 1545 TCF	Nitrate + Nitrite	3.19 mg/L			HACH 10206	1.49	101.0 *
11/19 1225 TMO	Well Depth, Total	13.10 Feet				N/A	N/A
11/19 1225 TMO	Depth to Water	13.60 Feet				N/A	N/A

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Environmental Services

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number	: 1811010353	Sample	Date : 12	1/19/18	Collected By: TMO					
Customer Name	: CLINTON, EAST GW16	Sample	Time : 12	210	Delivery By : TMO					
Customer/Permin	t No. : 509 / AR0048836 001	Sample	Type : GP	RAB WATER	Work Order :					
Report Date : 1	11/27/18	Sample	From : WP	ELL #16	Purchase Order :					
Analysis <u>Date</u> <u>Time</u> <u>By</u> 11/26 1230 DWC 11/19 1210 TMO 11/20 0630 ATL 11/19 1210 TMO 11/21 1545 TCF 11/19 1210 TMO 11/19 1210 TMO	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	Laboratory Analys <u>Result</u> 10.0 mg/ 6.3 S.U 96.0 mg/ 130.000 umh 3.89 mg/ 14.00 Fee 14.00 Fee	<u>Notes</u> L L N. No/C L Nt	Quantity	Method SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality Precision <u>% RPD</u> 0.00 0.00 0.80 0.00 1.49 N/A N/A	Assurance Accuracy <u>% Recovery</u> 100.0 * N/A * N/A * 101.0 * N/A N/A			

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 18	811010354	Sample I)ate : 11	/19/18	Collected By: TMO					
Customer Name : Cl	LINTON, EAST GW17	Sample T	'ime : 11	55	Delivery By : TMO					
Customer/Permit No	o. : 649 / AR0048747 001	Sample T	'ype : GR	RAB WATER	Work Order :					
Report Date : 11/2	27/18	Sample F	'rom : WE	ELL #17	Purchase Order :					
Analysis <u>Date Time By</u> 11/26 1230 DWC Cl 11/19 1155 TMO pl 11/20 0630 ATL Sc 11/19 1155 TMO Sp 11/21 1545 TCF N: 11/19 1155 TMO de 11/19 1155 TMO de	<u>Parameter</u> hloride (as Cl) H olids, Total Dissolved pec. Conductance @ 25 C itrate + Nitrite ell Depth, Total epth to Water	Aboratory Analysis Result 10.0 mg/L 6.3 S.U. 128.0 mg/L 127.800 umho/ 5.95 mg/L 17.60 Feet 12.90 Feet	<u>Notes</u>	Quantity	Method SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality Precision <u>% RPD</u> 0.00 0.00 0.80 0.00 1.49 N/A N/A	Assurance Accuracy <u>% Recovery</u> 100.0 * N/A * N/A * 101.0 * N/A N/A			

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Environmental Inc.



Groun	Environmental Services Company Little Rock, AR 72211 Groundwater Monitoring Chain of Custody								oler Na Signati	ime(s) ure: te:	:; Fina []-19	m 671 140 -18	Ma S	D'M	a)		i	
Identification (Customer #)	Control Number	Sample Time:	Depth To Water	Total Well Depth		F	он		Sp	ecific Co	onducta	nce		Temp Degr	erature ees C		Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (1 L Plastic +2SO4)
Clinton Ea	ist Wells				#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#2			
#13 (507)	1811010351	1243	134	15' 4''	6.2	le-2	le.2	1240	\$ \$5.7	85.7	85.7	1245	9.2	9.2	#J G.2	Lime	v	v
#14 (508)	1811010352	1225	13'4	13' 1"	6.1e	(e.5	6.5	(225	83.9	83.9	83.9	1225	9.4	G. 4	G. 4	12,25	 	
#16 (509)	1811070353	1210	140	14' 0''	6.3	le.g	63	(21)	130	130	130	1210	9.5	9,5	9.5	1210	 	 X
#17 (649)	1811010354	1155	12.	17' 6"	6.3	6.3	6.3	1158	127.8	127.8	127.8	1158	9.3	9.3	4.3	1158	 X	 X
				- · ·														
Relinguished H	v: Thruston,	al I	Time			·			2 (21			1,	<u> </u>	31.70	4/10-			
Comments:		~~	<u> mile;</u>	- ruw	R	eceived	і Ву La	D: 4	~\	098.	-(9/	T ^{er}	Date	<u>: 1/ '</u>	1/18	Tim	ie: [60	
AC																		

CITY OF CLINTON CLINTON WATER AND SEWER DEPARTMENT P.O. BOX 277 CLINTON, AR 72031 TELEPHONE (501) 745-4320 FAX (501) 745-2164

TO:	ESC	

ATTN: JOYCE

FAX#:_____501-221-1341

FROM: Clinton Water + Sewer

PAGES INCLUDING COVER PAGE:____/

	/ / .	
East Plan	: 60,192 mg, 159 inches, 2038.81 Acres	
West Plant	No Spray	
Crops	rown: Bermuda Hay	
East side	Duners : Steve Bone + Will Dawson	
West side	Where I Danny Boone , Roy Gray Jennings	

IF ALL PAGES ARE NOT RECEIVED PLEASE NOTIFY AT ONCE!

Clinton Water & Sewer East Plant

Annual Report Permit AR0048836 & 5130-WR-2 January 2019 – December 2019



Environmental Services Company, Inc.

<u>Corporate Office</u> <u>13715 West Markham</u> <u>Little Rock, Arkansas 72211</u> <u>501-221-2565 (p)</u> <u>501-221-1341 (f)</u> <u>www.esclabs.com</u> Carlsbad, New Mexico 575-887-7372 (7ESC) Albuquerque, New Mexico 888-372-3477 Springdale, Arkansas 479-750-1170

Clinton Water and Sewer Department Clinton, AR East WWTP 5130-WR-2 Irrigation Water Calendar Year 2019

			2019 Application Data								
	Annual	Million	Number	Gallons	Pounds	Application					
Parameter	Concentration	Gallons/	of	per	per	Since 2003					
	(mg/L)	Year	Acres	Acre-Year	Acre	Pounds/Acre					
CBOD	< 2.0000	72.864	86.00	847,255.8	14.141						
Sodium Absorption Ratio	38.2285	72.864	86.00	847,255.8	270.302						
Fecal Coliform	< 1.0000	72.864	86.00	847,255.8	7.071						
Total Suspended Solids	2.5000	72.864	86.00	847,255.8	17.677						
Potassium	2.7290	72.864	86.00	847,255.8	19.296						
Total Phosphorus	0.4400	72.864	86.00	847,255.8	3.111						
Total Kjeldahl Nitrogen	7.1500	72.864	86.00	847,255.8	50.555	736.75					
Ammonia Nitrogen	1.7600	72.864	86.00	847,255.8	12.444	189.72					
Nitrate + Nitrite Nitrogen	1.5575	72.864	86.00	847,255.8	11.013	124.62					
BOD-5	18.9000	72.864	86.00	847,255.8	133.636	1,304.44					
Arsenic	< 0.0093	72.864	86.00	847,255.8	0.065	0.61					
Cadmium	< 0.0048	72.864	86.00	847,255.8	0.034	0.28					
Copper	< 0.0065	72.864	86.00	847,255.8	0.046	0.34					
Lead	< 0.0119	72.864	86.00	847,255.8	0.084	0.73					
Mercury	< 0.0010	72.864	86.00	847,255.8	0.007	0.10					
Selenium	< 0.0103	72.864	86.00	847,255.8	0.072	0.82					
Zinc	0.0210	72.864	86.00	847,255.8	0.149	5.36					
Conductivity, minimum (mhos/cm)*	138.00										
Conductivity, maximum (mhos/cm)*	188.00										
pH, minimum (SU)*	7.20										
pH, maximum (SU)*	9.40										
Nitrogen Application Rate (lbs N/acre/year)	28.65										

*Current year values

Crop Grown: Bermuda Hay

Clinton Water and Sewer Department Clinton, AR East WWTP - AR0048836 Soil Calendar Year 2019

Sample ID	Clinton East 40.24 LA PB 3								
Control Number	1902010165								
	1	Orrenter	2nd Ourseter		2nd Owenton		4th Overter		
							4th Quarter		
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	02/07/19	1.230							
Ammonia Nitrogen	02/07/19	.1130							
PAN	02/07/19	1.34							
Phosphorous	02/07/19	.6940							
Potassium	02/07/19	45390.98							
Arsenic	02/07/19	305.35							
Cadmium	02/07/19	30.28							
Copper	02/07/19	391.79							
Lead	02/07/19	532.92							
Magnesium	02/07/19	33327.32							
Mercury	02/07/19	<3.501							
Nickel	02/07/19	861.65							
Zinc	02/07/19	2542.81							
Conductivity (mhos/cm)	02/07/19	13.2							
pH (SU)	02/07/19	7.3							
Sample ID	Clinton East	40.24 LA PB 30							
------------------------	--------------	-----------------	--------	-----------------	-------------------	-----------------	--------	-----------------	--
Control Number	1902010166								
	1.e	t Quarter	2n	1 Quarter	3rd	Quarter	/th	Quarter	
	Sample	Analytical	Sample	Analytical	Sample Analytical		Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	02/07/19	2.778							
Ammonia Nitrogen	02/07/19	.4690							
PAN	02/07/19	2.24							
Phosphorous	02/07/19	1.26							
Potassium	02/07/19	123382.24							
Arsenic	02/07/19	908.87							
Cadmium	02/07/19	36.08							
Copper	02/07/19	859.09							
Lead	02/07/19	1298.08							
Magnesium	02/07/19	96210.25							
Mercury	02/07/19	<3.622							
Nickel	02/07/19	2227.46							
Zinc	02/07/19	5526.81							
Conductivity (mhos/cm)	02/07/19	7.6							
pH (SU)	02/07/19	7.3							

Sample ID	Clinton East	55.57 LA PB 10							
Control Number	1902010167								
	1.01	Quarter	20	d Quarter	3rc	Quarter	Ath	Quarter	
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	02/07/19	0.675							
Ammonia Nitrogen	02/07/19	0.096							
PAN	02/07/19	0.77							
Phosphorous	02/07/19	0.4450							
Potassium	02/07/19	23893.74							
Arsenic	02/07/19	181.60							
Cadmium	02/07/19	21.34							
Copper	02/07/19	219.96							
Lead	02/07/19	296.95							
Magnesium	02/07/19	21734.67							
Mercury	02/07/19	<3.1880							
Nickel	02/07/19	219.96							
Zinc	02/07/19	1003.07							
Conductivity (mhos/cm)	02/07/19	4.00							
pH (SU)	02/07/19	7.30							

Sample ID	Clinton East	55.57 LA PB 3							
Control Number	1902010167								
	1e1	Quarter	210	d Quarter	3rd	Quarter	/th	Quarter	
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	02/07/19	1.146							
Ammonia Nitrogen	02/07/19	0.1940							
PAN	02/07/19	1.34							
Phosphorous	02/07/19	0.712							
Potassium	02/07/19	23868.67							
Arsenic	02/07/19	137.05							
Cadmium	02/07/19	16.83							
Copper	02/07/19	183.95							
Lead	02/07/19	273.95							
Magnesium	02/07/19	22980.57							
Mercury	02/07/19	<3.1640							
Nickel	02/07/19	451.74							
Zinc	02/07/19	1055.91							
Conductivity (mhos/cm)	02/07/19	4.900							
pH (SU)	02/07/19	7.10							

Sample ID	Clinton East	55.57 LA PB 30							
Control Number	1902010169								
	1.01	Quartar	20	d Quartar	3*	Quartar	Ath	Quartar	
	Sampla	Analytical	Sampla	Analytical	Sample Analytical		Sampla	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	02/07/19	< 0.389							
Ammonia Nitrogen	02/07/19	< 0.0030							
PAN	02/07/19	< 0.39							
Phosphorous	02/07/19	0.4270							
Potassium	02/07/19	44490.56							
Arsenic	02/07/19	158.14							
Cadmium	02/07/19	12.98							
Copper	02/07/19	178.94							
Lead	02/07/19	411.02							
Magnesium	02/07/19	31937.48							
Mercury	02/07/19	<3.3090							
Nickel	02/07/19	461.26							
Zinc	02/07/19	1689.86							
Conductivity (mhos/cm)	02/07/19	3.600							
pH (SU)	02/07/19	7.00							

Sample ID	Clinton East	LA Airport 9						
Control Number	1902010170							
			2	10			4.1	0
	15	t Quarter	2nc	d Quarter	3rc	l Quarter	4th	Quarter
	Sample	Analytical	Sample	Sample Analytical		Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	02/07/19	2.199						
Ammonia Nitrogen	02/07/19	0.5530						
PAN	02/07/19	2.75						
Phosphorous	02/07/19	1.1720						
Potassium	02/07/19	31948.29						
Arsenic	02/07/19	202.87						
Cadmium	02/07/19	11.35						
Copper	02/07/19	176.66						
Lead	02/07/19	386.39						
Magnesium	02/07/19	21768.76						
Mercury	02/07/19	<3.2920						
Nickel	02/07/19	517.33						
Zinc	02/07/19	857.00						
Conductivity (mhos/cm)	02/07/19	3.10						
pH (SU)	02/07/19	7.3						

Sample ID	Clinton East	LA WD 13							
Control Number	1902010171								
	1e1	t Quarter	210	1 Quarter	3rd	Quarter	Ath	Quarter	
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	02/07/19	2.741							
Ammonia Nitrogen	02/07/19	0.7060							
PAN	02/07/19	3.44							
Phosphorous	02/07/19	1.5840							
Potassium	02/07/19	28505.16							
Arsenic	02/07/19	199.58							
Cadmium	02/07/19	12.29							
Copper	02/07/19	166.31							
Lead	02/07/19	293.67							
Magnesium	02/07/19	18737.81							
Mercury	02/07/19	<3.1440							
Nickel	02/07/19	464.33							
Zinc	02/07/19	832.65							
Conductivity (mhos/cm)	02/07/19	4.100							
pH (SU)	02/07/19	7.20							

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Collected By: JGK

Delivery By : JGK

Purchase Order :

Work Order :

Control Number: 1903010554	Sample Date : 03/28/19
Customer Name : CLINTON, EAST IW	Sample Time : 1110
Customer/Permit No. : 619 / AR0048836 001	Sample Type : GRAB WWATER
Report Date : 08/02/22	Sample From : IRRIGATION WATER

Analysis Parameter Result Notes Quantity Method % RPD % Record 03/29 0800 TCF BOD, 5-day 16.1 mg/L SM 2011 5210 B 0.00 93 04/01 1600 PJC Ammonia as N, (HACH/SM) 0.09 mg/L SM 2011 4500-NH3-G 1.36 101. 04/05 1400 TCF Total Kjeldahl Nitrogen 5.2 mg/L 02/2014 HACH 10242 1.04 98. 04/04 1700 PJC Potassium 2.7290 mg/L EPA 200.8 0.56 96.	e
Date Time By Parameter Result Notes Quantity Method % RPD % Record 03/29 0800 TCF BOD, 5-day 16.1 mg/L SM 2011 5210 B 0.00 93 04/01 1600 PJC Ammonia as N, (HACH/SM) 0.09 mg/L SM 2011 4500-NH3-G 1.36 101 04/05 1400 TCF Total Kjeldahl Nitrogen 5.2 mg/L 02/2014 HACH 10242 1.04 98 04/04 1700 PJC Potassium 2.7290 mg/L EPA 200.8 0.56 96	acv
03/29 0800 TCF BOD, 5-day 16.1 mg/L SM 2011 5210 B 0.00 93 04/01 1600 PJC Ammonia as N, (HACH/SM) 0.09 mg/L SM 2011 4500-NH3-G 1.36 101 04/05 1400 TCF Total Kjeldahl Nitrogen 5.2 mg/L 02/2014 HACH 10242 1.04 98 04/04 1700 PJC Potassium 2.7290 mg/L EPA 200.8 0.56 96	ver
04/01 1600 PJC Ammonia as N, (HACH/SM) 0.09 mg/L SM 2011 4500-NH3-G 1.36 101 04/05 1400 TCF Total Kjeldahl Nitrogen 5.2 mg/L 02/2014 HACH 10242 1.04 98 04/04 1700 PJC Potassium 2.7290 mg/L EPA 200.8 0.56 96	6
04/05 1400 TCF Total Kjeldahl Nitrogen 5.2 mg/L 02/2014 HACH 10242 1.04 98. 04/04 1700 PJC Potassium 2.7290 mg/L EPA 200.8 0.56 96.	5,
04/04 1700 PJC Potassium 2.7290 mg/L EPA 200.8 0.56 96.	.5 1
	.5
03/28 1115 JGK pH 9.4 S.U. SM 2011 4500-H+B 0 00 N	.0 :/ _ +
04/04 1700 PJC Copper < 0.0030 mg/L EPA 200.8 1 76 92	8
04/04 1700 PJC Zinc 0.0169 mg/L EPA 200.8 1.26 98	.0 .7
04/04 1700 PJC Arsenic < 0.0100 mg/L EPA 200.8 1.68 96	5
04/04 1700 PJC Selenium < 0.0100 mg/L EPA 200.8 0 59 96	.0 6
03/28 1115 JGK Spec. Conductance @ 25 C 138.000 umho/c EPA 120.1 0.00 N	/]
04/04 1700 PJC Cadmium < 0.00400 mg/L EPA 200.8 0.03 96	2
04/02 1400 PJC Mercury < 0.0010 mg/L EPA 245.7 1 69 114	. J 7
04/04 1700 PJC Lead < 0.01000 mg/L EPA 200.8 1 40	. J 1
04/01 1600 PJC Nitrate + Nitrite 1.16 mg/L HACH 10206 2.08 99	
04/05 0800 PJC Sodium Absorption Ratio 38.2285 Ratio AGRN 724	• "I

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Environmental Services Co., Inc.

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Corporate Office 13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

	Client Information)]			Pr	oject Inf	ormatior	i			ľ	Rec	Jues	sted	Par	ame	eters	
Client:	Clinton, East IW			Permit/Pro	oject #:	daar oo ah	AR0048	336	and state		[T		<u> </u>	T	Ē		
Address:	P.O. Box 277			Purchase	Order #:													
	Clinton, AR 7203	31		Work Ord	er#							17						
Phone:	501-745-4320			Sampler N	Sampler Name(s):							02(9						
Fax:	501-745-2164		MM		Complet Manle(s).			Mayn				NZ +		ents)				
Contact:	Mr. Phil Graham			- and Signa	turo(a):							03		l mu				
ESC Client Number	ESC Client Number: 619				ture(s).	S	, Car					N		Ö				
Sample Id	entification		C.m.m.l.a	Callesting	Nonari (18.1. N. Novelin Contantina)	\leftarrow	alar mar ang manang manang Manang manang				-	15.4	0	(See				
Identification			Sample		Sample Containers				D(3	3-N	N(16	tals						
		Date	l lime	Туре	Matrix	Туре	e Volume Preservative #		#	BO	Ξ	¥	Me					
Irrigation Wat	er 1903010994	<u>P/28/19</u>	1110	Grab	Wwater	Plastic	1 Liter	Cool ≤ 6° C	>	1	X							
·		<u> </u>	4	Grab	Wwater	Plastic	8 oz	Cool ≤ 6* C, H2SO4 to pH <2		1	Toutesta	X	X					
		H	- 11	Grab	Wwater	Plastic	1 Liter	HNO3 to pl	H <2	1				X				
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	intes runiey	Date	time	Received By: (Si	gnature and Printe	ed Name)		Date	Tin	10	Turna	around		y			Euroneeri Kusaaneeri	
Relinquished By: (Signature and Pr	inted Name)	3/28/19	1530	Received for Lab	Received for Lab By. (Signature and Printed Name) Date				Tirr 152	ne K	Were	samp	les pr	operly	prese	rved:		
· ·		more for the distance	denter and an and the support of the support		Flow D	ata	Field Test	Time	Analy	st st	Resi	ult	Resi	ult	1	Units	Ll	
Comments: Metals: Hg(50.15), Cu(29.HW), Zn(30.HW), As(33.HW),			, Se(34.HW)	Analyst:		pH:	1115	JJK		9.	4	9.1	4	S.U		The second s		
	<u>,</u>				Reading:		Conduct:	<u> </u>	X		134	5,0	134	5-0	UMF	10 5		
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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Collected By: JGK

Delivery By : JGK

Purchase Order :

Work Order :

Control Number:	1906010425
Customer Name :	CLINTON, EAST IW
ustomer/Permit	No. : 619 / AR0048836 001
eport Date : 07	7/10/19

Sample Date : 06/27/19 Sample Time : 0940 Sample Type : GRAB WWATER Sample From : IRRIGATION WATER

			Laboratory Analysis			Quality /	Assurance
Ana	alysis					Precision	Accuracy
Date	Time By	Parameter	Result No	<u> Quantity</u>	Method	% RPD	% Recovery
06/28	0700 DWC	BOD, 5-day	24.00 mg/L		SM 2011 5210 B	0.00	95.1 *
07/03	0900 JJM	Ammonia as N, (HACH/SM)	0.06 mg/L		H/SM 11 10205/4500	3.04	100.2 *
07/05	0830 PJC	Total Kjeldahl Nitrogen	5.8 mg/L		02/2014 HACH 10242	2.67	99.2
06/27	0945 JGK	Hq	7.2 S.U.		SM 2011 4500-H+B	0.00	N/A *
06/28	1700 PJC	Copper	0.00900 mg/L		EPA 200.8	2.36	98.8
06/28	1700 PJC	Zinc	0.0182 mg/L		EPA 200.8	9.11	114.3
06/28	1700 PJC	Arsenic	< 0.0100 mg/L		EPA 200.8	4.17	115.0
06/28	1700 PJC	Selenium	< 0.0100 mg/L		EPA 200.8	1.10	85.3
06/27	0945 JGK	Spec. Conductance @ 25 C	184.600 umho/c		SM1997 2510B	0.00	N/A *
06/28	1700 PJC	Cadmium	< 0.0040 mg/L		EPA 200.8	3.39	110.7
07/05	1400 PJC	Mercury	< 0.0010 mg/L		EPA 245.1	9.54	101.1
07/08	1700 PJC	Lead	< 0.0100 mg/L		EPA 200.8	0.08	96.8
07/05	1030 PJC	Nitrate + Nitrite	2.39 mg/L		HACH 10206	3.24	98.9

* QA data shown is from a different sample or standard on the same date.

Signature		LA
	Environmen	Ital Service

es Co., Inc.

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146

Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

Client Information					Project Information						Requested Parameters						*****	
Client:	Clinton, East IW			Permit/Pro	oject #:		AR0048	836								Τ	T	
Address:	P.O. Box 277			Purchase	Order #:						1							
	Clinton, AR 72031			Work Ord	er#							:-		ļ				
Phone:	501-745-4320			Sampler N	lame(s);	· T.Kamaalil					05(
Fax:	501-745-2164			1							Z +		lents					
Contact:	Mr. Phil Graham			and Signa	Í.e.		5			N03		Luno						
ESC Client Number:	619							voned				Â,		Ŭ e				
Sample Iden	tification	T	Sample	Collection		Í —	Sample	Container			3.)	V(15	16.C	s (Se				
Identification	ESC Control #	Date	Time	Туре	Matrix	Type	Volume	Preserve	ativo	#) OD(H3-	KN(letal				
Irrigation Water	19010010425	10-77-15	0940	Grab	Wwater	Plastic	1 Liter			1		2		2	┢╼╍╌┾			_
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		<u> </u>	17	Grab	Muster	Plastic	0.02	12004 10 pri <2		1		^	^		┝──┼	-+		-
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	Name)	Date 6/27/19	Time	Received for Lab By: (Signature and Printed Name) Date Time					Were	ar samp Yes	les pro	operly	Specia preserv N	ed:	 	-		
				Flow Data Field Test Time Analyst					Resu	lt	Resu	lt I	Ū	nits		┥		
Comments: Metals: Hg Cd(48.HW)	(50.15), Cu(29.HW), 2 , Pb(82.HW), 00.MD	Zn(30.HW), /	As(33.HW),	Sé(34.HW)	0945	J.	\subseteq	Ž.	2	7.	2]	S.U.			1			
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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 1907010248	Sample Date : 07/29/19	Collected By: TMO
Customer Name : CLINTON, EAST IW	Sample Time : 1020	Delivery By : TMO
Customer/Permit No. : 619 / AR0048836 001	Sample Type : GRAB WWATER	Work Order :
Report Date : 08/07/19	Sample From : IRRIGATION WATER	Purchase Order :

		Laboratory Analysi	is			<u>Quality</u> .	<u>Assurance</u>
Analysis						Precision	Accuracy
Date Time By	Parameter	Result	<u>Notes</u>	Quantity	Method	<u> </u>	<u>% Recovery</u>
07/31 0700 DV	C BOD, 5-day	22.70 mg/I	- 1		SM 2011 5210 B	2.61	103.5
07/31 1300 PJ	C Ammonia as N, (HACH/SM)	0.14 mg/I	- 		H/SM 11 10205/4500	2.38	100.5 *
08/06 1300 P	C Total Kjeldahl Nitrogen	7.3 mg/I			02/2014 HACH 10242	1.05	100.8 *
07/29 1024 TM	Ю рН	7.3 S.U.			SM 2011 4500-H+B	0.00	N/A
08/02 1700 PC	C Copper	0.00630 mg/I			EPA 200.8	1.08	107.8 *
08/02 1700 P	C Zinc	0.0296 mg/I	- -		EPA 200.8	1.59	97.7 *
08/02 1700 PJ	C Arsenic	< 0.0100 mg/I	- 		EPA 200.8	0.66	97.6
08/02 1700 PJ	C Selenium	< 0.0100 mg/I	۔ ب		EPA 200.8	4.40	99.3 *
07/29 1024 T	10 Spec. Conductance @ 25 C	181.000 umhc	o/c		SM1997 2510B	0.00	N/A
08/02 1700 PC	C Cadmium	< 0.0040 mg/I	_		EPA 200.8	1.95	99.5 *
08/05 1400 PC	C Mercury	< 0.0010 mg/I			EPA 245.1	0.27	102.7
08/02 1700 PJ	C Lead	< 0.0100 mg/I			EPA 200.8	0.45	102.5 *
07/31 1530 PJ	C Nitrate + Nitrite	2.13 mg/I			HACH 10206	0.51	98.8

* QA data shown is from a different sample or standard on the same date.

Signature

Services Co., Environmental Inc.

Environmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

	С	lient Information				Project Information					1	Requested Parameters					
Client:		Clinton, East IW			Permit/Pro	oject #:		AR00488	336								
Address:		P.O. Box 277			Purchase	Order #:											
		Clinton, AR 72031			Work Ord	er#	4			>	1	91.)					
Phone:		501-745-4320			Sampler N	lame(s):	Time the divert				102(s)				
Fax:		501-745-2164								1		4		nent			
Contact:		Mr. Phil Graham	*****		and Signature(s):			The Alt	5 Ylaw	Y		Ň		omr			
ESC Client Num	ber:	619			1	()	jawwww. in pre-					5.A),		ee C			
Samp	le Iden	tification		Sample	Collection		[Sample (Containers	3	– ()	N(1	16.0	ls (S			
Identificatio	on	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative #		NH3	TKN	Meta			
Irrigation	Water	1907010248	7-29-19	1620	Grab	Wwater	Plastic	1 Liter	Cool ≤ 6° C	; / ·	X	1	Ť	1			
t		1	1	1	Grab	Wwater	Plastic	8 oz	Cool ≤ 6° C, H2SO4 to pH <2			x	x	T		1	
					Grab	Wwater	Plastic	1 Liter	HNO3 to p	H <2		1		X		-	
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Relinquished By: (Signature	e and Printed	Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time	Use	d? aroun	\mathbb{N}	Ļ	Intact?	<u> </u>	
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Comments:// Me	tals: Hg(50.15), Cu(29.HW), Z Pb(82.HW), 00.MD	2n(30.HW), /	As(33.HW),	Se(34.HW)	Analyst: Time:		pH: Conduct:	1024	Turp		13	7.	3	S.U.	19	
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						Units:											
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Control Number: 1910010350	Sample Date : 10/24/19	Collected By: NTR
Customer Name : CLINTON, EAST IW	Sample Time : 1506	Delivery By : NTR
Customer/Permit No. : 619 / AR0048836 001	Sample Type : GRAB WWATER	Work Order :
Report Date : 11/15/19	Sample From : IRRIGATION WATER	Purchase Order :

		Laboratory Analysis	5			<u>Quality</u> <i>I</i>	Assurance
Analysis						Precision	Accuracy
Date Time B	y Parameter	Result	Notes	Quantity	Method	% RPD	<u>% Recovery</u>
10/25 0700 D	WC BOD, 5-day	12.80 mg/L			SM 2011 5210 B	0.00	106.6 *
10/28 0845 D	WC Ammonia as N, (HACH/SM)	6.75 mg/L			H/SM 11 10205/4500	2.45	99.2 *
11/12 0900 T	CF Total Kjeldahl Nitrogen	10.3 mg/L			02/2014 HACH 10242	3.77	103.9
10/24 1507 N	TR pH	7.6 S.U.			SM 2011 4500-H+B	0.00	N/A *
10/31 1700 P	JC Copper	0.00750 mg/L			EPA 200.8	3.06	89.1 *
10/31 1700 P	JC Zinc	0.0194 mg/L			EPA 200.8	1.01	91.5 *
10/31 1700 P	JC Arsenic	< 0.0070 mg/L			EPA 200.8	4.44	89.8 *
10/31 1700 P	JC Selenium	< 0.0110 mg/L			EPA 200.8	4.72	89.7 *
10/24 1507 N	IR Spec. Conductance @ 25 C	188.000 umho/	/c		SM1997 2510B	0.33	N/A *
10/31 1700 P	JC Cadmium	< 0.0070 mg/L			EPA 200.8	2.23	89.1 *
11/06 1400 P	JC Mercury	< 0.0010 mg/L			EPA 245.1	4.62	88.9
10/31 1700 P	JC Lead	0.0174 mg/L			EPA 200.8	1.93	90.2 *
10/30 1230 P	JC Nitrate + Nitrite	0.55 mg/L			HACH 10206	0.35	98.0 *
					1		

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146

Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

	С	lient Information				Project Information					Γ	Requested Parameters						
Client:		Clinton, East IW			Permit/Pro	ject #:		AR00488	36									
Address:		P.O. Box 277			Purchase (Order #:			********									
	<u></u>	Clinton, AR 72031			Work Orde	er#						91.)						
Phone:		501-745-4320			Sampler N	ame(s):): Ned Rupisson				102((s					
Fax:		501-745-2164							7		2+		nent					
Contact:		Mr. Phil Graham			and Signat	ure(s):		Mrd	Rus -			löz		umo				
ESC Client N	umber:	619			and eignat							(A		ee C				
Sa	mple Ident	tification		Sample	Collection		[Sample (Containers		3)	N(15	16.C	s (Si				
Identific	ation	ESC Control #	Date	Time		Matrix	Type	Volume	Preserva	tive	# 100	H3-	KN(Aetal				
Irrigat	ion Water	1910010250	10-24-10	1506	Grab	Wwater	Plastic	1 Liter	$Cool < 6^\circ$		1	,	1			+		
		(10 0 + 101 Î	1700	Grab	Wwater	Plastic	8.07	$Cool \leq 6^{\circ} C$, H2SO4 to pH <2		<u></u>	`+,	· v	+	┟──╁	+		
					Grab	VVWaler	Diretia	1 1 1100				+	` ^		$\left \right $		+	
			1		Giab	vvwater	Plastic	i Liter			╧╉╌	+		+^	┝──┼			
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Reinquisried by. (Sigi	nature and Frinted	(valle)	Dale	The	Neceived by: (big	gilature and Finite	d Manle)		Date	11110	Us	ed?		1	Intac	t?		
Relinquished By: (Sigr	nature and Printed	Name)	Date	Time	Received By: (Sig	nature and Printe	d Name)		Date	Time	Tu	marou	nd:		0			
Reli n quished By: (Si gi	nature and Printed	Name)	Date	Time	Received for Lab By: Aignature and, Printed Name) / Date Time / V				/ W	guiar ere sai	nples p	roperly	preser	ved:				
Mrd th	Ne - Ned	Poze -	10-74-19	1745	1 4 Was Oshe Carter 1024-19 1725				5	Ye	<u>ک</u> ا ،	1		No				
Commonte:	U Motale: Ha	U (50 15) Cu/20 HMA			Sola HMA	Analyst:	ala	Field Test	1 ime	Analyst	Re	suit	Res		<u>S 11</u>	Units		_
Comments.	Cd(48.HW)	, Pb(82.HW), 00.MD	211(30.1100), 7	15(33.1100),	36(04.1117)	Time:		Conduct:	1507	NIC		7.6		- 6 5 D	UMH	los		
	,,,,,,,					Reading:												
						Units:												
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Control Number: 1903010316	Composite Date:03/27/19 -03/28/19	Collected By: PG/JGK
Customer Name : CLINTON, EAST 001	Sample Time : 0900-0900/1055(3-28)	Delivery By : JGK
Customer/Permit No. : 495 / AR0048836 001	Sample Type : 24 HR COMP/GRAB WW	Work Order :
Report Date : 04/05/19	Sample From : FINAL EFFLUENT	Purchase Order :
Labora	tory Analysis	Quality Assurance

						Precision	Accuracy
Parameter		Result	<u>Notes</u>	Quantity	Method	<u> </u>	<u>% Recovery</u>
Dissolved Oxygen		9.90 mg/L		88.28 #/day	SM 2001 4500-0 G	0.00	N/A
Ammonia as N, (HACH/SM)		0.07 mg/L		0.62 #/day	H/SM 11 10205/4500	1.36	101.5 *
PH		8.1 S.U.			SM 2000 4500-H+B	0.00	N/A
Solids, Total Suspended		< 2.50 mg/L		22.29 #/day	SM 2011 2540 D	0.00	N/A *
E. Coliforms		1.0 /100	ml		06/2012 Colilert18	0.00	N/A
Fecal Coliform		< 1.0 /100	ml		06/2012 Colilert18	0.00	N/A
BOD, Carbonaceous		< 2.00 mg/L		17.83 #/day	SM 2011 5210 B	0.68	96.8 *
	Flow	1.070000 MG	D				
	Parameter Dissolved Oxygen Ammonia as N, (HACH/SM) pH Solids, Total Suspended E. Coliforms Fecal Coliform BOD, Carbonaceous	Parameter Dissolved Oxygen Ammonia as N, (HACH/SM) pH Solids, Total Suspended E. Coliforms Fecal Coliform BOD, Carbonaceous Flow	ParameterResultDissolved Oxygen9.90 mg/LAmmonia as N, (HACH/SM)0.07 mg/LpH8.1 S.U.Solids, Total Suspended< 2.50 mg/L	ParameterResultNotesDissolved Oxygen9.90 mg/LAmmonia as N, (HACH/SM)0.07 mg/LpH8.1 S.U.Solids, Total Suspended< 2.50 mg/L	ParameterResultNotesQuantityDissolved Oxygen9.90 mg/L88.28 #/dayAmmonia as N, (HACH/SM)0.07 mg/L0.62 #/daypH8.1 S.U.Solids, Total Suspended< 2.50 mg/L	Parameter Result Notes Quantity Method Dissolved Oxygen 9.90 mg/L 88.28 #/day SM 2001 4500-0 G Ammonia as N, (HACH/SM) 0.07 mg/L 0.62 #/day H/SM 11 10205/4500 pH 8.1 S.U. SM 2000 4500-H+B Solids, Total Suspended < 2.50 mg/L	Parameter Result Notes Quantity Method % RPD Dissolved Oxygen 9.90 mg/L 88.28 #/day SM 2001 4500-0 G 0.00 Ammonia as N, (HACH/SM) 0.07 mg/L 0.62 #/day H/SM 11 10205/4500 1.36 pH 8.1 S.U. SM 2000 4500-H+B 0.00 Solids, Total Suspended < 2.50 mg/L

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Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2565 Fax: 501-221-1341 r

	Client Information				Project Inform				rmation			ques	ted F	Paran	neter	S
Company Name:	Clinton, East 001			Permit/Pro	ject #:		AR0048	836			T				1	T
Address:	P.O. Box 277			Purchase	Order #:					7						
	Clinton, AR 7203	1	Work Orde			ler #						(43.2				
Telephone:	501-745-4320	*******		- Sampler N	ame(s):	Phil	brak	6	9	-		Coli				
Contact:	Mr. Phil Graham					$\overline{(1-1)}$		alil		$\dashv_{\widehat{a}}$		ш С				
FAX:	501-745-2164	····		- and Signal	ure(c).	PAID	A. d	SUMULA		S(28		(43.)				
ESC Client Number:	495 (3X per week)			urc(3).	1 A	<u>Iron</u> i	m-		12	8	E U				
Sample Id	lentification	/	Sample	Collection		\overrightarrow{r}	<u>r</u> <u>Comple</u>	Containar	_	- [2]	(15.)	Colif				
Identification	ESC Control #	Data	Timo	Tuno	L Matrix		Sample		s 		13-N	ecal				
Final Effluent				туре	iviatrix	Туре	volume	Preserva	ative #	Ö	ļŻ_	<u> </u>				Ļ
	1903010316	3-21-19	TAM	24Hr. Comp	Wwater	Plastic	1/2 Gal	Cool < 6° C	; 1	<u> X</u>	<u> </u>	\downarrow			_	ļ
				24Hr. Comp	Wwater	Plastic	1 Liter	H2SO4 to pH <2			<u> x</u>					
-		312819	1055	Grab	Wwater	Whirlpak	150 mls	Na2S2O3	1			X				
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										+						
Relinguished By: (Signature and Pri	inted Name)	Date 2,27,0	Time	Received By: (Sig	nature and Printed	d Name)	۷. ۱	Date	Time	Cust	ody Se	als:				
Relinquished By: (Signature and Pri	inted Name)	Date	Time	Received By: (Sig	nature and Printed	Derrord Name)	-Ll	3128119 Date	<u>loss</u> Time	Usec	i? around	<u>na</u>	(r	ntact?		L
Polinguichod Pur (Cirpature and Di										Regu	ılar		٤	Special		
CL T-K	necos l'Ul	BILLIN	Time 1530	Received for Lab.	y (Signature and	Printed Name	Han a	Date 3- 70-16	Time ノビスハ	Were	samp	les pro	perly pr	eserved	·	
f		1 1		V-unite	Flow Da	ata	Field Test	7 20 77 Time	Analyst	Res	ult	Resul	t T	NO Unit	LL	
Comments:					Analyst: J	~	Grab pH:	1100	Jh	8.		8.1	s	.U.		
		······································	10720000 a		Reading: ()	00	Grab DO:	1100	Th	9,0	1	4,9	m	g/L		
					Units: M	50	E Coli Start	TCF	1600	+						
	·						Fecal Start:	TLF	1600	This	Doc	umen	t is Pr	age 🗋	of (

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Control Number: 1901010456	Composite Date:01/13/19 -01/14/19	Collected By: PG/TMO
Customer Name : CLINTON, EAST 001	Sample Time : 0900-0900/1155(1-14)	Delivery By : TMO
Customer/Permit No. : 495 / AR0048836 001	Sample Type : 24 HR COMP/GRAB WW	Work Order :
Report Date : 01/31/19	Sample From : FINAL EFFLUENT	Purchase Order :

	<u>_</u>	aboratory Analysis				Quality .	Assurance
Analysis						Precision	Accuracy
Date Time By	Parameter	Result 1	Notes Quant	city	Method	% RPD	% Recovery
01/14 1159 TMO	Dissolved Oxygen	11.60 mg/L	114.07	7 #/day	SM 2001 4500-0 G	0.00	N/A *
01/30 1530 PJC	Ammonia as N, (HACH/SM)	2.93 mg/L	28.83	l #/day	H/SM 11 10205/4500	2.28	98.3 *
01/14 1159 TMO	рH	7.5 S.U.			SM 2000 4500-H+B	0.00	N/A *
01/17 1000 TCF	Phosphorous, Total (as P)	0.440 mg/L	4.33	8 #/day	HACH 10209	0.00	99.5 *
01/29 0900 PJC	Solids, Total Suspended	16.50 mg/L	162.25	5 #/day	SM 2011 2540 D	3.48	N/A *
04/14 1630 TCF	E. Coliforms	275.5 /100ml			06/2012 Colilert18	0.00	N/A
01/14 1630 TCF	Fecal Coliform	387.3 /100ml			06/2012 Colilert18	0.00	N/A
01/16 0645 DWC	BOD, Carbonaceous	4.30 mg/L	42.28	3 #/day	SM 2011 5210 B	0.00	104.6 *
01/17 1400 TCF	Nitrate + Nitrite	0.50 mg/L	4.92	2 #/day	HACH 10206	3.92	96.8 *
	Flo	w 1.180000 MGD					

* QA data shown is from a different sample or standard on the same date.

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Signature

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Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY Phone: 501-221-2565 Fax: 501-221-1341 **Client Information Project Information** Requested Parameters Client: Clinton, East 001 Permit/Project #: AR0048836 Coli(43.IE) P.O. Box 277 Address: Purchase Order #: . Clinton, AR 72031 Work Order # Phone: 501-745-4320 Sampler Name(s): ш Coliform (43.IF), TSS(28.) Fax. 501-745-2164 Contact: Mr. Phil Graham and Signature(s): NH3-N(15.A) ESC Client Number: 495 (3X per week) CBOD(70.), Sample Identification Sample Collection Sample Containers Fecal Identification ESC Control # Date Time Volume # Type Matrix Type Preservative 1901010456 **Final Effluent** 9Am 1-13-19 24Hr. Comp Х Wwater Plastic 1/2 Gal Cool < 6° C 1 Cool < 6° C. 24Hr. Comp Wwater Plastic 8 oz H2SO4 to pH <2 Х 1 1-14-19 1155 Grab Wwater Whirlpak 2 Х 4 oz Cool ≤ 6 °C Date Received By: (Signature) and Brinted Name) jature and Printed Name) Time Date Time Custody Seals: Phil 9Am 1-13-19 14-19 155 Used? N Intact? Relinguished By: (Signature and Printed Name) Date Time Received B Turnaround: Date Time Regular Special Relinquished By: (Signature and Printed Name) Date Time Received for Lab By: (Signature and Printed Name) Date Were samples properly preserved: Time IL bul limsth O'Neu 67 0 Urle g/t -14-10 lld-IMMADLA () at Yes No Flow Data Field Test Time Analyst Result Result Units Comments: Analyst: TIMO Grab pH: 1159 TMO 715 7.5 S.U. Grab DO: Time: 1755 1159 This 111/2 1/10 mg/L Reading: 115 Units: mGD E Coli Start 1 le 30 TCF This Document is Page Fecal Start: lof/



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Control Number:	1902010165
Customer Name :	CLINTON, EAST 40.24 LA PB 3
Customer Number	: 3004
Report Date : 02	2/28/19

Sample Date : 02/07/19 Sample Time : 1241 Sample Type : GRAB SOIL Sample From : EAST LA 40.24 PB3 Collected By: NTR Delivery By : NTR Work Order : Purchase Order :

			Laboratory Anal	ysis			Quality A	Assurance
Analy	vsis						Precision	Accuracy
Date Ti	me By	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recoverv
02/21 16	500 PJC	Ammonia Nitrogen	0.1130 m	lg/kg		SM 1997 4500-NH3 C	0.20	99.6
02/20 14	00 PJC	Mercury	< 3.5010 m	g/Kg		SW-846 7474 02/07	7.37	95.0
02/22 15	500 PJC	Nitrate Nitrogen	1.230 m	g/kg		SM 2000 4500-NO3 E	0.19	98.4
02/22 13	00 PJC	Phosphorous, Total (as P)	0.6940 m	g/kg		EPA 365.3	0.63	98 6
02/13 17	00 PJC	Magnesium	33327.32 m	g/Kg		SW-846 6020A	0.71	98 9
02/13 17	00 PJC	Potassium	45390.98 m	g/Kg		SW-846 6020A	8.61	106.9
02/22 17	00 PJC	pH Soil	7.30 S	.U.		SW846 9045C	1 38	N/A
02/13 17	00 PJC	Nickel	861.65 m	q/Kq		SW-846 6020A	1 01	100 7
02/13 17	00 PJC	Copper	391.79 m	q/Kq		SW-846 6020A	4 60	101 5
02/13 17	00 PJC	Zinc	2542.81 m	a/Ka		SW-846 6020A	3 73	101.0
02/22 16	00 NTR	Nitogen, Plant Available	1.34 m	a/ka		33 MSA 2nd Ed	5.75	101.2
02/13 17	00 PJC	Arsenic	305.35 m	a/Ka		SW-846 6020A	1 74	106 0
02/22 11	.00 PJC	Specific Conductance	13.2000 u	mhos		EPA (MOD) 9050A	0.47	100.0
02/13 17	00 PJC	Cadmium	30.28 m	a/Ka		SW-846 6020A	1 21	99 1
02/12 12	00 PJC	Solids, % Total	71.409 %	5, 5		SM 1997 2540 G	3 92	N/7 *
02/13 17	00 PJC	Lead	532.92 m	a/Ka		SW-846 6020A	0 04	100 6
				575		Bii 010 0020M	0.04	100.0
								-

* QA data shown is from a different sample or standard on the same date.

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Control Number: 1902010166	Sample Date : 02/07/19	Collected By: NTR
Customer Name : CLINTON, EAST 40.24 LA PB 30	Sample Time : 1252	Delivery By : NTR
Customer Number : 3003	Sample Type : GRAB SOIL	Work Order :
Report Date : 02/28/19	Sample From : EAST LA 40.24 PB30	Purchase Order :

				Laboratory An	alysis				Quality	Assurance
Ana	alysis	5							Precision	Accuracy
Date	<u>Time</u>	By	Parameter	Result	Not	tes	Quantity	Method	% RPD	% Recovery
02/21	1600	PJC	Ammonia Nitrogen	0.4690	mg/kg			SM 1997 4500-NH3 C	0.20	99.6 *
02/20	1400	PJC	Mercury	< 3.6220	mg/Kg			SW-846 7474 02/07	7.37	95.0 *
02/22	1500	PJC	Nitrate Nitrogen	2.778	mg/kg			SM 2000 4500-NO3 E	0.19	98.4 *
02/22	1300	PJC	Phosphorous, Total (as P)	1.2600	mg/kg			EPA 365.3	0.63	98.6 *
02/13	1700	PJC	Magnesium	96210.25	mg/Kg			SW-846 6020A	0.71	98.9 *
02/13	1700	PJC	Potassium	123382.24	mg/Kg			SW-846 6020A	8.61	106.9 *
02/22	1700	PJC	pH Soil	7.30	S.U.			SW846 9045C	1.38	N/A *
02/13	1700	PJC	Nickel	2227.46	mg/Kg			SW-846 6020A	1.01	100.7 *
02/13	1700	PJC	Copper	859.09	mg/Kg			SW-846 6020A	4.60	101.5 *
02/13	1700	PJC	Zinc	5526.81	mg/Kg			SW-846 6020A	3.73	101.2 *
02/22	1600	NTR	Nitogen, Plant Available	2.24	mg/kg			33 MSA 2nd Ed		
02/13	1700	PJC	Arsenic	908.87	mg/Kg			SW-846 6020A	1.74	106.0 *
02/22	1100	PJC	Specific Conductance	7.6000	umhos			EPA (MOD)9050A	0.47	100.9 *
02/13	1700	PJC	Cadmium	36.08	mg/Kg			SW-846 6020A	1.21	99.1 *
02/12	1200	PJC	Solids, % Total	69.027	00			SM 1997 2540 G	3.92	N/A *
02/13	1700	PJC	Lead	1298.08	mg/Kg			SW-846 6020A	0.04	100.6 *
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Control Number:	1902010167
Customer Name :	CLINTON, EAST 55.57 LA PB 10
Customer/Permit	No. : 511 / AR0048836 001
Report Date : 02	2/28/19

Sample Date : 02/07/19 Sample Time : 1310 Sample Type : GRAB SOIL Sample From : EAST LA 55.57 PB10 Collected By: NTR Delivery By : NTR Work Order : Purchase Order :

			Laboratory Analysis				Quality	Assurance
Ana	alysis						Precision	Accuracy
Date	Time B	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
02/21	1600 P.	JC Ammonia Nitrogen	0.0960 mg/kg			SM 1997 4500-NH3 C	0.20	99.6 *
02/20	1400 P	JC Mercury	< 3.1880 mg/Kg			SW-846 7474 02/07	7.37	95.0 *
02/22	1500 P.	JC Nitrate Nitrogen	0.675 mg/kg			SM 2000 4500-NO3 E	0.19	98.4 *
02/22	1300 P	JC Phosphorous, Total (as P)	0.4450 mg/kg	1		EPA 365.3	0.63	98.6 *
02/13	1700 P	JC Magnesium	21734.67 mg/Kg	1		SW-846 6020A	0.71	98.9 *
02/13	1700 P	JC Potassium	23893.74 mg/Kg			SW-846 6020A	8.61	106.9 *
02/22	1700 P.	JC pH Soil	7.30 S.U.			SW846 9045C	1.38	N/A *
02/13	1700 P	JC Nickel	452.05 mg/Kg			SW-846 6020A	1.01	100.7 *
02/13	1700 P.	IC Copper	219.96 mg/Kg	8		SW-846 6020A	4.60	101.5 *
02/13	1700 P.	JC Zinc	1003.07 mg/Kg			SW-846 6020A	3.73	101.2 *
02/22	1600 N	R Nitogen, Plant Available	0.77 mg/kg			33 MSA 2nd Ed		
02/13	1700 P.	IC Arsenic	181.60 mg/Kg			SW-846 6020A	1.74	106.0 *
02/22	1100 P.	IC Specific Conductance	4.0000 umhos			EPA (MOD)9050A	0.47	100.9 *
02/13	1700 P	IC Cadmium	21.34 mg/Kg			SW-846 6020A	1.21	99.1 *
02/12	1200 P.	IC Solids, % Total	78.410 %			SM 1997 2540 G	3.92	N/A *
02/13	1700 P	IC Lead	296.95 mg/Kg			SW-846 6020A	0.04	100.6 *
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Control Number: 1902010168 Customer Name : CLINTON, EAST 55.57 LA PB 3 Customer Number : 3002 Report Date : 02/28/19 Sample Date : 02/07/19 Sample Time : 1318 Sample Type : GRAB SOIL Sample From : EAST LA 55.57 PB3

Collected By: NTR Delivery By : NTR Work Order : Purchase Order :

Laboratory Analysis	Quality A	Assurance
Analysis	recision	Accuracy
Date Time By Parameter Result Notes Quantity Method	% RPD	% Recovery
02/21 1600 PJC Ammonia Nitrogen 0.1940 mg/kg SM 1997 4500-NH3 C	0.20	99.6 *
02/20 1400 PJC Mercury < 3.1640 mg/Kg SW-846 7474 02/07	7.37	95.0 *
02/22 1500 PJC Nitrate Nitrogen 1.146 mg/kg SM 2000 4500-NO3 E	0.19	98.4 *
02/22 1300 PJC Phosphorous, Total (as P) 0.7120 mg/kg EPA 365.3	0.63	98.6 *
02/13 1700 PJC Magnesium 22980.57 mg/Kg SW-846 6020A	0.71	98.9 *
02/13 1700 PJC Potassium 23868.67 mg/Kg SW-846 6020A	8.61	106.9 *
02/22 1700 PJC pH Soil 7.10 S.U. SW846 9045C	1.38	N/A *
02/13 1700 PJC Nickel 451.74 mg/Kg SW-846 6020A	1.01	100.7 *
02/13 1700 PJC Copper 183.95 mg/Kg SW-846 6020A	4.60	101.5 *
02/13 1700 PJC Zinc 1055.91 mg/Kg SW-846 6020A	3.73	101.2 *
02/22 1600 NTR Nitogen, Plant Available 1.34 mg/kg 33 MSA 2nd Ed		
02/13 1700 PJC Arsenic 137.05 mg/Kg SW-846 6020A	1.74	106.0 *
02/22 1100 PJC Specific Conductance 4.9000 umhos EPA (MOD)9050A	0.47	100.9 *
02/13 1700 PJC Cadmium 16.83 mg/Kg SW-846 6020A	1.21	99.1 *
02/12 1200 PJC Solids, % Total 79.011 % SM 1997 2540 G	3.92	N/A *
02/13 1700 PJC Lead 273.95 mg/Kg SW-846 6020A	0.04	100.6 *

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Environmental Services Co., Inc.

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

NTR

NTR

Control Number: 1902010169	Sample Date : 02/07/19	Collected By: NT
Customer Name : CLINTON, EAST 55.57 LA PB 30	Sample Time : 1331	Delivery By : NT
Customer Number : 3001	Sample Type : GRAB SOIL	Work Order :
Report Date : 02/28/19	Sample From : EAST LA 55.57 PB30	Purchase Order :

		Laboratory Analysis	3			Quality	Assurance
Analysis						Precision	Accuracy
Date Time By	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
02/21 1600 PJC	Ammonia Nitrogen	< 0.0030 mg/kg	J		SM 1997 4500-NH3 C	0.20	99.6 *
02/20 1400 PJC	Mercury	< 3.3090 mg/Kg	J		SW-846 7474 02/07	7.37	95.0 *
02/22 1500 PJC	Nitrate Nitrogen	< 0.389 mg/kg	J		SM 2000 4500-NO3 E	0.19	98.4 *
02/22 1300 PJC	Phosphorous, Total (as P)	0.4270 mg/kg	J		EPA 365.3	0.63	98.6 *
02/13 1700 PJC	Magnesium	31937.48 mg/Kg	J		SW-846 6020A	0.71	98.9 *
02/13 1700 PJC	Potassium	44490.56 mg/Kg	J		SW-846 6020A	8.61	106.9 *
02/22 1700 PJC	pH Soil	7.00 S.U.			SW846 9045C	1.38	N/A *
02/13 1700 PJC	Nickel	461.26 mg/Kg	J		SW-846 6020A	1.01	100.7 *
02/13 1700 PJC	Copper	178.94 mg/Kg	J		SW-846 6020A	4.60	101.5 *
02/13 1700 PJC	Zinc	1689.86 mg/Kg	ſ		SW-846 6020A	3.73	101.2 *
02/11 1600 NTR	Nitogen, Plant Available	< 0.39 mg/kg	ſ		33 MSA 2nd Ed		
02/13 1700 PJC	Arsenic	158.14 mg/Kg	ſ		SW-846 6020A	1.74	106.0 *
02/22 1100 PJC	Specific Conductance	3.6000 umhos	5		EPA (MOD)9050A	0.47	100.9 *
02/13 1700 PJC	Cadmium	12.98 mg/Kg	ſ		SW-846 6020A	1.21	99.1 *
02/12 1200 PJC	Solids, % Total	75.553 %			SM 1997 2540 G	3.92	N/A *
02/13 1700 PJC	Lead	411.02 mg/Kg	ſ		SW-846 6020A	0.04	100.6 *

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	COLLECCEU DY. NIK
ustomer Name : CLINTON, EAST LA AIRPORT9 Sample Time : 1353	Delivery By : NTR
ustomer Number : 2959 Sample Type : GRAB SOIL	Work Order :
Leport Date : 03/01/19 Sample From : EAST LA AIRPORT9	Purchase Order :

				Laboratory Analysis	2			Quality	Assurance
Ana	alysis	5						Precision	Accuracy
Date	Time	By	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
02/21	1600	PJC	Ammonia Nitrogen	0.5530 mg/kg	J		SM 1997 4500-NH3 C	0.20	99.6 *
02/20	1400	PJC	Mercury	< 3.2920 mg/Kg	ſ		SW-846 7474 02/07	7.37	95.0 *
02/22	1500	PJC	Nitrate Nitrogen	2.199 mg/kg	ſ		SM 2000 4500-NO3 E	0.19	98.4 *
02/22	1300	PJC	Phosphorous, Total (as P)	1.1720 mg/kg	ſ		EPA 365.3	0.63	98.6 *
02/13	1700	PJC	Magnesium	21768.76 mg/Kg	ſ		SW-846 6020A	0.71	98.9 *
02/13	1700	PJC	Potassium	31948.29 mg/Kg	ſ		SW-846 6020A	8.61	106.9 *
02/22	1700	PJC	pH Soil	7.30 S.U.			SW846 9045C	1.38	N/A *
02/13	1700	PJC	Nickel	517.33 mg/Kg	ſ		SW-846 6020A	1.01	100.7 *
02/13	1700	PJC	Copper	176.66 mg/Kg	ſ		SW-846 6020A	4.60	101.5 *
02/13	1700	PJC	Zinc	857.00 mg/Kg	ſ		SW-846 6020A	3.73	101.2 *
02/22	1600	NTR	Nitogen, Plant Available	2.75 mg/kg	ſ		33 MSA 2nd Ed		
02/13	1700	PJC	Arsenic	202.87 mg/Kg	ſ		SW-846 6020A	1.74	106.0 *
02/22	1100	PJC	Specific Conductance	3.1000 umhos	5		EPA (MOD)9050A	0.47	100.9 *
02/13	1700	PJC	Cadmium	11.35 mg/Kg	ſ		SW-846 6020A	1.21	99.1 *
02/12	1200	PJC	Solids, % Total	75.933 %			SM 1997 2540 G	3.92	N/A *
02/13	1700	PJC	Lead	386.39 mg/Kg	ſ		SW-846 6020A	0.04	100.6 *

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Control Number: 1902010171	Sample Date : 02/07/19	Collected Bv: NTR
Customer Name : CLINTON, EAST LA WD13	Sample Time : 1419	Delivery By : NTR
Customer Number : 2960	Sample Type : GRAB SOIL	Work Order :
Report Date : 03/01/19	Sample From : EAST LA WD13	Purchase Order :

		Laboratory Analysis				Quality :	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
02/21 1600 PJC	Ammonia Nitrogen	0.7060 mg/kg			SM 1997 4500-NH3 C	0.20	99.6
02/20 1400 PJC	Mercury	< 3.1440 mg/Kg			SW-846 7474 02/07	7.37	95.0 *
02/22 1500 PJC	Nitrate Nitrogen	2.741 mg/kg			SM 2000 4500-NO3 E	0.19	98.4 *
02/22 1300 PJC	Phosphorous, Total (as P)	1.5840 mg/kg			EPA 365.3	0.63	98.6 *
02/13 1700 PJC	Magnesium	18737.81 mg/Kg			SW-846 6020A	0.71	98.9 *
02/13 1700 PJC	Potassium	28505.16 mg/Kg			SW-846 6020A	8.61	106.9 *
02/22 1700 PJC	pH Soil	7.20 S.U.			SW846 9045C	1.38	N/A *
02/13 1700 PJC	Nickel	464.33 mg/Kg			SW-846 6020A	1.01	100.7 *
02/13 1700 PJC	Copper	166.31 mg/Kg			SW-846 6020A	4.60	101.5 *
02/13 1700 PJC	Zinc	832.65 mg/Kg			SW-846 6020A	3.73	101.2 *
02/22 1600 NTR	Nitogen, Plant Available	3.44 mg/kg			33 MSA 2nd Ed		
02/13 1700 PJC	Arsenic	199.58 mg/Kg			SW-846 6020A	1.74	106.0 *
02/22 1100 PJC	Specific Conductance	4.1000 umhos			EPA (MOD)9050A	0.47	100.9 *
02/13 1700 PJC	Cadmium	12.29 mg/Kg			SW-846 6020A	1.21	99.1 *
02/12 1200 PJC	Solids, % Total	79.517 %			SM 1997 2540 G	3.92	N/A *
02/13 1700 PJC	Lead	293.67 mg/Kg			SW-846 6020A	0.04	100.6 *
					i		

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Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2565 Fax: 501-221-1341

Client Information					Pro	oject Inf	ormation		_			Red	ques	sted	Para	nete	rs	
Client:		Clinton, City of (Ea	st Land Ap	p)	Permit/Pro	oject #:		548 - TE			Pairs	11				_		
Address:		P.O. Box 277	-		Purchase	Purchase Order #:							6.					
		Clinton, AR 72031			Work Ord	er#						its)	s(01	35.M	(NA			
Phone:		501-745-4320			Sampler N	lame(s):	Λ	led R	PICAN			ner	Pho	;)puc	(33./			
 Fax:		Mr. Phil Graham							1			omr	1.3),	SC C	PAN			
Contact:		501-745-2164			and Signa	ture(s):	m	y R.	0 /			e C	en(0	Spe	.1),			
ESC Client Nu	imber:	Various	9		1				5			(Se	troge	3.S)	ia(01			
Sar	nple Ider	tification		Sample	Collection			Sample (Containers	S		als	te Ni	oH(2	mon			
Identifica	ation	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	Met	Nitra	Soil	Am			
East LA 40.24 PB	33 (3004)	1902010165	2-7-19	1241	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	;	1	х	x	x	x			
East LA 40.24 PB	30 (3003)	1902010166	2-7-19	1252	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	3 C	1	х	x	x	х			
East LA 55.57 PB	310 (511)	1902010167	2-7-19	1310	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	;	1	х	x	x	х			
East LA 55.57 PB	3 (3002)	1902010168	2-7-19	1318	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	;	1	х	x	x	х			
East LA 55.57 PB	30 (3001)	1902010169	2-7-19	1331	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	;	1	х	x	x	х			
East LA Airport9 ((2959)	1902010170	2-7-19	1553	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	;	1	х	x	x	х			
East LA WD13 (2	960)	1902010171	2-7-19	1419	Grab	Soil	Glass	1 Liter	Cool <u><</u> .6° C	;	1	х	x	x	х	1		
Relinquished By: (Signa	ature and Printed	d Name)	Date	Time	Received By: (Si	ignature and Printe	d Name)		Date	Tim	e	Custo Used	ody Se ?	als:		Intact?		7
Relinquished By: (Signa	ature and Printee	d Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Tim	е	Turna	around	:		Casaia		
	ature and Printer	Name)	Date	Time	Received for Lab By: (Signature and Printed Name) Date Time V			Were	re samples properly preserved:		╬┤							
1042-0-0		The second		Π2 20	Flow Data Field Test Time Analyst			Resu	ult	Resi	ılt	Ur	nits	-				
Comments:	Hg(01.14), N	In(12.HS), K(19.HS), Ni(2	28.HS), Cu(29).HS), Zn(30.	HS) Analyst:													
	A3(00.110), C	50(40.110), 1 5(02.110), 00	5.1010		Reading:						_				-			
					Units:													
	De	dant 2/2	3/190	0820				Fecal Start:				This	Doc	ume	nt is l	^D age _	_ of ⊥	
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Control Number: Customer Name : Customer/Permit Report Date : 0	1903010555 CLINTON, EAST GW13 No. : 507 / AR0048836 001 4/05/19	Sample I Sample 7 Sample 7 Sample I	Date : 03/ Time : 120 Type : GRA From : EAS	28/19 5 B WATER T WELL #13	Collect Delive: Work O: Purchas	Collected By: JGK Delivery By : JGK Work Order : Purchase Order :				
Dnalveje	Lab	poratory Analysis	<u>s</u>			Quality Precision	<u>Assurance</u> Accuracy			
Date Time By 04/01 0900 DWC 03/28 1205 JGK 04/02 1300 PJC 03/28 1205 JGK 03/28 1205 JGK	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Temperature Nitrate + Nitrite Well Depth, Total Depth to Water	Result 16.0 mg/L 6.6 S.U. 124.0 mg/L 313.000 umho, 17.40 °C 2.12 mg/L 15.40 Feet 10.00 Feet	<u>Notes</u> /c	Quantity	Method SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B SM 2000 2550 B HACH 10206	<pre>% RPD 0.00 0.00 1.80 0.00 0.58 2.08 N/A N/A</pre>	<pre>% Recovery 96.9 * N/A * N/A * N/A * N/A 99.4 * N/A N/A</pre>			

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Control Number: 1903010556 Customer Name : CLINTON, EAST GW14 Customer/Permit No. : 508 / AR0048836 001 Report Date : 04/05/19	Sample Date : 03/28/19 Sample Time : 1230 Sample Type : GRAB WATER Sample From : EAST WELL #14	Collected By: JGK Delivery By : JGK Work Order : Purchase Order :					
Labo	pratory Analysis		Quality 2	Assurance			
Analysis			Precision	Accuracy			
Date Time By Parameter	Result Notes Quantity	Method	% RPD	<u>% Recovery</u>			
04/01 0900 DWC Chloride (as Cl)	12.0 mg/L	SM1997 4500ClC	0.00	96.9 *			
	COCT	CM 2000 JEON HID	0 00	אד / דא 🔸			

03/28 1230 JGK	рH	6.3 S.U.	SM 2000 4500-H+B	0.00	N/A *
04/02 1300 PJC	Solids, Total Dissolved	28.0 mg/L	SM1997 2540 C	1.80	N/A *
03/28 1230 JGK	Spec. Conductance @ 25 C	132.100 umho/c	SM1997 2510B	0.00	N/A *
03/28 1230 JGK	Temperature	13.90 °C	SM 2000 2550 B	0.58	N/A *
04/01 1600 PJC	Nitrate + Nitrite	0.61 mg/L	HACH 10206	2.08	99.4 *
03/28 1230 JGK	Well Depth, Total	13.10 Feet		N/A	N/A
03/28 1230 JGK	Depth to Water	9.00 Feet		N/A	N/A

* OA data shown is from a different sample or standard on the same date.

Signature Environmental Services Co., Inc.

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Control Number: Customer Name : Customer/Permit Report Date : 0	1903010557 CLINTON, EAST GW16 No. : 509 / AR0048836 001 4/05/19	Sampl Sampl Sampl Sampl	e Date : 03 e Time : 13 e Type : GR e From : EA	/28/19 00 AB WATER ST WELL #16	Collec Delive Work O Purcha		
	La	aboratory Analy	sis			Quality i	Assurance
Analysis		-				Precision	Accuracy
Date Time By	Parameter	Result	<u> </u>	Quantity	Method	<u> </u>	<u>* Recovery</u>
$\frac{104/01}{0900}$ $\frac{1000}{000}$ DWC	Chloride (as Cl)	4.0 mg	/L		SM1997 4500ClC	0.00	96.9 *
03/28 1300 JGK	nH	6.0 S.	υ.		SM 2000 4500-H+B	0.00	N/A *
0.00000000000000000000000000000000000	Solida Total Dissolved	64.0 mg	/1.		SM1997 2540 C	1.80	N/A *
$04/02 \pm 300$ FDC	Sper Conductance @ 25 C	70 500 um	h_{0}/c		SM1997 2510B	0.00	N/A *
03/28 1300 JGK	Spec. conductance @ 25 c	15 20 80			SM 2000 2550 B	0.58	$N/\Delta *$
03/28 1300 JGK	Temperature	15.20 -0	/-		5M 2000 2550 B	0.50	00 4
04/01 1600 PJC	Nitrate + Nitrite	1.86 mg	·/上		HACH 10206	2.08	99.4
03/28 1300 JGK	Well Depth, Total	14.00 Fe	et			N/A	N/A
03/28 1300 JGK	Depth to Water	8.80 Fe	et			N/A	N/A

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Control Number: Customer Name : Customer/Permit Report Date : 0	1903010558 CLINTON, EAST GW17 No. : 649 / AR0048747 001 4/05/19	Samp Samp Samp Samp	le Date : 03 le Time : 13 le Type : GH le From : E2	3/28/19 L34 RAB WATER AST WELL #17	Collected By: JGK Delivery By : JGK Work Order : Purchase Order :				
Analysis <u>Date Time By</u> 04/01 0900 DWC 03/28 1134 JGK 04/02 1300 PJC 03/28 1134 JGK 03/28 1134 JGK 04/01 1600 PJC 03/28 1134 JGK 03/28 1134 JGK	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Temperature Nitrate + Nitrite Well Depth, Total Depth to Water	Laboratory Analy <u>Result</u> 4.0 mg 6.5 S 76.0 mg 93.300 ur 16.30 °C 6.48 mg 17.60 Fe 12.00 Fe	<u>vsis</u> <u>J/L</u> .U. J/L nho/c C J/L eet eet	Quantity	Method SM1997 4500ClC SM 2000 4500-H+B SM1997 2540 C SM1997 2510B SM 2000 2550 B HACH 10206	Quality Precision <u>% RPD</u> 0.00 6.45 0.00 0.58 2.08 N/A N/A	Assurance Accuracy <u>% Recovery</u> 96.9 * N/A * N/A * N/A * 99.4 * N/A N/A N/A		

* QA data shown is from a different sample or standard on the same date.

Signature

Environmental Services Co., Inc.



Environment Little Ro **Groundwater Moni**

Sample

Identification

(Customer #)

#13 (507)

#14 (508)

#16 (509)

#17 (649)

Clinton East Wells

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conmental S Little Rock, ter Monitor	Services AR 72 ing Cha	: Compa 211 in of Cu:	ny stody				Samp and S	oler Na Signatu	ime(s) ire:		Knc 	2 2		9			
Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth		рН			Specific Conductance			Temperature Degrees C				Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (1 L Plastic H2SOA)	
Vells				#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
30/0555	1205	10'0 4	15′ 4″	6.6	6.6	1.6	1205	313	314	313	1705	19.4	15,2	174	1505	x	x
13010550	1230	9'04	13′ 1″	6.3	6.3	6.3	1230	132.1	132.2	132.1	1230	13.9	13.9	13.9	1220	x	x
3010557	1300	8'8"	14′ 0″	6.0	6.0	6.0	1300	70.5	70.8	70.5	1300	15.2	15.1	5.7	1.30/	x	X
2016558	1134	12'04	17′ 6″	6.5	6.5	6.5	1137	93.3	13.6	93.3	1137	16.3	16.1	16.3	1137	x	x
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Relinquished by:	J-Knoenschild	Time: 1530	Recei	ved By La	1b: 6-2	-	25AL	The	e. Fait	Date	3-1	28-19	Time	. 153	20
Comments:	*						0.60	5/202	<u></u>						

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Control Number: Customer Name : Customer/Permit	1906010426 CLINTON, EAST GW13 No. : 507 / AR0048836 001	Sample Sample Sample	Date : 06 Fime : 10 Fype : GR	27/19 45 2AB WWATER	Collected By: JGK Delivery By : JGK Work Order :					
Report Date : 0	17/09/19	Sample.	From : WE	د ۲ # تاتا،	Pulcha	Purchase Order :				
	L	aboratory Analysi	5			Quality	Assurance			
Analysis <u>Date</u> <u>Time</u> <u>By</u> 06/28 0800 DWC 06/27 1045 JGK 07/02 0900 PJC 06/27 1045 JGK 07/05 1030 PJC 06/27 1045 JGK 06/27 1045 JGK	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Temperature Nitrate + Nitrite Well Depth, Total Depth to Water	Result 20.0 mg/L 6.3 S.U. 40.0 mg/L 210.000 umho 24.50 °C 0.90 mg/L 15.40 Feet 8.20 Feet	<u>Notes</u>	Quantity	Method SM1997 4500ClC SM 2011 4500-H+B SM1997 2540 C SM1997 2510B SM 2000 2550 B HACH 10206	Precision <u>% RPD</u> 0.00 0.00 4.44 0.00 0.00 3.24 N/A N/A	Accuracy <u>% Recovery</u> 98.5 * N/A * N/A N/A 98.9 * N/A N/A N/A			

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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 1906010427	Sample Date : 06/27/19	Collected By: JGK
Customer Name : CLINTON, EAST GW14	Sample Time : 1110	Delivery By : JGK
Customer/Permit No. : 508 / AR0048836 001	Sample Type : GRAB WATER	Work Order :
Report Date : 07/09/19	Sample From : WELL #14	Purchase Order :
Labor	Quality Assurance	

Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	<u>% RPD</u>	<u>% Recovery</u>
06/28 0800 DWC	Chloride (as Cl)	< 0.1 mg/L			SM1997 4500ClC	0.00	98.5 *
06/27 1110 JGK	рН	6.4 S.U.			SM 2011 4500-H+B	0.00	N/A *
07/02 0900 PJC	Solids, Total Dissolved	24.0 mg/L			SM1997 2540 C	4.44	N/A *
06/27 1110 JGK	Spec. Conductance @ 25 C	132.700 umho,	/c		SM1997 2510B	0.00	N/A *
06/27 1110 JGK	Temperature	33.40 °C			SM 2000 2550 B	0.00	N/A *
07/05 1030 PJC	Nitrate + Nitrite	0.43 mg/L			HACH 10206	3.24	98.9 *
06/27 1110 JGK	Well Depth, Total	13.10 Feet				N/A	N/A
06/27 1110 JGK	Depth to Water	9.10 Feet				N/A	N/A
* OA data sho	wn is from a different sample	e or standard on t	the same	date.			

Signature	Aut								
	Environmental Services Co., Inc.								

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Control Number: 1906010428 Customer Name : CLINTON, EAST GW16 Customer/Permit No. : 509 / AR0048836 001 Report Date : 06/28/19	Sample Date : 06/27/19 Sample Time : Sample Type : DRY WELL Sample From : WELL #16	Collected By: Delivery By : Work Order : Purchase Order :								
Analysis Date Time By Parameter	Oratory Analysis <u>Result</u> <u>Notes</u> <u>Quantity</u> 0.00	<u>Method</u> <u>Quality Assurance</u> Precision Accura <u>% RPD % Recov</u> N/A N/	cy <u>ery</u> A							

Signature Environmental Services Co., Inc.

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: Customer Name : Customer/Permit Report Date : 0	1906010429 CLINTON, EAST GW17 No. : 649 / AR0048747 001 7/09/19	Sample Date : 06 Sample Time : 10 Sample Type : GR Sample From : WE	/27/19 05 AB WATER LL #17	Collected By: JGK Delivery By : JGK Work Order : Purchase Order :						
Analysis Date Time By	Parameter	Laboratory Analysis Result Notes	Quantity	Method	Quality . Precision 	Assurance Accuracy <u>% Recover</u>				
06/27 1005 JGK 07/02 0900 PJC 06/27 1005 JGK 06/27 1005 JGK	pH Solids, Total Dissolved Spec. Conductance @ 25 C Temperature	5.8 S.U. 64.0 mg/L 105.100 umho/c 18.40 °C		SM1997 4500CIC SM 2011 4500-H+B SM1997 2540 C SM1997 2510B SM 2000 2550 B	0.00 0.00 4.44 0.00 0.00	98.5 N/A N/A N/A N/A				
07/05 1030 PJC 06/27 1005 JGK 06/27 1005 JGK	Nitrate + Nitrite Well Depth, Total Depth to Water	6.78 mg/L 17.60 Feet 11.60 Feet		HACH 10206	3.24 N/A N/A	98.9 N/A N/A				

* QA data shown is from a different sample or standard on the same date.

Signature Environmental Services Co., Inc.



	and a second																	
Environmental Services Company Little Rock, AR 72211							Sampler Name(s): T Knoernschild											
Groundwater Monitoring Chain of Custody							Sam	ole Dat	:e:U-7	7-19					9.4659 (visitionae			
Sample Identification (Customer #)	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth	рН			Specific Conductance			Temperature Degrees C			Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (1 L Plastic H2SO4)			
Clinton Ea	st Wells			*******	#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
#13 (507)	19060,0426	1045	8'2"	15′ 4″	6.3	6.3	6.3	1045	210	210	210	104 5	245	245	24.5	1045	x	x
#14 (508)	1906010427	ino	9'10"	13' 1"	6.4	6.4	6.4	1110	132.7	132.7	132.7	1110	33.4	33.4	33,4	mo	x	x
#16 (509)	1906010428	1130		14' 0''	\leq	-2	Der	1430	h	ell		+130-	·		7	130	x	х
#17 (649)	19/19/10/19/19	1005	11 6"	17' 6"	5.8	58	5,8	1005	105,1	105-1	(05.1	1005	18.4	18.4	18.4	1005	x	х
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Comments:	py - lalj	Morna	FUTime:	1515		leceive	d By La	ıb:					Date	: 612	7/19	Tiı	<u>ne:</u>	
AC	/																	
Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Collected By: TMO

Delivery By : TMO

Purchase Order :

Work Order :

Control Number:	1907010249
Customer Name :	CLINTON, EAST GW13
Customer/Permit	No. : 507 / AR0048836 001
Report Date : 08	3/09/19

Sample Date : 07/29/19 Sample Time : 1122 Sample Type : GRAB WATER Sample From : WELL #13

Analysis	L	aboratory Analysis			Quality A	Assurance
Date Time By 07/29 1500 DWC C 07/29 1125 TMO p 07/30 0900 PJC S 07/29 1125 TMO S 07/29 1125 TMO S 07/29 1125 TMO S 07/29 1122 TMO W 07/29 1122 TMO D	Parameter Chloride (as Cl) OH Solids, Total Dissolved Spec. Conductance @ 25 C Witrate + Nitrite Well Depth, Total Depth to Water	Result Notes 9.0 mg/L 6.8 S.U. 196.0 mg/L 275.000 umho/c 6.12 mg/L 15.40 Feet 10.20 Feet 10.20 Feet	Quantity	Method SM1997 4500ClC SM 2011 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Precision <u>% RPD</u> 0.00 0.00 1.06 0.00 0.51 N/A N/A	Accuracy <u>* Recovery</u> 99.9 * N/A * N/A * 98.8 * N/A N/A

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Signature	AW
	Environmental Services Co., Inc.
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Fax: 501-221-1341

Phone: 501-221-2565



Environmental Services Company, Inc. Northwest Branch 1107 Century Springdale, AR 72764

CHAIN OF CUSTODY

Phone: 501-221-2565	+ax: 501-221-1341		Ur Ur	IAIN (JF UU	310	UY		Phone	479	-750)-117	'0 F	ax: 47	9-75()-1172
	Client Information			1	Pr	oject In	formation	<u>ן</u>			1	Rec	Jueste	d Pa	iram	eters
Company Na <u>me:</u>	Clinton, East GW	13		Permit/Pr	oject #:		AR0048	836			1	1		T	T	TT
Address:	P.O. Box 277			Purchase	Order #:						1					
	Clinton, AR 72031			Work Order #							1					
Telephone:	501-745-4320			- Sampler I	Name(s):	Tim	vo Ha	DINA			1					
Contact:	Mr. Phil Graham				(-).		10 May				<u>:</u>					
FAX:	501-745-2164			and Signa	ature(s) [.]	-14	AA	s. N.	[/		oride					
ESC Client Number:	507	·····					they c	Jun	<u></u>		ਤੱ	3(91.				
Sample Id	lentification		Sample	Collection		T	Sample	Container	.c		27.),	Ň Y				
	ESC Control #	Date	Time	Туре	Matrix	Type	Volume	Preserv	ative	#	TDS(102 -				
Well #13	1907010249	7-29-19	1122	Grab	Water	Plastic	1 Liter	< 6 Deg C		1	x	<u> </u>	┝╼╼┾╼╸	+	+	+-+
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Relinquished By: (Signature and Pr	inted Name)	Date	Time	Received By: (Si	ignature and Printe	d Name)		Date	Tim	е	Turna	round		Inta	ct?	
Relinquished By; (Signature and Pr	inted Name)	Date	Time	Received for Lab	By., (Signature an	d Printed Nan	1e)	Date	Tim		Regu	lar		Spe	ecial	
Cool all samples to < 6 decre	limoty O'NCAL	7-29-19	1425	Prac	cut Da	nd (a	Mout	7-29-19	142	25	TTCIC	Yes	7	iy pres	No	
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H20 Donth - 99 91	15 7													1		
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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

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Control Number: 1907010250 Customer Name : CLINTON, EAST GW14 Customer/Permit No. : 508 / AR0048836 001 Report Date : 08/09/19		Sample Sample Sample Sample	Date : 07 Time : 11 Type : GF From : WF	7/29/19 .32 2AB WATER 2LL #14	Collected By: TMO Delivery By : TMO Work Order : Purchase Order :								
Analysis <u>Date Time By</u> 07/29 1500 DWC 07/29 1136 TMO 07/30 0900 PJC 07/29 1136 TMO 07/31 1530 PJC 07/29 1132 TMO 07/29 1132 TMO	La Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	Result 13.0 mg/L 7.3 S.U. 188.0 mg/L 281.000 umhc 6.56 mg/L 13.10 Feet 8.70 Feet	<u>s</u> <u>Notes</u> /c	Quantity	Method SM1997 4500ClC SM 2011 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality Precision % RPD 0.00 0.00 1.06 0.00 0.51 N/A N/A	Assurance Accuracy <u>% Recovery</u> 99.9 * N/A * N/A * 98.8 * N/A N/A N/A						

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Signature	ALA	
	Environmental Services Co., I	nc.

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Phone: 501-221-2565



Environmental Services Company, Inc. Northwest Branch 1107 Century Springdale, AR 72764

CHAIN OF CUSTODY

Phone 479-750-1170 Fax: 479-750-1172

	Client Information				Project Information						Γ	Red	ques	ted	Par	ame	eters	
Company Nam	ne:	Clinton, East GW1	4		Permit/Pr	oject #:		AR0048	836		1 T	1						
Address:		P.O. Box 277			Purchase	Order #:					1							
		Clinton, AR 72031			Work Ord	er#					1							l.
Telephone:		501-745-4320			Sampler I	Sampler Name(s):					1							i
Contact:		P.O. Box 277			1	(U).		Sinyo	NEGA		Ê							
FAX:		501-745-2164			and Signs	turo(e):	-F	A	TYlar H		oride							
ESC Client Nu	mber:	508			and Oigne	aure(3).		ung i	1100		Ë	(91.						
Sam	nole Iden	tification	P	Sample	Collection		I	Sample	Containara	*******	27.),	NO.						
and the free of the second		ESC Control #	Data	Time	Туро	Motrix	Tupo	Volumo			DS(02 +						
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Relinquished By: (Signat	ture and Printed	Name)	Date	Time	Received By: (S	gnature and Printe	d Name)		Date	Time	Turna	around		<u> </u>	Intaci			
Relinquished By: , (Signat	ure and Printed	Name) / // /	Date	Time	Received for Lab	By-ISignature and	d Printed Nam	200	Data	Time	Regu	lar	\square	ter and in	Spec	ial		
winto	here !	imisty O'Neal	7-29-19	1425	Ded (ent 12	and Ca	Ellout	7-29-19 1	425	vvere	Yes		peny	preser	vea: No		
Comments:		C with ice."			<i>L</i> .	Flow Da	ata	Field Test	Time An	alyst	Resu	ılt	Resu	it 🔤		Units		
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					Reading:						~ 0	n 🗸		<u></u>				
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H20 Depth - 99.9	9:	\$17				Chlorinated?	ΥN	Fecal Start:			This	Doc	umer	nt is I	Page	7	1	

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07/29 1100 TMO Well Depth, Total

07/29 1100 TMO Depth to Water

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

N/A

N/A

N/A

N/A

Control Number: Customer Name : Customer/Permit Report Date : 0	1907010251 CLINTON, EAST GW16 No. : 509 / AR0048836 001 8/09/19	Sample Date : 07/2 Sample Time : 1100 Sample Type : GRAB Sample From : WELL	9/19 WATER #16	Collect Deliver Work Or Purchas	ed By: TMO y By : TMO der : e Order :	
Analyzaia	Lie	aboratory Analysis			Quality A	Assurance
Analysis Data Tima Du	Descentes				Precision	Accuracy
Date IIme By	Parameter	<u>Result</u> <u>Notes</u>	Quantity	Method	<u>% RPD</u>	<u>% Recovery</u>
07/29 1500 DWC	Chloride (as Cl)	14.0 mg/L	SI	11997 4500ClC	0.00	99.9 *
07/29 1104 TMO	pH	6.7 S.U.	SI	1 2011 4500-H+B	0.00	N/A *
07/30 0900 PJC	Solids, Total Dissolved	176.0 mg/L	SI	41997 2540 C	1 06	$N/\Delta +$
07/29 1104 TMO	Spec. Conductance @ 25 C	90.100 umbo/c	SI	11997 2510B	1.00	N/7 +
07/31 1530 PJC	Nitrate + Nitrite	2.27 mg/L	HF	ACH 10206	0.51	98.8 *

17.70 Feet

12.30 Feet

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Signature _____

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CHAIN OF CUSTODY

Environmental Services Company, Inc. Northwest Branch 1107 Century Springdale, AR 72764

Phone: 501-221-2565	Fax: 501-221-1341		Cŀ	iain c	F CU	STO	DY	F	hone	479	-750	-117	D F	Fax: 4	479-7	50-11	72
	Client Information]	Pro	oject Inf	ormation					Rec	uest	ed F	⁵ ara	mete	rs
Company Name:	Clinton, East GW1	6		Permit/Pro	oject #:		AR00488	336									Τ
Address:	P.O. Box 277			Purchase	Order #:												
	Clinton, AR 72031			Work Order #													
Telephone:	501-745-4320			Sampler N	lame(s):	Tim	Har D	'Nen									
Contact:	Mr. Todd Burgess			1 '					e		(.7.)						
FAX:	501-745-2164			and Signa	ture(s):		ALS	Mant			oride						
ESC Client Number:	509				ui 0(0).		mont (110-			Ч	3(91					
Sample Ide	entification	I	Sample	Collection]	Sample (Container	\$		27.)	0 V					
	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	TDS(102 -					
Well #16	1907010251	724	1100	Grab	Water	Plastic	1 Liter	< 6 Deg C			·	<u> </u>		-+	+		+
		7-29-19		Grab	Water	Plastic	1 Liter	H2SO4			 ^_	Y		-+	-+-		+
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Relinquished By: (Signature and Prir	nted Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Tim	ie	Turna	around	4				
Relinquished By: (Signature and Prin	ated Name)	Date	Time	Received for Lab	By: Signature an	d Printed Nan	1977	Date	Tim	ie	Were	samp	les pror	perly r	specia	ed:	
(must) (Chil)	Imorg O NCal	7-29-1	1425	Val (auti	and le	attout	7-29-19	14	25		Yes	7	Manager	N	<u> </u>	<u> </u>
Comments:	es c will fice.				Analyst:	ala	Field Test	Time UND U	Analys	st	Resu	alt R	Result	┯╇	U S	nits	laka katalari katalar
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Patal David XX 1X					Units:												
Total Depth-99.10:	1774						ļ										
H20 Depth - 99.9:	1213				Chlorinated?	Y N	Fecal Start:				This	Doc	ument	t is F	'age	1 of	1

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 1907010252 Customer Name : CLINTON, EAST GW17 Customer/Permit No. : 649 / AR0048747 001 Report Date : 08/09/19		Sample I Sample 7 Sample 7 Sample 1	Date : 07/ Time : 104 Type : GRA From : WEI	29/19 0 B WATER L #17	Collected By: TMO Delivery By : TMO Work Order : Purchase Order :								
Analysis <u>Date</u> <u>Time</u> <u>By</u> 07/29 1500 DWC 07/29 1044 TMO 07/30 0900 PJC 07/29 1044 TMO 07/31 1530 PJC 07/29 1040 TMO 07/29 1040 TMO	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	Laboratory Analysis <u>Result</u> 3.0 mg/L 5.9 S.U. 216.0 mg/L 86.900 umho, 5.44 mg/L 17.60 Feet 11.60 Feet	<u>Notes</u>	Quantity	Method SM1997 4500ClC SM 2011 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality / Precision % RPD 0.00 0.00 1.06 0.00 0.51 N/A N/A N/A	Assurance Accuracy <u>% Recovery</u> 99.9 * N/A * N/A * 98.8 * N/A N/A N/A						

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Signature	ALA
	Environmental Services Co., Inc.

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Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

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Phone: 501-221-2565



Environmental Services Company, Inc. Northwest Branch 1107 Century Springdale, AR 72764

CHAIN OF CUSTODY

Phone 479-750-1170 Fax: 479-750-1172

	Client Information			1	Pro	oject Inf	ormation			Π	F	Requ	Jest	ted	Para	ime	ters	;
Company Name:	Clinton, East GW1	7		Permit/Pro	oject #:		AR00487	747				Γ						
Address:	P.O. Box 277			Purchase	Order #:													
	Clinton, AR 72031			Work Ord	Work Order #			/	3									
Telephone:	501-745-4320			Sampler N	Sampler Name(s):			J'Neg (
Contact:	Mr. Todd Burgess			1		/	/ 1	<u> </u>			$\left \frac{1}{2} \right $							
FAX:	501-745-2164		·····	and Signa	ture(s):	- Fr	unan H (5'llory			50							
ESC Client Number:	649						T	/ 100			5	3(91						
Sample Identification Sample			Collection		Γ	Sample (Container	S			₽ ₽							
	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	tive		3	20						
Vell # 17	1907010252	7-29-19	1048	Grab	Water	Plastic	1 Liter	< 6 Deg C		$\frac{1}{1}$	x	-		-				
1	1	1	10/0	Grab	Water	Plastic	1 Liter	H2SO4			\rightarrow	x	-+					
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						 					-+		-+	-+		-+		
						 				-+	-+	-+	\rightarrow	-+	+	\rightarrow		
Relinquished By: (Signature and Prin	ited Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time	c	ustoc	iy Sea	ls:			l.	l	
Relinquished By: (Signature and Prin	ted Name)	Date	Timo	Received By: (Si	anature and Printe	d Nome)		Data	Time	U U	sed?	[Z		Intact	?		
		Date	- Third	Intelected by: (of	ghatale and t hine	a Namey		Dale	nne	R	egula	ar Г	$\overline{\mathbf{n}}$		Speci	al		
Reinquished By: (Signature and Prin	imoty D'Neal	Date 7-29-19	142	Received for Lab	By Signature an	d Printed Nan	a rlact	Date 7-27-9	Time / 42	25	/ere s	sample Yes	s pro	perly	preser	ved: No		
Cool all samples to < 6 degree	ès C with ic∉.		- f- (6	Flow D	ata	Field Test	Time	Analyst	t R	esul	t F	Resul	,t	(Jnits	unconsul.	-
Comments/					Analyst: Time:		pH: Sn Cond:	1044	Th	0 8	5.0	į_	5.9	1	5	И		
			Reading:			10-7-1	f.fi4		621	7 	Va.	-++						
	<u> </u>				Units:		·											
10tal Depth-99.10:	1/2		<u></u>			V N	Facel Obst				bio				Dees			_
11120 Depui - 33.3.	<u>1 ///×</u>				Chionnaled?	T IN Fecal Start:												

G:\WP50\D MS\CHAIN.XLS

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

10/24 1321 NTR Well Depth, Total

10/24 1321 NTR Depth to Water

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

N/A

N/A

N/A

N/A

Control Number: Customer Name : Customer/Permit Report Date : 1	: 1910010351 : CLINTON, EAST GW13 : No. : 507 / AR0048836 001 L1/01/19	Sample Date : Sample Time : Sample Type : Sample From :	10/24/19 1321 GRAB WATER WELL #13	Collec Delive: Work O: Purchas	ted By: NTR ry By : NTR rder : se Order :	
	La	boratory Analysis			Quality 2	Assurance
Analysis					Precision	Accuracy
<u>Date Time By</u>	Parameter	<u>Result</u> <u>Notes</u>	<u>Quantity</u>	Method	% RPD	% Recovery
10/25 1000 DWC	Chloride (as Cl)	20.0 mg/L		SM1997 4500ClC	0.00	100.0 *
10/24 1324 NTR	рH	6.7 S.U.		SM 2011 4500-H+B	0.00	N/A
10/25 1545 PJC	Solids, Total Dissolved	204.0 mg/L		SM1997 2540 C	1.98	N/A
10/24 1324 NTR	Spec. Conductance @ 25 C	300.000 umho/c		SM1997 2510B	0.33	N/A
10/30 1230 PJC	Nitrate + Nitrite	0.53 mg/L		HACH 10206	0.35	98.0 *

15.40 Feet

10.10 Feet

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Environmental Services Company, Inc. Northwest Branch 1107 Century Springdale, AR 72764

CHAIN OF CUSTODY

Phone 479-750-1170 Fax: 479-750-1172

	Client Information				Pro	oject Inf	Project Information						Jest	ed Pa	aram	eter	S
Company Na <u>me:</u>	Clinton, East GW1	13		Permit/Pr	oject #:		AR0048	836								Τ	Τ
Address:	P.O. Box 277			Purchase	Order #:												
	Clinton, AR 72031			Work Ord	ler#												
Telephone:	501-745-4320			Sampler I	Name(s):	}	Ved 1	Zuerso	<u> </u>								
Contact:	Mr. Phil Graham			1				70.5			(2)						
FAX:	501-745-2164			and Signa	ature(s):		hes.	Rue-	/		oride						
ESC Client Number:	507	*******		1				<u> </u>			5	3(91					
Sample Io	lentification	T	Sample	Collection			Sample	Container	s		(27.)	₽					
	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	TDS	20					
Well #13	1910010351	10-24-19	1321	Grab	Water	Plastic	1 Liter	< 6 Deg C		1	x	-		-			+
1	L	Ĺ		Grab	Water	Plastic	1 Liter	H2SO4		1		x	-+			+	┢
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Relinquished By: (Signature and P	rinted Name)	Date	Time	Received By: (S	ignature and Printe	d Name)	L	Date	Time		Sustoc	ly Seal	s:			<u> </u>	L
Polinguished Rus (Signature and R	riptod Namo)	Data	Trees	Descived Dry (C						L	Jsed?		J	Int	act?		
teinquished by, (Signature and F	nined Name)	Date	Ime	Received By: (S	Ignature and Printe	name)		Date	lime	F	urnar Regula	ound: Ir	21	Sr	ecial		I
Relinquished By (Signature and P	rinted Name	Date	Time	Received for Lab	By (Signature and	Printed Nam	ie)	Date	Time	7	Vere s	ample	s prop	erly pres	served:		ا۔۔۔۔۔ ۲
Cool all samples to $\leq 6 \deg$	rees C with icg.	10 7417	1142	<u> </u>	Flow Da	ita (C	Field Test	Time	Analys		Y Result	es R			No		L
Comments:	4			$-\mathcal{V}$	Analyst:		pH:	1324	Nor		630	7	6."	7 7	<u>SU</u>	5	-
					Time:		Sp Cond:	1324	N	~	300		290	<u>u</u>	hsle	cm	
					Units:					-+							
Total Depth-99.10:	15'4"																
H20 Depth - 99.9:	10' /"				Chlorinated?	YN	Fecal Start:			Γ	This I	Docu	ment	is Pa	ge <u>i</u>	ðf	

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: Customer Name : Customer/Permit Report Date : 1	: 1910010352 : CLINTON, EAST GW14 : No. : 508 / AR0048836 001 L1/01/19	Sample I Sample J Sample J Sample F	Date : 10/2 Fime : 1356 Fype : GRAB From : WELL	4/19 WATER #14	Collec Delive Work O Purcha	ted By: NTR ry By : NTR rder : se Order :	
	La	aboratory Analysis	<u>s</u>			Quality A	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes (Quantity	Method	% RPD	% Recovery
10/25 1000 DWC	Chloride (as Cl)	20.0 mg/L			SM1997 4500ClC	0.00	100.0 *
10/24 1358 NTR	pH	6.8 S.U.			SM 2011 4500-H+B	0.00	N/A *
10/25 1545 PJC	Solids, Total Dissolved	120.0 mg/L			SM1997 2540 C	1.98	N/A *
10/24 1358 NTR	Spec. Conductance @ 25 C	198.000 umho/	/c		SM1997 2510B	0.33	N/A *
10/30 1230 PJC	Nitrate + Nitrite	0.31 mg/L			HACH 10206	0.35	98.0 *
10/24 1356 NTR	Well Depth, Total	13.10 Feet				N/A	N/A
10/24 1356 NTR	Depth to Water	8.90 Feet				N/A	N/A

* QA data shown is from a different sample or standard on the same date.

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Signature	And	
	Environmental Services Co., Inc.	
	\mathcal{V}	

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Environmental Services Company, Inc. Northwest Branch 1107 Century Springdale, AR 72764

CHAIN OF CUSTODY

Phone 479-750-1170 Fax: 479-750-1172

	Client Information				Pr	oject Inf	ormatior)			[Requested			Parar	nete	ers
Company Name:	Clinton, East GW ²	4		Permit/Pr	oject #:		AR0048	836	1676-1676-2- <u>0-0-1</u> 999							Т	
Address:	P.O. Box 277			Purchase	Order #:												
	Clinton, AR 72031			Work Ord	er#												
Telephone:	501-745-4320		********	Sampler I	Name(s):	<u>^</u>	od Rw	ertha									
Contact:	Mr. Todd Burgess						<u> </u>				9(7.)						
FAX:	501-745-2164			and Signa	ature(s):		Ined G	2.0			oride	·					
ESC Client Number:	508							<u>~~</u>			Ч.	3(91					
Sample Ide	entification	T	Sample	Collection Sample Containers			(27.)	N4									
	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	TDS	102					
Well # 14	1910010352	10-24-79	1356	Grab	Water	Plastic	1 Liter	< 6 Deg C		1	X					+	
1		F	4	Grab	Water	Plastic	1 Liter	H2SO4	†	1		x					
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				1									 	\rightarrow		+-	
Relinquished By: (Signature and Pri	nted Name)	Date	Time	Received By: (S	I ignature and Printe	ed Name)	L	Date	Time	е	Custo	dy Se	als:				
Relinquished By: (Signature and Pri	nted Name)	Date	Time	Received By; (S	ionature and Printe	d Name)		Date	Time	A	Used'	?	Ă,		Intact?		
						,				-	Regul	ar	ন		Special	Г	
Relinquished By Signature and Prin	Pro Kalen	Date 10-74-19	MT4C	Received for Lab	Br-(Signature/an	d Printed Nan	ne)	Date 10-2479	Time 174 ×	<	Were	samp Yes	les pro	perly	preserve		7
Cool all samples to ≤ 6 degre	es C with ice.			- //	Flow D	ata	Field Test	Time	Analys	t	Resu	lt	Resul	t	Un	its	
Comments:					Analyst:		pH:	1358	ฟก	R	6.2	3	6.9		50		
				L	Lime: Reading:		Sp Cond:	1358	-N?	n	199	84	20	4	uches	Pm	<u>~</u>
			********		Units:				<u> </u>			-+		+			
Total Depth-99.10:	13'1"																
H20 Depth - 99.9:	8:9"				Chlorinated?	YN	Fecal Start:				This	Doc	umen	it is I	⊃age _f	,	1

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 191001035 Customer Name : CLINTON, Customer/Permit No. : 509 Report Date : 11/01/19	3 EAST GW16 / AR0048836 001	Sample Date Sample Time Sample Type Sample From	: 10/24/19 : 1424 : GRAB WATER : WELL #16	Collected By: NTR Delivery By : NTR Work Order : Purchase Order :					
Analysis <u>Date Time By</u> <u>Pa</u> 10/25 1000 DWC Chloride 10/24 1430 NTR pH 10/25 1545 PJC Solids, To 10/24 1430 NTR Spec. Cond 10/30 1230 PJC Nitrate + 10/24 1424 NTR Well Depth 10/24 1424 NTR Depth to T	Lab arameter (as Cl) otal Dissolved ductance @ 25 C Nitrite n, Total Vater	Oratory Analysis No 20.0 mg/L 6.0 S.U. 136.0 mg/L 83.800 umho/c 2.82 mg/L 14.00 Feet 8.70 Feet 8.70 Feet	tes Quantity	Method SM1997 4500ClC SM 2011 4500-H+B SM1997 2540 C SM1997 2510B HACH 10206	Quality 2 Precision <u>% RPD</u> 0.00 0.00 1.98 0.33 0.35 N/A N/A	Assurance Accuracy <u>% Recovery</u> 100.0 * N/A * N/A * 98.0 * N/A N/A			

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Environmental Services Company, Inc. Northwest Branch 1107 Century Springdale, AR 72764

CHAIN OF CUSTODY

Phone 479-750-1170 Fax: 479-750-1172

	Client Information			Project Information						Req	uest	ed	Para	mete	ərs		
Company Name:	Clinton, East GW1	6		Permit/Pr	oject #:		AR0048	836						T			
Address:	P.O. Box 277			Purchase	Order #:												
	Clinton, AR 72031			Work Ord	er#												
Telephone:	501-745-4320			Sampler I	Name(s):	N	ed R.	Jerson									
Contact:	Mr. Todd Burgess							7 5 20 -			(-')						
FAX:	501-745-2164			and Signa	ature(s):	C	In , 0 9	Pa a /		{	oride						
ESC Client Number:	509			1			run (~~~			ਲ	3(91					
Sample Id	entification	T	Sample	Collection		l	Sample	Container	S		(27.)	Ŷ,					
	ESC Control #	Date	Time	Туре	Matrix	Type	Volume	Preserva	ative	#	TDS	Q					
Well #16	1910012353	1024-19	1424	Grab	Water	Plastic	1 Liter	< 6 Deg C		1	x		-	\neg	-+	+	-
<u> </u>	<u>ì</u>	L	L	Grab	Water	Plastic	1 Liter	H2SO4				x		+		+	
										†				-+			
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					1					†		+		-+	-+-		
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					1					-+			+	+			
Relinquished By: (Signature and Pr	inted Name)	Date	Time	Received By: (S	I Ignature and Printe	d Name)	1	Date	Time	e (Custo	dy Sea	ls:				
Relinquished By: (Signature and Pr	inted Name)	Date	Time	Received By: (Si	ignature and Printe	d Name)	****	Date	Time	<u> </u>	Jsed?	, LONDQ.	N		Intact?		
					-	·				F	Regula	ar [$\overline{\lambda}$		Specia		-
	NEd Rue -	Date 10-74-19	1745	Received for Lab	By: (Signature and		cho	Date	174 S	5	Vere	sample Yes	es prop	erly p	reserve	id:	
Cool all samples to to the degree	ees C with ice.			<u> </u>	Flow D	ata	Field Test	Time	Analys	t F	Resul	lt F	Result	Т	U	nits	
Comments:				$-\nu$	Analyst: Time:		pH: Sp.Condi	1430	NO		<u>(.</u>	0	6.0	<u> </u>	<u> 50</u>	$\overline{\Box}$	
				L	Reading:		op cond.	1430	N'		83.	*	830	╧┾╸	the	<u>sko</u>	<u>~</u>
Total Donth 00 day					Units:												
H20 Depth - 99.9:	14.0"				Chloringtod?	V N					rh:-				2	, ~	
	<u> </u>				Chiomated?	I IN	recai Staft:	l			ms	DOCL	ment	i is F	rage_	<u>_</u> 이[

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

*

Control Number: Customer Name : Customer/Permit Report Date : 1	1910010354 CLINTON, EAST GW17 No. : 649 / AR0048747 001 1/01/19	Sample I Sample 7 Sample 7 Sample I	Date : 10 Fime : 12 Fype : GR From : WE	/24/19 46 AB WATER LL #17	Collected By: NTR Delivery By : NTR Work Order : Purchase Order :							
	Lal	poratory Analysis	5			Quality :	Assurance					
Analysis						Precision	Accuracy					
Date Time By	Parameter	Result	Notes	Quantity	Method	<u> </u>	<u>% Recovery</u>					
10/25 1000 DWC	Chloride (as Cl)	< 0.1 mg/L			SM1997 4500ClC	0.00	100.0 *					
10/24 1248 NTR	На	6.6 S.U.			SM 2011 4500-H+B	0.00	N/A *					
		00 0			CM1007 2E40 C	1 00	NT/7 *					

10/24 1240 NIK	DII	0.0	5.0.			,
10/25 1545 PJC	Solids, Total Dissolved	80.0	mg/L	SM1997 2540 C	1.98	N/A
10/24 1248 NTR	Spec. Conductance @ 25 C	92.900	umho/c	SM1997 2510B	0.33	N/A
10/30 1230 PJC	Nitrate + Nitrite	6.32	mg/L	HACH 10206	0.35	98.0
10/24 1246 NTR	Well Depth, Total	17.60	Feet		N/A	N/A
10/24 1246 NTR	Depth to Water	12.10	Feet		N/A	N/A
,	-					

* QA data shown is from a different sample or standard on the same date.

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Signature

Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Environmental Services Company, Inc. Northwest Branch 1107 Century Springdale, AR 72764

CHAIN OF CUSTODY

Phone 479-750-1170 Fax: 479-750-1172

	Client Information			Project Information					T	Requested Parameters						
Company Name:	Clinton, East GW1	7		Permit/Pro	oject #:		AR00487	747								
Address:	P.O. Box 277			Purchase	Order #:											
	Clinton, AR 72031			Work Ord	er#											
Telephone:	501-745-4320			Sampler N	lame(s):		Ved R.	Lenon								
Contact:	Mr. Todd Burgess			1		•••••••		f								
FAX:	501-745-2164			and Signa	ture(s):		Ner	Pro-	~	lorid						
ESC Client Number:	649							8		15	3(91					
Sample Ide	entification	Τ	Sample	Collection		1	Sample (Containers	\$	5 7.)	Nº Nº					
	ESC Control #	Date	Time	Туре	Matrix	Type	Volume	Preserva	tive		202					
Vell # 17	1910010254	10-24-101	1246	Grab	Water	Plastic	1 Liter	< 6 Dea C			+	†				-1
1			I	Grab	Water	Plastic	1 Liter	H2SO4		1	x				┼──┤	
						1 100110				<u> </u>	\uparrow	+				
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Kellinguished By: (Signature and Phi	nted Name)	Date	lime	Received by: (5)	ignature and Printe	d Name)		Date	Ime	Reg	ular			Special		
Relinquished By Signature and Prin	rted Name)	Date 10-24-09	174S	Received for Lab	By (Signature an	d Printed Nan	ne)	102419	1746	We	re samı Yes	oles pro	perly	preserved: No		
Cool all samples to ≠ 6 degre	es C with ice			$\int \int dx = x$	Flow D	ata	Field Test	Time	Analyst	Res	sult	Resul	t	Unit	S	
Comments:				V	Analyst: Time:		pH: Sp Cond [:]	1248,	NY	6	<u>.6</u>	6.1	6	<u>sin</u>		
	······				Reading:			1000	an e	4.	<u></u>			AMOS	CA	-
Total Dopth 00 40-					Units:							ļ				
H20 Depth - 99.9:	17'6"				Chlorinated?	Y N	Fecal Start			Thi	s Doo	L	nt is l		1	-

CIT	Y OF CLINTON
CLINTON WATE	R AND SEWER DEPARTMENT
	P.O. BOX 277
	CLINTON, AR 72031
т	ELEPHONE (501) 745-4320
	FAX (501) 745-2164
TO:	ESC

ATTN:_____JOYCE_____

FAX#:_____501-221-1341_____

FROM: DONNA

PAGES INCLUDING COVER PAGE:_____1

MESSAGE: Yearly Report 2019 East Plant: 72,864 mg, 201 inches, 2446,22 Acres West Plant ! No spray Crops Grown: Bermuda Hay East side Owners! Steve Bone + Will Dawson West side Owners: Danny Boone - Roy Gray Jenningis, Virginia Stevens

IF ALL PAGES ARE NOT RECEIVED PLEASE NOTIFY AT ONCE!

Clinton Water & Sewer East Plant

Annual Report Permit AR0048836 & 5130-WR-2 January 2020 – December 2020



Environmental Services Company, Inc.

<u>Corporate Office</u> <u>13715 West Markham</u> <u>Little Rock, Arkansas 72211</u> <u>501-221-2565 (p)</u> <u>501-221-1341 (f)</u> <u>www.esclabs.com</u> Carlsbad, New Mexico 575-887-7372 (7ESC) Albuquerque, New Mexico 888-372-3477 Springdale, Arkansas 479-750-1170

Clinton Water and Sewer Department Clinton, AR East WWTP 5130-WR-2 Irrigation Water Calendar Year 2020

			2020 Appl	ication Data		Total		
	Annual	Million	Number	Gallons	Pounds	Application		
Parameter	Concentration	Gallons/	of	per	per	Since 2003		
	(mg/L)	Year	Acres	Acre-Year	Acre	Pounds/Acre		
CBOD	< 2.0000	43.296	86.00	503,441.9	8.403			
Sodium Absorption Ratio	45.9537	43.296	86.00	503,441.9	193.071			
Fecal Coliform	< 4.1000	43.296	86.00	503,441.9	17.226			
Total Suspended Solids	2.5000	43.296	86.00	503,441.9	10.504			
Potassium	7.0090	43.296	86.00	503,441.9	29.448			
Total Phosphorus	0.2100	43.296	86.00	503,441.9	0.882			
Total Kjeldahl Nitrogen	11.6500	43.296	86.00	503,441.9	48.947	785.69		
Ammonia Nitrogen	4.3400	43.296	86.00	503,441.9	18.234	207.95		
Nitrate + Nitrite Nitrogen	2.0150	43.296	86.00	503,441.9	8.466	133.09		
BOD-5	14.6600	43.296	86.00	503,441.9	61.593	1,366.03		
Arsenic	< 0.0070	43.296	86.00	503,441.9	0.029	0.63		
Cadmium	< 0.0064	43.296	86.00	503,441.9	0.027	0.31		
Copper	< 0.0070	43.296	86.00	503,441.9	0.029	0.37		
Lead	0.0090	43.296	86.00	503,441.9	0.038	0.77		
Mercury	< 0.0010	43.296	86.00	503,441.9	0.004	0.11		
Selenium	< 0.0109	43.296	86.00	503,441.9	0.046	0.86		
Zinc	0.0656	43.296	86.00	503,441.9	0.275	5.63		
Conductivity, minimum (mhos/cm)*	138.00							
Conductivity, maximum (mhos/cm)*	188.00							
pH, minimum (SU)*	7.20							
pH, maximum (SU)*	7.80							
Nitrogen Application Rate (lbs N/acre/year)	26.78							

*Current year values

Crop Grown: Bermuda Hay

Sample ID	Clinton East	40.24 LA PB 3							
Control Number	2003010379								
	1st	t Ouarter	2m	1 Quarter	3rd	Quarter	4th	Quarter	
	Sample	Analytical	Sample	Sample Analytical Sample Analytical		Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	03/23/20	4.13							
Ammonia Nitrogen	03/23/20	3.4430							
PAN	03/23/20	7.57							
Phosphorous	03/23/20	324.8410							
Potassium	03/23/20	102.39							
Arsenic	03/23/20	.914							
Cadmium	03/23/20	1.289							
Copper	03/23/20	1.454							
Lead	03/23/20	3.854							
Magnesium	03/23/20	87.37							
Mercury	03/23/20	.0190							
Nickel	03/23/20	3.303							
Zinc	03/23/20	5.937							
Conductivity (mhos/cm)	03/23/20	64.6							
pH (SU)	03/23/20	5.9							

Sample ID	Clinton East	40.24 LA PB 30							
Control Number	2003010380								
	1.01	Quartar	20	d Quartar	2.	Quartar	1+1	Quartar	
	Samula	Analytical	Samula	Sample Analytical		3rd Quarter		Quarter	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	03/23/20	6.970							
Ammonia Nitrogen	03/23/20	2.01							
PAN	03/23/20	8.98							
Phosphorous	03/23/20	376.3550							
Potassium	03/23/20	127.94							
Arsenic	03/23/20	1.147							
Cadmium	03/23/20	.716							
Copper	03/23/20	1.410							
Lead	03/23/20	3.243							
Magnesium	03/23/20	127.79							
Mercury	03/23/20	.0250							
Nickel	03/23/20	3.701							
Zinc	03/23/20	7.688							
Conductivity (mhos/cm)	03/23/20	12.9							
pH (SU)	03/23/20	6.6							

Sample ID	Clinton East	55.57 LA PB 10						
Control Number	2003010381							
	1.0	t Quartar	2.5	d Quartar	2	1 Quartar	/+h	Quartar
	Sampla	Analytical	Sampla	Sample Analytical Sample Analytical		Semple	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	03/23/20	4.22						
Ammonia Nitrogen	03/23/20	< 0.0594						
PAN	03/23/20	4.22						
Phosphorous	03/23/20	337.094						
Potassium	03/23/20	114.34						
Arsenic	03/23/20	.748						
Cadmium	03/23/20	1.172						
Copper	03/23/20	1.267						
Lead	03/23/20	3.517						
Magnesium	03/23/20	78.31						
Mercury	03/23/20	< 0.0140						
Nickel	03/23/20	2.961						
Zinc	03/23/20	4.841						
Conductivity (mhos/cm)	03/23/20	28.70						
pH (SU)	03/23/20	5.7						

Sample ID	Clinton East	55.57 LA PB 3						
Control Number	2003010382							
	1st	t Quarter	2m	d Quarter	3rd	Quarter	4th	Quarter
	Sample	Analytical	Sample	Sample Analytical Sample Analytical S		Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	03/23/20	0.553						
Ammonia Nitrogen	03/23/20	3.0480						
PAN	03/23/20	3.60						
Phosphorous	03/23/20	357.1110						
Potassium	03/23/20	109.69						
Arsenic	03/23/20	0.980						
Cadmium	03/23/20	0.900						
Copper	03/23/20	1.285						
Lead	03/23/20	3.196						
Magnesium	03/23/20	97.90						
Mercury	03/23/20	< 0.022						
Nickel	03/23/20	3.074						
Zinc	03/23/20	5.638						
Conductivity (mhos/cm)	03/23/20	15.2						
pH (SU)	03/23/20	5.80						

Sample ID	Clinton East	55.57 LA PB 30							
Control Number	2003010383								
	1.01	Quartar	2	d Quartar	2.00	Quartar	/+h	Quartar	
	1St Commis		200 Sements		Samula	Quarter	4u	Quarter	
D	Sample	Analytical	Sample	Sample Analytical S		Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	03/23/20	0.709							
Ammonia Nitrogen	03/23/20	< 0.0591							
PAN	03/23/20	0.7							
Phosphorous	03/23/20	353.1870							
Potassium	03/23/20	69.99							
Arsenic	03/23/20	0.639							
Cadmium	03/23/20	0.831							
Copper	03/23/20	0.976							
Lead	03/23/20	2.577							
Magnesium	03/23/20	58.51							
Mercury	03/23/20	< 0.009							
Nickel	03/23/20	2.175							
Zinc	03/23/20	3.926							
Conductivity (mhos/cm)	03/23/20	28.100							
pH (SU)	03/23/20	5.7							

Sample ID	Clinton East	LA Airport 9						
Control Number	2003010384							
	1.00	t Ossantan	2	d Quartar	2	Overter	4+1	Quantan
			200				411	
	Sample	Analytical	Sample	Sample Analytical S		Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	03/23/20	2.041						
Ammonia Nitrogen	03/23/20	1.29						
PAN	03/23/20	3.33						
Phosphorous	03/23/20	305.0440						
Potassium	03/23/20	132.43						
Arsenic	03/23/20	0.992						
Cadmium	03/23/20	0.941						
Copper	03/23/20	1.347						
Lead	03/23/20	3.149						
Magnesium	03/23/20	92.25						
Mercury	03/23/20	< 0.0100						
Nickel	03/23/20	3.196						
Zinc	03/23/20	4.523						
Conductivity (mhos/cm)	03/23/20	26.6						
pH (SU)	03/23/20	5.3						

Sample ID	Clinton East	LA WD 13						
Control Number	2003010385							
	1st	t Ouarter	2m	d Quarter	3rc	Quarter	ر 4th	Quarter
	Sample	Analytical	Sample	Sample Analytical Sample Analytical S		Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	03/23/20	5.289						
Ammonia Nitrogen	03/23/20	2.2140						
PAN	03/23/20	7.5						
Phosphorous	03/23/20	337.6750						
Potassium	03/23/20	98.36						
Arsenic	03/23/20	0.884						
Cadmium	03/23/20	0.739						
Copper	03/23/20	1.003						
Lead	03/23/20	2.689						
Magnesium	03/23/20	74.44						
Mercury	03/23/20	< 0.009						
Nickel	03/23/20	2.596						
Zinc	03/23/20	4.032						
Conductivity (mhos/cm)	03/23/20	23.4						
pH (SU)	03/23/20	5.1						

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2009010455	Sample Date : 09/24/20	Collected By: NTR
Customer Name : CLINTON, EAST IW	Sample Time : 1328	Delivery By : NTR
Customer/Permit No. : 619 / AR0048836 001	Sample Type : GRAB WWATER	Work Order :
Report Date : 10/02/20	Sample From : IRRIGTION WATER	Purchase Order :

		Laboratory Analysi	S			Ouality /	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
09/25 0810 MRR	BOD, 5-day	18.70 mg/L			SM 2011 5210 B	3.51	101.0 *
09/28 1310 BXW	Ammonia as N, (HACH/SM)	0.28 mg/L			H/SM 11 10205/4500	3.79	107.0 *
09/29 1017 MRR	Total Kjeldahl Nitrogen	6.0 mg/L			02/2014 HACH 10242	0.84	107.0 *
09/24 1330 NTR	pH	7.2 S.U.			SM 2011 4500-H+B	0.00	N/A *
09/29 1726 KNM	Copper	< 0.0070 mg/L			EPA 200.8	1.18	104.2 *
09/29 1726 KNM	Zinc	0.0915 mg/L			EPA 200.8	1.20	104.8 *
10/01 1350 KNM	Arsenic	< 0.0070 mg/L			EPA 200.8	0.60	113.8 *
10/01 1601 KNM	Selenium	< 0.0109 mg/L			EPA 200.8	1.85	121.0 *
09/24 1330 NTR	Spec. Conductance @ 25 C	164.100 umho,	/c		SM1997 2510B	0.34	N/A *
09/24 1710 BXW	Fecal Coliform	12976.4 /100m	ml		06/2012 Colilert18	0.00	N/A *
09/29 1726 KNM	Cadmium	< 0.0064 mg/L			EPA 200.8	0.30	101.4 *
09/25 1333 KNM	Mercury	< 0.0010 mg/L			EPA 245.1	9.73	82.6 *
09/29 1726 KNM	Lead	0.0064 mg/L			EPA 200.8	1.67	94.7 *
09/28 1441 MRR	Nitrate + Nitrite	3.16 mg/L			HACH 10206	2.30	105.0 *
		_					

* QA data shown is from a different sample or standard on the same date.

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Signature

Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2565

Fax: 501-221-1341

(Client Information				Pr	oject Inf	formatior	ו		Ι	Rec	ques	sted	Paran	neter	rs
Client:	Clinton, East IW			Permit/Pro	oject #:		AR0048	836								
Address:	P.O. Box 277			Purchase	Order #:											
	Clinton, AR 72031			Work Ord	er#]	91.)					
Phone:	501-745-4320			Sampler N	Sampler Name(s):		Ned Rypasson			1	102((s			
Fax:	501-745-2164							/		1	2+		nent			
Contact:	Mr. Phil Graham			and Signa	ture(s):		Mit.	R		1	löz		omr			
ESC Client Number:	619			1	.,			<u>~~~</u>		1	5.A),	0	ee C			
Sample Ider	ntification		Sample	Collection			Sample	Containers		(; ;	N(1	16.0	ls (S			
Identification	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preservative	e #	BOD	NH3-	TKN(Meta			
Irrigation Water	2009010455	9-24-20	1328	Grab	Wwater	Plastic	1 Liter	Cool < 6° C	1	x					1	+
Í]]	(1	Grab	Wwater	Plastic	8 oz	Cool < 6* C, H2SO4 to pH <2	1		x	x				1
		\downarrow	F	Grab	Wwater	Plastic	8 oz	HNO3 to pH <2	2 1	 			х		+	
															+	+
				1											-	+
									-						-	++
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																+
Relinquished By: (Signature and Printe	d Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time	Custo	dy Se	als:		l		
Relinquished By: (Signature and Printed	d Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time	Used Turna	? around	N		Intact?		
Relitoutiched By: (Signature and Printe	d Mama)	Data	Time	Dessived for Lab	D. (0)					Regu	lar	X		Special		
Mid Mie-Ned	- Ver-	9-24-20	1645	Manny	By: (Signature and Ben)	Drinted Nam	ne) 029	9/24/20 16	Time US	Were	samp Yes	les pro	operly	preserved No	·	1
A Matala II	J			000	Flow D	ata	Jield Test	Time Ana	alyst	Resu	ılt	Resu	lt	Uni	ts	
Comments: Metals: Hg Cd(48.HW)	(50.15), Cu(29.HVV), 2 , Pb(82.HVV), 00.MD	2n(30.HVV), A	4s(33.HW),	Se(34.HW)	Analyst: Time:		pH: Conduct:	1330 1	VIC-	7.	2	7.	2	S.U.	<u>.</u>	
					Reading:				,v, /C	-//-	<u>1-1</u>	164				
					Units:											
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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2010010320 Customer Name : CLINTON, EAST IW Customer/Permit No. : 619 / AR0048836 001 Report Date : 08/02/22 Sample Date : 10/22/20 Sample Time : 1213 Sample Type : GRAB WWATER Sample From : IRRIGATION WATER

ATER ION WATER	Delivery By : NTR Work Order : Purchase Order :
	Quality Assurance

Environmental Services 90.,

Inc.

Collected By, NTP

Ana	alysis							Precision	Accuracy
Date	Time]	By	Parameter	Result	Notes	Ouantity	Method	% PPD	& Recovery
10/23	0645	KNM	BOD, 5-day	10.6 m	ng/L		SM 2011 5210 B	13 57	<u>87</u> 0
10/26	1655 1	BXW	Ammonia as N, (HACH/SM)	8.40 m	ia/L		SM 2011 4500-NH3-G	1 98	99.0
10/28	0905	KNM	Total Kjeldahl Nitrogen	17.3 m	Ia/L		02/2014 HACH 10242	4 91	106 0
10/29	1254	KNM	Potassium	7.0090 m	Iq/L		EPA 200 8	1 24	110 0
10/22	1214 1	NTR	рН	7.8 5	.U.		SM 2011 4500-H+B	0.00	110.0 N/7
10/27	1038	KNM	Copper	< 0.0070 m	ld/L		EPA 200.8	4 74	108 2
10/27	1038	KNM	Zinc	0.0396 m	lg/L		EPA 200.8	8 96	96 /
10/29	1254	KNM	Arsenic	< 0.0070 m	lq/L		EPA 200.8	2 04	97 5
10/29	1254	KNM	Selenium	< 0.0109 m	Iq/L		EPA 200.8	3 4 8	96 1
10/22	1213 1	NTR	Spec. Conductance @ 25 C	265.000 u	mho/c		EPA 120.1	1 90	N/A
10/27	1038 1	KNM	Cadmium	< 0.00640 m	Id/L		EPA 200.8	0.86	107 A
10/29	1551 1	KNM	Mercury	< 0.0010 m	a/L		EPA 245.7	12 26	107.4
10/29	1254 1	KNM	Lead	0.01150 m	a/L		EPA 200.8	1 30	97 9
10/23	1430 J	EDA	Nitrate + Nitrite	0.87 m	a/L		HACH 10206	2.06	105 0
10/30	0800 1	KNM	Sodium Absorption Ratio	45.9537 R	atio		AGRN 724	2.00	100.0
			~						

Laboratory Analysis

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

AEG

Environmental Services Company, Inc. Corporate Office 715 West Markham P.O. Box 55146

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Phone: 501-221-2565

Fax: 501-221-1341

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Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

Client Information						Project Information					Requested				Para	ime	ters	i	
Client:		Clinton, East IW			Permit/Pro	oject #:	9.5	AR0048	836	1.4									
Address:		P.O. Box 277			Purchase	Order #:													
		Clinton, AR 72031			Work Ord	er#							91.)						
Phone:		501-745-4320			Sampler N	lame(s):		Ned 7	Duerto				02((\$				
 Fax:		501-745-2164			-			tyce rychon					Z +		nents				
Contact:		Mr. Phil Graham			and Signa	ture(s):	-	Alert	Ra-				NO3		umo				
ESC Client Nu	imber:	619									-		Â.	_	ee C				
Sample Identification Sample			Collection			Sample Containers				3.)	N(15	16.C	s (Se						
Identification ESC Control #			Date	Time	Туре	Matrix	Type	Volume	Preserva	tive	#	20D	H3-	NX ⁻	Aetal				
Irrigati	on Water	2010010320	10-22-20	1213	Grab	Wwater	Plastic	1 Liter	Cool < 6° C		1	x	2	<u> </u>	2		\rightarrow		\neg
	1	1	(1212	Grab	Wwater	Plastic	8 07	Cool ≤ 6° C,			~	v	v			+		\neg
				Grab	Wwater	Plastic	0 0Z		1.22	_	-	^	^	v		+	-	\neg	
		Ŧ		Orab	vvvaler	Flastic	0.02		· ~ -			-+		^		+		-	
		7									+	-	-+	-			+		
											+	-+	-+		_		-+		_
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											-		\rightarrow				-+	_	_
Relinquished By: (Signa	ature and Printed	Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time		ustoc	Jy Se	als:					_
Delinguished Duy (Cine	ature and Drinted	Name									U	sed?		N		Intact	²		
Reinquished By. (Sigha	ature and Printed	Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time	B	urnar egula	ound: ar	V		Snecia	al Г		
Relinquished By Signa	ature and Printed	Name)	Date	Time	Received for Lab	By: (Signature and	d Printed Nam	ie)	Date	Time 1710	V	/ere s	sampl	es pro	perly	preserv	ed:		-
	-100 July Npa (page - 10-22-35 1 110			1 110	and the second	Flow Da	ata	Field Test	Time	Analyst	F	esul	t	Resu	lt I		o Inits		\neg
Comments: N	omments: Metals: Hg(50.15), Cu(29.HW), Zn(30.HW), As(33.HW)			As(33.HW),	Se(34.HW)	Analyst:		pH:	1214	NOS		1.8	3	7.5	7	S.U.			
	Ca(48.HVV), Pb(82.HVV), UU.MD				Time:			Conduct:	1214	WO	N.	26	5	26	0	U MHO)S		_
						Units:							+						\neg
											Т	his I	Doci	umer	nt is I	Page	10	fL	-

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341		Northwest 1107 Ce Springo Tel. (479)750-11	Arkansas Branch entury Avenue dale, AR 72762 170 Fax (479)750-1172	
Control Number: 2001010093ComCustomer Name : CLINTON, EAST 001SamCustomer/Permit No. : 495 / AR0048836 001SamReport Date : 01/20/20Sam	nposite Date:01/05/20 nple Time : 0800-0800 nple Type : 24HRC nple From : FINAL EFFL	Collected By: JJM Delivery By : JJM Work Order : Purchase Order :		
Analysis <u>Date Time By Parameter Result</u> 1/09 0930 TCF Phosphorous, Total (as P) 0.210 1/17 1500 NTR Nitrate + Nitrite 0.87 * OA data shown is from a different sample or standard	<u>Notes</u> <u>Quantis</u> mg/L mg/L	ty <u>Method</u> HACH 10209 HACH 10206	A Quality As Precision % RPD 0.49 0.41	<u>surance</u> Accuracy <u>% Recovery</u> 96.9 * 98.9 *

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature <u>Muy</u> <u>Finites Co., Inc.</u>

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146

Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



CHAIN OF CUSTODY

Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2565	Fax: 501-221-1341		CI	HAIN C	OF CUS	STO	DY									
	Client Information			Pro	oject Inf	ormation				R	leque	sted	l Para	amel	ters	
Client:	Clinton, East 001			Permit/Pro	ject #:		AR00488	336						T		
Address:	P.O. Box 277			Purchase	Order #:											
	Clinton, AR 72031			Work Orde	er#											
Phone:	501-745-4320			Sampler N	ame(s):	JOAL	r Mills	Nr.			² (25					
Fax:	501-745-2164									otali						
Contact:	Mr. Phil Graham			and Signat	ure(s):	Ast	n M.W	le .			1),T					
ESC Client Number:	495 (3X per week)										02(9					
Sample Ide	entification		Sample	e Collection		1	Sample (Container	S		N+N					
Identification	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	ŐN					
Final Effluent	2001010093	115/20/11/20	DYUSZEN	24Hr. Comp	Wwater	Plastic	8 oz	Cool ≤ 6° C, H2SO4 to pH <2		1	x		T	十十	T	
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		[1							+	+	-	
						1							+			
													+	++		
						1						-	+	++	-	
						1							+	++	-	
						1							+	+++	+	
Relinquished By: (Signature and Print	ted Name)	Date	Time	Received By: (Sig	nature and Printed	3 Name)	Laurence and the second se	Date	Tin	ne	Custod	y Seals:	-deserves ang		andanan ma	
Relinquished By: (Signature and Print	ed Name)	Date	Time	Received By: (Sig	nature and Printed	i Name)		Date	Tin	ne	Used? Tumarc	Jund:	<u>4</u>	Intact	<u>}</u>	┛┦
A high of the											Regular		1	Speci	al	
	- DSN / ATA	1640	1555	Received for Lab	By: (Signature and	Printed Name	lowet	Date 1-6-20	150	ne 55	Were si Yi	amples p	properly	y preserv N	/ed: Io	-
/				C	Flow Da	ata	Field Test	Time	Analy	/st	Result	Res	sult	T	Inits	
Comments:			[Analyst: Timo:		Grab pH:		[—		S.U.		
				TXX.	Reading:		Giab DO.							Img/L		
			ľ		Units:		E Coli Start		<u> </u>							
			L				Fecal Start:				This D)ocum	ent is	Page	10	f

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2001010090		Compo	site Date:(01/05/20 -01/06/20	Co	ollect	ted By: JJM		
Customer Name : CLINTON, EAST 001		Sampl	e Time : 08	300-0800/1244(1-6)	De	eliver	ry By : JJM		
Customer/Permit No. : 495 / AR0048836 001		Sampl	e Type : 24	HRC/GRAB WWATER	Wo	ork Or	order :		
Report Date : 01/24/20		Sampl	e From : F]	INAL EFFLUENT	Pu	urchas	.se Order :		
Analysis	Laborato	ory Analy	<u>sis</u>				<u>Quality A</u> Precision	<u>ssurance</u> Accuracy	

Dace IIIIC Dy	rarameter	Result Notes	Quantity	Method	& RDD	2 Recovery
01/06 1252 JJM	Dissolved Oxygen	10.30 mg/L	96.13 #/dav	SM 2001 4500-0 G	0.00	N/D *
01/09 1100 TCF	Ammonia as N, (HACH/SM)	4.67 mg/L	43.59 #/dav	H/SM 11 10205/4500	2.85	101 4 +
01/06 1252 JJM	рH	7.4 S.U.		SM 2011 4500-H+B	2.05	IUI.4 *
01/07 0800 PJC	Solids, Total Suspended	< 2.50 mg/L	23.33 #/dav	SM 2011 2540 D	2.25	N/A ^
01/06 1600 HMK	E. Coliforms	3.1 / 100 m	Lotoo m/aay	06/2012 Colilort18	2.25	N/A *
01/06 1600 HMK	Fecal Coliform	4.1 /100ml		06/2012 Colilert18	0.00	N/A
01/20 1029 NTR	Cadmium	$< 0.10 \mu g/L$	$0 \ 0 0 \ \#/day$	EDA 200 0	0.00	N/A *
01/08 0730 DWC	BOD. Carbonaceous	< 2.00 mg/H	19.67 #/day	EPA 200.8	2.24	86.6 *
01/16 1100 PJC	Mercury ug/I	< 1.0000 mg/H	10.07 #/day	SM 2011 5210 B	5.03	102.4 *
100 100	nereary, ag/h	< 1.00000 ug/L	0.01 #/day	EPA 245.7	2.20	98.0
	Flo	w 1.120000 MGD				
* QA data sho	wn is from a different sample	e or standard on the same	date.			

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Signature

Environmental Services Co., Inc.

Environmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

Client Information					Project Information						Requested Parameters					
Client:		Clinton, East 001			Permit/Pro	ject #:		AR00488	336			(25)				
Address:		P.O. Box 277			Purchase (Order #:					1	talP	43.IE			
		Clinton, AR 72031			Work Orde	er#					1),To	Soli			
Phone:		501-745-4320			Sampler Name(s):			1	2(91	ш						
Fax:		501-745-2164	_					L 2 4 CC / 0 -	•		.8	N4	ĽE)			
Contact:		Mr. Phil Graham			and Signature(s):			Willer				n (4				
ESC Client Nu	umber:	495										liforn				
Sample Identification Sample			Collection			Sample (Containers	3	0 <u>/</u>	N(15	l Co					
Identifica	ation	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	tive #	CBO	NH3-	Feca			
Final Eff	luent	2001010090	5/00=115/202	0800-	24Hr. Comp	Wwater	Plastic	1/2 Gal	Cool < 6° C	: 1	X					
		1	L	L	24Hr. Comp	Wwater	Plastic	8 oz	Cool ≤ 6* C, H2SO4 to pH <2	1		x			+	1
			1/6/20	1244	Grab	Wwater	Plastic	100mls	Cool <10* C, Na2S2O3	1			X		-	
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Relinquished By: (Sign	ature and Printe	d Name)	Date	Time	Received By: (Sig	nature and Printe	d Name)		Date	Time	Turna Regu	around Ilar	দ	- {	Special	
Revinquished By/ Signa	ature and Printe	osh Miller	1/6/20	LSS5	Received for Lab	By: (Signature and	Printed Nam	lait	Date 1-6-70	Time	Were	Yes	les pro	perly pr	eserved: No	
					C	Flow Da	ata	Field Test	Time	Analyst	Res	ult	Resul	t	Unit	S
Comments:	the second second		A			Time: 124	Th th	Grab pH: Grab DO:	1252	33/	7.	4		m	.U. .g/L	
			VIE	er f		Reading:	2		11.65	ii niz						
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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2003010379	Sample Date : 03/23/20	Collected By: JGK
Customer Name : CLINTON, EAST 40.24 LA PB 3	Sample Time : 1050	Delivery By : JGK
Customer Number : 3004	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/13/20	Sample From : EAST LA 40.24 PB3	Purchase Order :

			Laboratory Analysis	5	×		Quality 2	Assurance
Ana	alysis						Precision	Accuracy
<u>Date</u>	<u>Time</u> By	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
03/24	0845 NTR	Ammonia Nitrogen	3.4430 mg/kg	r		SM 1997 4500-NH3 C	0.56	100.6
04/10	1524 KNM	Mercury	0.0190 mg/Kg	ſ		SW-846 7474 02/07	8.38	88.6
03/24	0630 NTR	Nitrate Nitrogen	4.130 mg/kg	ſ		SM 2000 4500-NO3 E	1.75	100.2
03/24	1250 NTR	Phosphorous, Total (as P)	324.8410 mg/kg	ſ		EPA 365.3	0.12	99.0
04/02	2226 KNM	Magnesium	87.37 mg/Kg	ſ		SW-846 6020A	7.68	102.4
04/02	2226 KNM	Potassium	102.39 mg/Kg	ſ		SW-846 6020A	6.77	110.7
03/31	1536 KNM	pH Soil	5.90 S.U.			SW846 9045C	1.68	N/A
04/02	2226 KNM	Nickel	3.303 mg/Kg	ſ		SW-846 6020A	0.88	98.5
04/02	2226 KNM	Copper	1.454 mg/Kg	ſ		SW-846 6020A	0.93	98.2
04/02	2226 KNM	Zinc	5.937 mg/Kg	ſ		SW-846 6020A	0.89	103.0
03/24	0800 NTR	Nitogen, Plant Available	7.57 mg/kg	ſ		33 MSA 2nd Ed		
04/02	2226 KNM	Arsenic	0.914 mg/Kg	ſ		SW-846 6020A	1.70	106.1
03/24	1135 NTR	Specific Conductance	64.6000 umhos	•		EPA (MOD)9050A	0.47	N/A
04/02	2226 KNM	Cadmium	1.289 mg/Kg	t		SW-846 6020A	1.46	98.7
03/25	0945 KNM	Solids, % Total	79.885 %			SM 1997 2540 G	0.49	N/A *
04/02	2226 KNM	Lead	3.854 mg/Kg	ſ		SW-846 6020A	0.58	98.5
						ļ		

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Signature <u>Hu</u> Environmental Services Co., Inc.

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2003010380	Sample Date : 03/23/20	Collected By: JGK
Customer Name : CLINTON, EAST 40.24 LA PB 30	Sample Time : 1105	Delivery By : JGK
Customer Number : 3003	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/13/20	Sample From : EAST LA 40.24 PB30	Purchase Order :

		Laboratory Analysis	5			Quality <i>I</i>	Assurance
Analysis						Precision	Accuracy
Date Time By	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
03/24 0845 NI	'R Ammonia Nitrogen	2.0100 mg/kg	J		SM 1997 4500-NH3 C	0.56	100.6 *
04/10 1524 KN	M Mercury	0.0250 mg/Kg	J		SW-846 7474 02/07	8.38	88.6 *
03/24 0630 NT	'R Nitrate Nitrogen	6.970 mg/kg	J		SM 2000 4500-NO3 E	1.75	100.2 *
03/24 1250 NI	R Phosphorous, Total (as P)	376.3550 mg/kg	J		EPA 365.3	0.12	99.0 *
04/02 2258 KN	M Magnesium	127.79 mg/Kg	J		SW-846 6020A	7.68	102.4 *
04/02 2258 KN	M Potassium	127.94 mg/Kg	J		SW-846 6020A	6.77	110.7 *
03/31 1539 KN	M pH Soil	6.60 S.U.			SW846 9045C	1.68	N/A *
04/02 2258 KN	M Nickel	3.701 mg/Kg	J		SW-846 6020A	0.88	98.5 *
04/02 2258 KN	M Copper	1.410 mg/Kg	J		SW-846 6020A	0.93	98.2 *
04/02 2258 KN	M Zinc	7.688 mg/Kg	J		SW-846 6020A	0.89	103.0 *
03/25 0800 NI	R Nitogen, Plant Available	8.98 mg/kg	J		33 MSA 2nd Ed		
04/02 2258 KN	M Arsenic	1.147 mg/Kg	J		SW-846 6020A	1.70	106.1 *
03/24 1135 NT	R Specific Conductance	12.9000 umhos	3		EPA (MOD)9050A	0.47	N/A *
04/02 2258 KN	M Cadmium	0.716 mg/Kg	I		SW-846 6020A	1.46	98.7 *
03/25 0945 KN	M Solids, % Total	79.579 %			SM 1997 2540 G	0.49	N/A *
04/02 2258 KN	M Lead	3.243 mg/Kg	I		SW-846 6020A	0.58	98.5 *
* 07							

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Signature <u>Mul Yuu</u> Environmental Serviges Co., Inc.
Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2003010381	Sample Date : 03/23/20	Collected By: JGK
Customer Name : CLINTON, EAST 55.57 LA PB 10	Sample Time : 1120	Delivery By : JGK
Customer/Permit No. : 511 / AR0048836 001	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/13/20	Sample From : EAST LA 55.57 PB10	Purchase Order :

		Laboratory Analysis	5			Quality 1	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
03/24 0845 NTR	Ammonia Nitrogen	< 0.0594 mg/kg	J		SM 1997 4500-NH3 C	0.56	100.6 *
04/10 1524 KNM	Mercury	< 0.0140 mg/Kg	Ţ		SW-846 7474 02/07	8.38	88.6 *
03/24 0630 NTR	Nitrate Nitrogen	4.220 mg/kg	ſ		SM 2000 4500-NO3 E	1.75	100.2 *
03/24 1250 NTR	Phosphorous, Total (as P)	337.0940 mg/kg	ſ		EPA 365.3	0.12	99.0 *
04/02 2309 KNM	Magnesium	78.31 mg/Kg	ſ		SW-846 6020A	7.68	102.4 *
04/02 2309 KNM	Potassium	114.34 mg/Kg	ſ		SW-846 6020A	6.77	110.7 *
03/31 1540 KNM	pH Soil	5.70 S.U.			SW846 9045C	1.68	N/A *
04/02 2309 KNM	Nickel	2.961 mg/Kg	ſ		SW-846 6020A	0.88	98.5 *
04/02 2309 KNM	Copper	1.267 mg/Kg	ſ		SW-846 6020A	0.93	98.2 *
04/02 2309 KNM	Zinc	4.841 mg/Kg	ſ		SW-846 6020A	0.89	103.0 *
03/25 0800 NTR	Nitogen, Plant Available	4.22 mg/kg	ſ		33 MSA 2nd Ed		
04/02 2309 KNM	Arsenic	0.748 mg/Kg	ſ		SW-846 6020A	1.70	106.1 *
03/24 1135 NTR	Specific Conductance	28.7000 umhos	5		EPA (MOD)9050A	0.47	N/A *
04/02 2309 KNM	Cadmium	1.172 mg/Kg	Г		SW-846 6020A	1.46	98.7 *
03/25 0945 KNM	Solids, % Total	84.101 %			SM 1997 2540 G	0.49	N/A *
04/02 2309 KNM	Lead	3.517 mg/Kg	ſ		SW-846 6020A	0.58	98.5 *
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Environmental Services Co., Inc.

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2003010382	Sample Date : 03/23/20	Collected By: JGK
Customer Name : CLINTON, EAST 55.57 LA PB 3	Sample Time : 1140	Delivery By : JGK
Customer Number : 3002	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/13/20	Sample From : EAST LA 55.57 PB3	Purchase Order :

		Laboratory Analysis	5			Quality 1	Assurance
Analysi	S					Precision	Accuracy
<u>Date Time</u>	By Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
03/24 0845	NTR Ammonia Nitrogen	3.0480 mg/kg	3		SM 1997 4500-NH3 C	0.56	100.6 *
04/10 1524	KNM Mercury	< 0.0220 mg/Kg	J		SW-846 7474 02/07	8.38	88.6 *
03/24 0630	NTR Nitrate Nitrogen	0.553 mg/kg	1		SM 2000 4500-NO3 E	1.75	100.2 *
03/24 1250	NTR Phosphorous, Total (as H	?) 357.1110 mg/kg	J		EPA 365.3	0.12	99.0 *
04/02 2320	KNM Magnesium	97.90 mg/Kg	J		SW-846 6020A	7.68	102.4 *
04/02 2320	KNM Potassium	109.69 mg/Kg	J		SW-846 6020A	6.77	110.7 *
03/31 1542	KNM pH Soil	5.80 S.U.			SW846 9045C	1.68	N/A *
04/02 2320	KNM Nickel	3.074 mg/Kg	J		SW-846 6020A	0.88	98.5 *
04/02 2320	KNM Copper	1.285 mg/Kg	J		SW-846 6020A	0.93	98.2 *
04/02 2320	KNM Zinc	5.638 mg/Kg	ł		SW-846 6020A	0.89	103.0 *
03/25 0800	NTR Nitogen, Plant Available	e 3.60 mg/kg	J		33 MSA 2nd Ed		
04/02 2320	KNM Arsenic	0.980 mg/Kg	ł		SW-846 6020A	1.70	106.1 *
03/24 1135	NTR Specific Conductance	15.2000 umhos	3		EPA (MOD)9050A	0.47	N/A *
04/02 2320	KNM Cadmium	0.900 mg/Kg	J		SW-846 6020A	1.46	98.7 *
03/25 0945	KNM Solids, % Total	80.367 %			SM 1997 2540 G	0.49	N/A *
04/02 2320	KNM Lead	3.196 mg/Kg	J		SW-846 6020A	0.58	98.5 *
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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2003010383	Sample Date : 03/23/20	Collected By: JGK
Customer Name : CLINTON, EAST 55.57 LA PB 30	Sample Time : 1150	Delivery By : JGK
Customer Number : 3001	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/13/20	Sample From : EAST LA 55.57 PB30	Purchase Order :

		Laboratory Analysi	S			Quality 3	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
03/24 0845 NTR	Ammonia Nitrogen	< 0.0591 mg/k	.g		SM 1997 4500-NH3 C	0.56	100.6 *
04/10 1524 KNM	Mercury	< 0.0090 mg/K	.g		SW-846 7474 02/07	8.38	88.6 *
03/24 0630 NTR	Nitrate Nitrogen	0.709 mg/k	.g		SM 2000 4500-NO3 E	1.75	100.2 *
03/24 1250 NTR	Phosphorous, Total (as P)	353.1870 mg/k	.g		EPA 365.3	0.12	99.0 *
04/02 2331 KNM	Magnesium	58.51 mg/K	.g		SW-846 6020A	7.68	102.4 *
04/02 2331 KNM	Potassium	69.99 mg/K	.g		SW-846 6020A	6.77	110.7 *
03/31 1543 KNM	pH Soil	5.70 S.U.			SW846 9045C	1.68	N/A *
04/02 2331 KNM	Nickel	2.175 mg/K	.g		SW-846 6020A	0.88	98.5 *
04/02 2331 KNM	Copper	0.976 mg/K	.g		SW-846 6020A	0.93	98.2 *
04/02 2331 KNM	Zinc	3.926 mg/K	.g		SW-846 6020A	0.89	103.0 *
03/25 0800 NTR	Nitogen, Plant Available	0.70 mg/k	g		33 MSA 2nd Ed		
04/02 2331 KNM	Arsenic	0.639 mg/K	g		SW-846 6020A	1.70	106.1 *
03/24 1135 NTR	Specific Conductance	28.1000 umho	S		EPA (MOD)9050A	0.47	N/A *
04/02 2331 KNM	Cadmium	0.831 mg/K	g		SW-846 6020A	1.46	98.7 *
03/25 0945 KNM	Solids, % Total	84.516 %			SM 1997 2540 G	0.49	N/A *
04/02 2331 KNM	Lead	2.577 mg/K	g		SW-846 6020A	0.58	98.5 *
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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2003010384	Sample Date : 03/23/20	Collected By: JGK
Customer Name : CLINTON, EAST LA AIRPORT9	Sample Time : 1200	Delivery By : JGK
Customer Number : 2959	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/13/20	Sample From : EAST LA AIRPORTS	Purchase Order :

		Laboratory Analysis				Quality <i>I</i>	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recoverv
03/24 0845 NTR	Ammonia Nitrogen	1.2990 mg/kg			SM 1997 4500-NH3 C	0.56	100.6 *
04/10 1524 KNM	Mercury	< 0.0100 mg/Kg			SW-846 7474 02/07	8.38	88.6 *
03/24 0630 NTR	Nitrate Nitrogen	2.041 mg/kg			SM 2000 4500-NO3 E	1.75	100.2 *
03/24 1250 NTR	Phosphorous, Total (as P)	305.0440 mg/kg			EPA 365.3	0.12	99.0 *
04/02 2341 KNM	Magnesium	92.25 mg/Kg			SW-846 6020A	7.68	102.4 *
04/02 2341 KNM	Potassium	132.43 mg/Kg			SW-846 6020A	6.77	110.7 *
03/31 1544 KNM	pH Soil	5.30 S.U.			SW846 9045C	1.68	N/A *
04/02 2341 KNM	Nickel	3.196 mg/Kg			SW-846 6020A	0.88	98.5 *
04/02 2341 KNM	Copper	1.347 mg/Kg			SW-846 6020A	0.93	98.2 *
04/02 2341 KNM	Zinc	4.523 mg/Kg			SW-846 6020A	0.89	103.0 *
03/25 0800 NTR	Nitogen, Plant Available	3.33 mg/kg			33 MSA 2nd Ed		
04/02 2341 KNM	Arsenic	0.992 mg/Kg			SW-846 6020A	1.70	106.1 *
03/24 1135 NTR	Specific Conductance	26.6000 umhos			EPA (MOD)9050A	0.47	N/A *
04/02 2341 KNM	Cadmium	0.941 mg/Kg			SW-846 6020A	1.46	98.7 *
03/25 0945 KNM	Solids, % Total	80.808 %			SM 1997 2540 G	0.49	N/A *
04/02 2341 KNM	Lead	3.149 mg/Kg			SW-846 6020A	0.58	98.5 *
t ON data aba		- 1					

QA data shown is from a different sample or standard on the same date.

Signature

Environmental Services Co., Inc.

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2003010385	Sample Date : 03/23/20	Collected By: JGK
Customer Name : CLINTON, EAST LA WD13	Sample Time : 1225	Delivery By : JGK
Customer Number : 2960	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/13/20	Sample From : EAST LA WD13	Purchase Order :

			Laboratory Analysis				Quality I	Assurance
Ana	lysis						Precision	Accuracy
Date	<u>Time</u> By	Parameter	Result	<u>Notes</u>	Quantity	Method	응 RPD	% Recoverv
03/24	0845 NTR	Ammonia Nitrogen	2.2140 mg/kg			SM 1997 4500-NH3 C	0.56	100.6 *
04/10	1524 KNM	Mercury	< 0.0090 mg/Kg			SW-846 7474 02/07	8.38	88.6 *
03/24	0630 NTR	Nitrate Nitrogen	5.289 mg/kg			SM 2000 4500-NO3 E	1.75	100.2 *
03/24	1250 NTR	Phosphorous, Total (as P)	337.6750 mg/kg			EPA 365.3	0.12	99.0 *
04/02	2352 KNM	Magnesium	74.44 mg/Kg			SW-846 6020A	7.68	102.4 *
04/02	2352 KNM	Potassium	98.36 mg/Kg			SW-846 6020A	6.77	110.7 *
03/31	1545 KNM	pH Soil	5.10 S.U.			SW846 9045C	1.68	N/A *
04/02	2352 KNM	Nickel	2.596 mg/Kg			SW-846 6020A	0.88	98.5 *
04/02	2352 KNM	Copper	1.003 mg/Kg			SW-846 6020A	0.93	98.2 *
04/02	2352 KNM	Zinc	4.032 mg/Kg			SW-846 6020A	0.89	103.0 *
03/25	0800 NTR	Nitogen, Plant Available	7.50 mg/kg			33 MSA 2nd Ed		
04/02	2352 KNM	Arsenic	0.884 mg/Kg			SW-846 6020A	1.70	106.1 *
03/24	1135 NTR	Specific Conductance	23.4000 umhos			EPA (MOD)9050A	0.47	N/A *
04/02	2352 KNM	Cadmium	0.739 mg/Kg			SW-846 6020A	1.46	98.7 *
03/25	0945 KNM	Solids, % Total	81.291 %			SM 1997 2540 G	0.49	N/A *
04/02	2352 KNM	Lead	2.689 mg/Kg			SW-846 6020A	0.58	98.5 *

* QA data shown is from a different sample or standard on the same date.

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All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

Environmental Services Co.

Environmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

(Client Information				Pro	oject Inf	formatior				Requested Parame			nete	ərs						
Client:	Clinton, City of (Ea	st Land Ap	o)	Permit/Pro	oject #:																
Address:	P.O. Box 277			Purchase	Order #:											6.					
	Clinton, AR 72031			Work Ord	er#				-		its)	s(01	35.N	(NA							
Phone:	501-745-4320			Sampler N	lame(s):	TI	Lid America				ner	Pho	:)puc	(33./							
Fax:	Mr. Phil Graham						······				m	1.3),	SC C	PAN							
Contact:	501-745-2164			and Signa	ture(s):	\bigcirc	r (a	m)			U e	en(0	, Spe	.1),							
ESC Client Number:	Various				. ,	$\overline{}$					(Se	itrog	3.S)	ia(01							
Sample Ider	ntification		Sample	Collection		ſ	Sample	Containers	\$		als	te N	рН(2	non							
Identification	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	tive	#	Met	Nitra	Soil	Am							
East LA 40.24 PB3 (3004)	2003010379	3/23/20	1050	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	;	1	х	х	х	х							
East LA 40.24 PB30 (3003)	2003010380	3/23/20	1105	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	;	1	х	х	х	х							
East LA 55.57 PB10 (511)	2003010381	3/25/20	1120	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	:	1	х	х	х	х							
East LA 55.57 PB3 (3002)	2003010382	3125120	1140	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C	;	1	x	х	х	х							
East LA 55.57 PB30 (3001)	2003010383	3123120	1150	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C		1	x	х	х	х							
East LA Airport9 (2959)	2603010384	3123120	1200	Grab	Soil	Glass	1 Liter	Cool ≤ 6° C		1	x	х	х	х							
East LA WD13 (2960)	2003010385	3123120	125	Grab	Soil	Glass	1 Liter	Cool <u><</u> 6° C		1	x	x	х	х							
Relinquisned By: (Signature and Printe	d Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time		Justo Jsed?	dy Se	als:		Intact?	—	7				
Relinquished By: (Signature and Printe	d Name)	Date	Time	Received By: (Signature and Printed Name) Da		Date	Time		Turna Regul	round ar	 		Special	L 	<u> </u>						
Refinquished By: (Signature and Printe	d Name)	Date 312ラ125	Time 1415	Received for Lab By. (Signature and Printed Name) Wind Court Dand Carlowit 31.		Date 3123/20	Time 1415	;	Vere	samp Yes	les pro	operly	preserve No	d:	<u>-</u>						
	A-(12.110) K/(0.110) NE	20 110) 0(20	110) 7-/00		Flow D	ata	Field Test	Time	Analyst	t f	Resu	lt	Resu	lt	Ur	nits	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
As(33.HS), (Cd(48.HS), Pb(82.HS), N(Cd(48.HS), Pb(82.HS), 0(28.115), Cu(29).MS	.ms), zn(30.	no)	Analyst: Time:								~~~~~								
					Reading:																
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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2003010539	Sample Date : 03/23/20	Collected By: JGK
Customer/Permit No. : 507 / AR0048836 001	Sample Time : 1130 Sample Type : GRAB WWATER	Work Order :
Report Date : 04/02/20	Sample From : WELL 13	Purchase Order :
Labor	atory Analysis	Ouality Assurance

Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
04/01 0915 DWC	Chloride (as Cl)	20.0 mg/I	L		SM1997 4500ClC	0.00	93.0 *
03/23 1130 JGK	рH	6.5 S.U.			SM 2011 4500-H+B	0.00	N/A *
03/27 1030 NTR	Solids, Total Dissolved	258.0 mg/I	L		SM1997 2540 C	0.34	N/A *
03/23 1135 JGK	Spec. Conductance @ 25 C	238.000 umho	o/c		SM1997 2510B	0.42	N/A
03/23 1135 JGK	Temperature	14.60 °C			SM 2000 2550 B	0.00	N/A
03/25 1450 KNM	Nitrate + Nitrite	0.16 mg/I	L		HACH 10206	4.20	99.8 *
03/23 1130 JGK	Well Depth, Total	15.40 Feet	t			N/A	N/A
03/23 1130 JGK	Depth to Water	5.60 Feet	t			N/A	N/A
* QA data sho	wn is from a different sampl	e or standard on	the same da	ate.			

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Signature

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Labor	Quality Assurance			
Report Date : 04/02/20	Sample From : WELL 14	Purchase Order :		
Customer/Permit No. : 508 / AR0048836 001	Sample Type : GRAB WWATER	Work Order :		
Customer Name : CLINTON, EAST GW14	Sample Time : 1115	Delivery By : JGK		
Control Number: 2003010540	Sample Date : 03/23/20	Collected By: JGK		

Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	<u> </u>	% Recovery
04/01 0915 DWC	Chloride (as Cl)	10.0 mg/L			SM1997 4500ClC	0.00	93.0 *
03/23 1115 JGK	pH	6.6 S.U.			SM 2011 4500-H+B	0.00	N/A *
03/27 1030 NTR	Solids, Total Dissolved	110.0 mg/L			SM1997 2540 C	0.34	N/A *
03/23 1120 JGK	Spec. Conductance @ 25 C	99.900 umho/	С		SM1997 2510B	0.42	N/A *
03/23 1120 JGK	Temperature	14.70 °C			SM 2000 2550 B	0.00	N/A *
03/25 1450 KNM	Nitrate + Nitrite	4.51 mg/L			HACH 10206	4.20	99.8 *
03/23 1115 JGK	Well Depth, Total	13.10 Feet				N/A	N/A
03/23 1115 JGK	Depth to Water	4.10 Feet				N/A	N/A
* QA data sho	wn is from a different sampl	e or standard on t	he same o	date.			

Signature <u>IUU</u> <u>YUU</u> Environmental Services Co., Inc.

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03/23 1025 JGK Temperature

03/25 1450 KNM Nitrate + Nitrite

03/23 1020 JGK Well Depth, Total

03/23 1020 JGK Depth to Water

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

0.00

4.20

N/A

N/A

N/A *

99.8 *

N/A

N/A

Control Number: 2003010542 Customer Name : CLINTON, EAST GW17 Customer/Permit No. : 649 / AR0048747 001 Report Date : 04/13/20		Sample Date : 03/23/20 Sample Time : 1020 Sample Type : GRAB WWATEF Sample From : WELL 17	Collec Delive Work O Purcha	Collected By: JGK Delivery By : JGK Work Order : Purchase Order :			
		Laboratory Analysis		Quality 2	Assurance		
Analysis				Precision	Accuracy		
<u>Date Time By</u>	Parameter	Result Notes Quantit	y Method	% RPD	% Recoverv		
04/01 0915 DWC	Chloride (as Cl)	< 0.1 mg/L	SM1997 4500ClC	0.00	93.0 *		
03/23 1020 JGK	pH	6.1 S.U.	SM 2011 4500-H+B	0.00	N/A *		
03/27 1030 NTR	Solids, Total Dissolved	142.0 mg/L	SM1997 2540 C	0.34	N/A *		
03/23 1025 JGK	Spec. Conductance @ 25 C	76.600 umho/c	SM1997 2510B	0.42	N/A *		
				•			

15.20 °C

6.46 mg/L

7.20 Feet

17.60 Feet

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Signature <u>Mud</u> <u>Juli</u> <u>Environmental Services Co., Inc.</u>

SM 2000 2550 B

HACH 10206



Environmental Services Company Little Rock, AR 72211 Groundwater Monitoring Chain of Custody

Sampler Name(s):	Tason	Knocmsch. W
and Signature:	- h	nad

								Samr	ple Da	te: 🦳	3/2	3/20						
Sample Identification (Customer #)	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth		p	эΗ		Sp	ecific C	onducta	nce		Temp Degi	erature rees C		Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (1 L Plastic H2SO4)
Clinton Ea	ast Wells				#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
#13 (507)	2003010539	1130	5'6"	15' 4"	6.5	6.6	6.5	1135	238	239	238	1135	14.6	14.6	14.6	1135	x	x
#14 (508)	2003010540	1115	4.'1'	13' 1"	b. b	6.7	6.6	1120	99.3	99.5	99.3	1120	14.7	14.8	14.7	1120	X	x
#16 (509)	2003010541	1210		14' 0''	VO	TP	0	BSI	PRU	¢Tž	ION						x	x
#17 (649)	2003010542	1020	7'2"	17' 6"	6.1	6.1	6.2	1025	76.6	76.7	76.6	1025	15.2	15.3	15.2	1025	x	x
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Comments:	:	Mos mon.		. / 11 5	[F	(eceive	U DY LC	<u>10.</u> p	ano-				_ Dau	<u>a: </u>	<u>6314</u>	2 1 11	<u>me.</u> •	<u>,</u>

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Labor	Quality Assurance		
Report Date : 09/30/20	Sample From : #13 (507)	Purchase Order :	
Customer/Permit No. : 507 / AR0048836 001	Sample Type : GRAB WATER	Work Order :	
Customer Name : CLINTON, EAST GW13	Sample Time : 1449	Delivery By : NTR	
Control Number: 2009010451	Sample Date : 09/24/20	Collected By: NTR	

Analysis					Precision	Accuracy
Date Time By	Parameter	Result No	tes <u>Quantity</u>	Method	% RPD	% Recovery
09/25 1446 MRR	Chloride (as Cl)	29.9 mg/L		SM1997 4500ClC	0.00	99.9 *
09/24 1450 NTR	pH	6.2 S.U.		SM 2011 4500-H+B	0.00	N/A
09/28 1439 BXW	Solids, Total Dissolved	< 2.5 mg/L		SM1997 2540 C	0.00	N/A *
09/24 1450 NTR	Spec. Conductance @ 25 C	145.400 umho/c		SM1997 2510B	0.57	N/A *
09/24 1450 NTR	Temperature	18.50 °C		SM 2000 2550 B	0.00	N/A
09/28 1441 MRR	Nitrate + Nitrite	1.91 mg/L		HACH 10206	2.30	105.0 *
09/24 1449 NTR	Well Depth, Total	15.33 Feet			N/A	N/A
09/24 1411 NTR	Depth to Water	9.33 Feet			N/A	N/A
	-					

* QA data shown is from a different sample or standard on the same date.

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Control Number:	2009010452
Customer Name :	CLINTON, EAST GW14
Customer/Permit	No. : 508 / AR0048836 001
Report Date : 09	9/30/20

Sample Date : 09/24/20 Sample Time : 1411 Sample Type : GRAB WATER Sample From : #14 (508)

Laboratory Analysis

2	Delivery By : NTR Work Order : Purchase Order :
	Quality Assurance
	Precision Accura

Collected By: NTR

curacy
ecovery
99.9 *
N/A *
N/A *
N/A
N/A *
105.0 *
N/A
N/A

* QA data shown is from a different sample or standard on the same date.

Signature

Environmental Services Co., Inc.

Environmental	Services	Company,	Inc.
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Control Number: 2009010453Sample Date :Customer Name : CLINTON, EAST GW16Sample Time :Customer/Permit No. : 509 / AR0048836 001Sample Type :Report Date : 09/29/20Sample From :	09/24/20Collected By: NTR1347Delivery By : NTRGRAB WATERWork Order :#16 (509)Purchase Order :
Analysis <u>Date Time By</u> <u>Parameter</u> <u>Result</u> <u>Notes</u> 09/24 1347 NTR Dry Well 0.00	s Quantity Method Quality Assurance Precision Accuracy % RPD % Recovery N/A N/A

Signature	hrost Mullis
	Environmental Services Co., Inc.

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Control Number: 2009010454	Sample Date : 09/24/20	Collected By: NTR
Customer Name : CLINTON, EAST GW17	Sample Time : 1352	Delivery By : NTR
Customer/Permit No. : 649 / AR0048747 001	Sample Type : GRAB WATER	Work Order :
Report Date : 10/05/20	Sample From : #17 (649)	Purchase Order :

	Quality 2	Assurance				
Analysis					Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u> <u>Quantity</u>	Method	% RPD	% Recovery
09/25 1446 MRR	Chloride (as Cl)	< 0.1 mg/L		SM1997 4500ClC	0.00	99.9
09/24 1353 NTR	pH	6.1 S.U.		SM 2011 4500-H+B	0.00	N/A *
10/01 0825 KNM	Solids, Total Dissolved	191.6 mg/L		SM1997 2540 C	0.00	N/A *
09/24 1353 NTR	Spec. Conductance @ 25 C	76.300 umho,	/c	SM1997 2510B	0.34	N/A *
09/24 1353 NTR	Temperature	19.30 °C		SM 2000 2550 B	0.00	N/A *
09/28 1441 MRR	Nitrate + Nitrite	6.02 mg/L		HACH 10206	2.30	105.0 *
09/24 1352 NTR	Well Depth, Total	17.50 Feet			N/A	N/A
09/24 1352 NTR	Depth to Water	12.38 Feet			N/A	N/A
					1	
* QA data sho	wn is from a different samp	le or standard on t	the same date.			

Signature Environmental Services Co., Inc.



EGroun	Environmental Services Company Little Rock, AR 72211 Groundwater Monitoring Chain of Custody							Sampler Name(s): Ned Ryevson and Signature: Mug Ryev										
		_		_				Samp	ole Dat	:e:	1-24	-202	20					
Sample Identification (Customer #)	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth	pН				Sp	ecific Co	onductar	nce		Tempe Degr	erature ees C		Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (8 oz Plastic H2SO4)
Clinton Ea	ast Wells				#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
#13 (507)	2009010451	1449	9'4"	15' 4''	6.2	6.2	6.2	1450	145:4	144.9	145.1	1450	18.5	18:7	15.6	1450	x	x
#14 (508)	2009010452	141	8'3"	13′ 1″	6.3	6.2	6.2	1413	119.6	1192	119.2	1413	18.9	18.9	18.8	1413	x	x
#16 (509)	20090,0453	1347		14' 0"	\mathcal{D}	RY	N	FL	L								- <u>x</u> -	x
#17 (649)	2009010454	1352	12'95"	17' 6"	6.1	6.0	61	1353	76.3	76.5	76.6	1353	19.3	19.4	19.2	1353	x	x
									_12_2						1			
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Relinquished	by: Ned Pyen - Ne	d Ryens	Time:		R	leceive	d By La	1b: 10	M.	M.	Benl	Nog	Date	:: 1/z	4/20	Tiı	ne:1645	-
Comments								8	V	\mathcal{O}		υ						
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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2010010322	Sample Date : 10/22/20	Collected By: NTR
Customer Name : CLINTON, EAST GW13	Sample Time : 1307	Delivery By : NTR
Customer/Permit No. : 507 / AR0048836 001	Sample Type : GRAB WATER	Work Order :
Report Date : 10/30/20	Sample From : 13 (507)	Purchase Order :

	Laboratory Analysis									
Analysis						Precision	Accuracy			
Date Time By	Parameter	Result	<u>Notes</u>	Quantity	Method	<u> </u>	% Recovery			
10/29 1450 BXW	Chloride (as Cl)	10.0	mg/L		SM1997 4500ClC	0.00	90.0			
10/22 1307 NTR	рН	6.2	S.U.		SM 2011 4500-H+B	0.00	N/A *			
10/23 1530 EDA	Solids, Total Dissolved	80.0	mg/L		SM1997 2540 C	4.45	N/A *			
10/22 1307 NTR	Spec. Conductance @ 25 C	188.400	umho/c		SM1997 2510B	1.90	N/A *			
10/23 1430 EDA	Nitrate + Nitrite	1.12	mg/L		HACH 10206	2.06	105.0 *			
10/22 1307 NTR	Well Depth, Total	15.33	Feet			N/A	N/A			
10/22 1307 NTR	Depth to Water	8.13	Feet			N/A	N/A			

* QA data shown is from a different sample or standard on the same date.

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Control Number: 2010010323 Customer Name : CLINTON, EAST GW14 Customer/Permit No. : 508 / AR0048836 001 Report Date : 10/30/20 Sample Date : 10/22/20 Sample Time : 1250 Sample Type : GRAB WATER Sample From : 14 (508) Collected By: NTR Delivery By : NTR Work Order : Purchase Order :

	Quality Assurance						
Analysis						Precision	Accuracy
Date Time By	Parameter	Result	Notes	Quantity	Method	<u> </u>	<u>% Recovery</u>
10/29 1450 BXW	Chloride (as Cl)	10.0	mg/L		SM1997 4500ClC	0.00	90.0 *
10/22 1250 NTR	рН	5.8	S.U.		SM 2011 4500-H+B	0.00	N/A *
10/23 1530 EDA	Solids, Total Dissolved	< 2.5	mg/L		SM1997 2540 C	4.45	N/A *
10/22 1250 NTR	Spec. Conductance @ 25 C	129.200	umho/c		SM1997 2510B	1.90	N/A *
10/23 1430 EDA	Nitrate + Nitrite	< 0.23	mg/L		HACH 10206	2.06	105.0 *
10/22 1250 NTR	Well Depth, Total	13.08	Feet			N/A	N/A
10/22 1250 NTR	Depth to Water	9.66	Feet			N/A	N/A
10/22 1250 NTR	Depth to Water	9.66	Feet			N/A	N/A

* QA data shown is from a different sample or standard on the same date.

Signature

Environmental Services Co., Inc.

Tel	Corporate Office 13715 West Markham Little Rock, AR 72211 . (501)221-2565 Fax (501)221	1-1341	Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172								
Control Number: Customer Name : Customer/Permit Report Date : 10	2010010324 CLINTON, EAST GW16 No. : 509 / AR0048836 001 0/26/20	Sample Date : 10 Sample Time : Ni Sample Type : GI Sample From : 10	D/22/20 A RAB WATER 5 DRY WELL	Collected By: NTR Delivery By : NTR Work Order : Purchase Order :							
Analysis <u>Date Time By</u> 10/22 1200 NTR	<u>Parameter</u> Dry Well	<u>Result</u> <u>Notes</u> 0.00	Quantity	<u>Method</u>	Quality 7 Precision <u>% RPD</u> N/A	Assurance Accuracy <u>% Recovery</u> N/A					
* QA data show	wn is from a different sample	e or standard on the same	date.								

Signature

Environmental Services Co., Inc.

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2010010325	Sample Date : 10/22/20	Collected By: NTR
Customer Name : CLINTON, EAST GW17	Sample Time : 1236	Delivery By : NTR
Customer/Permit No. · 649 / AR0048747 001	Sample Type : GRAB WATER	Work Order :
Report Date : 10/30/20	Sample From : 17 (649)	Purchase Order :

	Laboratory Analysis									
Analysis					Precision	Accuracy				
Date Time By	Parameter	<u>Result</u> <u>Notes</u>	Quantity	Method	<u> </u>	<u>% Recovery</u>				
10/29 1450 BXW	Chloride (as Cl)	10.0 mg/L		SM1997 4500ClC	0.00	90.0 *				
10/22 1236 NTR	pH	5.5 S.U.		SM 2011 4500-H+B	0.00	N/A *				
10/23 1530 EDA	Solids, Total Dissolved	146.7 mg/L		SM1997 2540 C	4.45	N/A *				
10/22 1236 NTR	Spec. Conductance @ 25 C	93.900 umho/c		SM1997 2510B	1.90	N/A *				
10/23 1430 EDA	Nitrate + Nitrite	5.86 mg/L		HACH 10206	2.06	105.0 *				
10/22 1236 NTR	Well Depth, Total	17.50 Feet			N/A	N/A				
10/22 1236 NTR	Depth to Water	12.58 Feet			N/A	N/A				

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

Environmental Services Co., Inc.

· · ·			Compa					Samn	ler Na	me(s)	. Ne	dR	1,2150	2				
E	Little Rock,	AR 72	211	iy				and S	ignatu	re:		w (Ryg					
Groun	dwater Monitori	ing Chai	in of Cus	stody				Samr	ole Dat	e: (Deto	ber	22	20.	20			
Sample Identification (Customer #)	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth		р	Н		Sp	ecific Co	onductar	ice	/	Tempe Degre	erature ees C		Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (1 L Plastic H2SO4)
Clinton W	ells				#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
#13 (507)	2010010322	1307	8 112	15′ 4″	6.2	6.3	6.3	1307	188.4	188.1	1882	1307	219	22.0	2a. O	1307	x	x
#14 (508)	2010010323	1250	9'8'	13′ 1″	5.8	5.8	5,7	1250	129.2	129.6	132,0	1250	21.4	2).4	21.4	1250	x	Х
#16 (509)	2010010 324	-	-	14' 0''	-DR	γV	JE1	<u> </u>	ACTION AND ADDRESS OF ADDRES	na beraylardıko den seven termiye							X	X
#17 (649)	2010100325	1236	12'7"	17' 6''	5.5	5.5	5.5	1236	93.9	944	94.1	1236	20.6	20.4	20.3	1236	x	x
_																		
																		117270727903908000000
	//		l	1910			-1 - 1 -	L A	Mor		L	NAIGA	L	1017	7/20]		r)
Relinguished Comments	:		Time	: 110	[F	(eceive	<u>a by La</u>	<u>10: - </u>	<u></u>	<u>r er</u> c	I Jel	Man	Page		of 1		<u>ne: (/ (</u>	V
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	(CLINTON W	CITY OF CLI ATER AND SEW P.O. BOX 277 CLINTON, AR 72 TELEPHONE (501) 745-27	NTON /ER DEPARTMENT ⁰³¹ ⁵⁻⁴³²⁰ 164	
	TO	ESC		
	ATTN:	JOYCE		
	FAX#:	501-221-1341		
	FROM:	DONNA		
MESSAGE: <u>East Plan</u> West Plant	Yearly Re, +: 43.296 r : No Spra	port 2020 ng 123 inches	1437.28 Acres	
		/		
Crops 61	Own: Bermuda	a Hay.		· ·
East Plant	Owners : 5	teve Bone - Wil	11 Dawson	
Dest Plant	Disners: Da	nny Boone, Roy 6	ray Jennings, Virginia S	tevens

IF ALL PAGES ARE NOT RECEIVED PLEASE NOTIFY AT ONCE!

Clinton Water & Sewer East Plant

Annual Report Permit AR0048836 & 5130-WR-2 January 2021 – December 2021

Report Revision Date: August 16, 2022



Environmental Services Company, Inc.

<u>Corporate Office</u> <u>13715 West Markham</u> <u>Little Rock, Arkansas 72211</u> <u>501-221-2565 (p)</u> <u>501-221-1341 (f)</u> <u>www.esclabs.com</u> Carlsbad, New Mexico 575-887-7372 (7ESC) Albuquerque, New Mexico 888-372-3477 Springdale, Arkansas 479-750-1170

Clinton Water and Sewer Department Clinton, AR East WWTP 5130-WR-2 Irrigation Water Calendar Year 2021

	2021 Application Data							
	Annual	Million	Number	Gallons	Pounds	Application		
Parameter	Concentration	Gallons/	of	per	per	Since 2003		
	(mg/L)	Year	Acres	Acre-Year	Acre	Pounds/Acre		
CBOD	< 2.0000	68.112	86.00	792,000.0	13.219	****		
Sodium Absorption Ratio	51.7228	68.112	86.00	792,000.0	341.865	****		
Fecal Coliform	< 1.0000	68.112	86.00	792,000.0	6.610	****		
Total Suspended Solids	2.5000	68.112	86.00	792,000.0	16.524	****		
Potassium	4.6100	68.112	86.00	792,000.0	30.470	****		
Total Phosphorus	0.7170	68.112	86.00	792,000.0	4.739	****		
Total Kjeldahl Nitrogen	12.9667	68.112	86.00	792,000.0	85.704	871.40		
Ammonia Nitrogen	5.1200	68.112	86.00	792,000.0	33.841	241.80		
Nitrate + Nitrite Nitrogen	4.6200	68.112	86.00	792,000.0	30.536	163.63		
BOD-5	16.2333	68.112	86.00	792,000.0	107.295	1,473.32		
Arsenic	< 0.0100	68.112	86.00	792,000.0	0.066	0.70		
Cadmium	< 0.0200	68.112	86.00	792,000.0	0.132	0.44		
Copper	< 0.0200	68.112	86.00	792,000.0	0.132	0.50		
Lead	< 0.0100	68.112	86.00	792,000.0	0.066	0.84		
Mercury	< 0.0033	68.112	86.00	792,000.0	0.022	0.13		
Selenium	< 0.0150	68.112	86.00	792,000.0	0.099	0.96		
Zinc	< 0.0500	68.112	86.00	792,000.0	0.330	5.96		
Conductivity, minimum (mhos/cm)*	144.90							
Conductivity, maximum (mhos/cm)*	215.00							
pH, minimum (SU)*	7.30							
pH, maximum (SU)*	8.40							
Nitrogen Application Rate (lbs N/acre/year)	62.97							

* Current year values

Crop Grown: Bermuda Hay

** See sample results from July 25, 2022

s (2207010292, page 52 of this report) as requested by ADEQ per ADEQ request

Sample ID	Clinton East	40.24 LA PB 3						1	
Control Number	2103010415								
							4.1		
		t Quarter	2n	d Quarter	<u>- 3rc</u>	d Quarter	4th	Quarter	
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	03/19/21	718.350							
Ammonia Nitrogen	03/19/21	0.1800							
PAN	03/19/21	13.10							
Phosphorous	03/19/21	1.9745							
Potassium	03/19/21	743.67							
Arsenic	03/19/21	6.632							
Cadmium	03/19/21	< 0.017							
Copper	03/19/21	7.359							
Lead	03/19/21	15.942							
Magnesium	03/19/21	799.24							
Mercury	03/19/21	0.0800							
Molybdenum	03/19/21	1.320							
Nickel	03/19/21	18.889							
Selenium	03/19/21	1.274							
Zinc	03/19/21	7.359							
Cation Exchange Capacity (meq)	03/19/21	14.2506							
Conductivity (umhos/cm)	03/19/21	213.6459							
Sodium Absorption Ratio	03/19/21	0.1777							
pH (SU)	03/19/21	6.40							

Sample ID	Clinton East	40.24 LA PB 30										
Control Number	2103010416											
	15	st Ouarter	2r	nd Ouarter	31	d Ouarter	4tl	h Ouarter				
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical				
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)				
Nitrate Nitrogen	03/19/21	75.810										
Ammonia Nitrogen	03/19/21	0.3120										
PAN	03/19/21	23.80										
Phosphorous	03/19/21	1.1125										
Potassium	03/19/21	1146.90										
Arsenic	03/19/21	12.436										
Cadmium	03/19/21	< 0.047										
Copper	03/19/21	20.893										
Lead	03/19/21	24.773										
Magnesium	03/19/21	1745.20										
Mercury	03/19/21	0.1530										
Molybdenum	03/19/21	3.628										
Nickel	03/19/21	31.567										
Selenium	03/19/21	3.439										
Zinc	03/19/21	114.311										
Cation Exchange Capacity (meq)	03/19/21	32.4005										
Conductivity (umhos/cm)	03/19/21	299.7150										
Sodium Absorption Ratio	03/19/21	0.4248										
pH (SU)	03/19/21	6.90			.							

Sample ID	Clinton East	55.57 LA PB 10							
Control Number	2103010417								
	<u> </u>	/ O	2		2		441		
	15	Quarter	2n		ST 1	d Quarter	40		
-	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	03/19/21	176.080							
Ammonia Nitrogen	03/19/21	0.4100							
PAN	03/19/21	8.11							
Phosphorous	03/19/21	0.5872							
Potassium	03/19/21	458.23							
Arsenic	03/19/21	3.628							
Cadmium	03/19/21	< 0.024							
Copper	03/19/21	5.095							
Lead	03/19/21	9.206							
Magnesium	03/19/21	589.61							
Mercury	03/19/21	< 0.0450							
Molybdenum	03/19/21	1.677							
Nickel	03/19/21	9.919							
Selenium	03/19/21	1.781							
Zinc	03/19/21	28.706							
Cation Exchange Capacity (meq)	03/19/21	10.3785							
Conductivity (umhos/cm)	03/19/21	221.7245							
Sodium Absorption Ratio	03/19/21	0.2123							
pH (SU)	03/19/21	6.80							

Sample ID	Clinton East 55.57 LA PB 3								
Control Number	2103010418								
	1s	t Quarter	2n	d Quarter	3r	d Quarter	4t}	1 Quarter	
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	03/19/21	202.960							
Ammonia Nitrogen	03/19/21	0.6620							
PAN	03/19/21	7.21							
Phosphorous	03/19/21	2.3153							
Potassium	03/19/21	526.50							
Arsenic	03/19/21	4.459							
Cadmium	03/19/21	< 0.028							
Copper	03/19/21	5.939							
Lead	03/19/21	9.530							
Magnesium	03/19/21	752.59							
Mercury	03/19/21	< 0.0310							
Molybdenum	03/19/21	1.950							
Nickel	03/19/21	13.158							
Selenium	03/19/21	2.218							
Zinc	03/19/21	39.203							
Cation Exchange Capacity (meq)	03/19/21	12.7056							
Conductivity (umhos/cm)	03/19/21	199.6038							
Sodium Absorption Ratio	03/19/21	0.3140							
pH (SU)	03/19/21	6.90							

Sample ID	Clinton East 55.57 LA PB 30							
Control Number	2103010419							
	1s	t Ouarter	2n	d Ouarter	3r	d Ouarter	4th	n Ouarter
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)
Nitrate Nitrogen	03/19/21	291.360						
Ammonia Nitrogen	03/19/21	0.1960						
PAN	03/19/21	8.56						
Phosphorous	03/19/21	1.4577						
Potassium	03/19/21	693.62						
Arsenic	03/19/21	4.508						
Cadmium	03/19/21	<0.028						
Copper	03/19/21	3.656						
Lead	03/19/21	10.051						
Magnesium	03/19/21	612.17						
Mercury	03/19/21	< 0.0440						
Molybdenum	03/19/21	1.977						
Nickel	03/19/21	10.643						
Selenium	03/19/21	2.247						
Zinc	03/19/21	25.087						
Cation Exchange Capacity (meq)	03/19/21	55.6369						
Conductivity (umhos/cm)	03/19/21	245.5300						
Sodium Absorption Ratio	03/19/21	0.0676						
pH (SU)	03/19/21	6.60						

Sample ID	Clinton East LA Airport 9								
Control Number	2103010420	1							
					r	,	r		
	1s	t Quarter	2n	d Quarter	3r	d Quarter	4th	1 Quarter	
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	03/19/21	323.640							
Ammonia Nitrogen	03/19/21	4.2550							
PAN	03/19/21	6.12							
Phosphorous	03/19/21	< 0.2567							
Potassium	03/19/21	375.01							
Arsenic	03/19/21	3.933							
Cadmium	03/19/21	< 0.021							
Copper	03/19/21	3.528							
Lead	03/19/21	7.595							
Magnesium	03/19/21	396.40							
Mercury	03/19/21	< 0.0440							
Molybdenum	03/19/21	1.473							
Nickel	03/19/21	8.489							
Selenium	03/19/21	1.682							
Zinc	03/19/21	16.986							
Cation Exchange Capacity (meq)	03/19/21	9.2592							
Conductivity (umhos/cm)	03/19/21	97.4922							
Sodium Absorption Ratio	03/19/21	0.1891							
pH (SU)	03/19/21	7.10							

Sample ID	Clinton East	LA WD 13						-	
Control Number	2103010421								
							· · · · ·		
	<u> </u>	t Quarter	2n	d Quarter	3rc	d Quarter	4th	Quarter	
	Sample	Analytical	Sample	Analytical	Sample	Analytical	Sample	Analytical	
Parameter	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	Date	Results (mg/Kg)	
Nitrate Nitrogen	03/19/21	6.564							
Ammonia Nitrogen	03/19/21	0.0290							
PAN	03/19/21	5.37							
Phosphorous	03/19/21	0.1101							
Potassium	03/19/21	674.19							
Arsenic	03/19/21	5.415							
Cadmium	03/19/21	< 0.038							
Copper	03/19/21	4.988							
Lead	03/19/21	9.896							
Magnesium	03/19/21	735.81							
Mercury	03/19/21	0.0560							
Molybdenum	03/19/21	2.538							
Nickel	03/19/21	13.396							
Selenium	03/19/21	2.699							
Zinc	03/19/21	31.241							
Cation Exchange Capacity (meq)	03/19/21	12.8939							
Conductivity (umhos/cm)	03/19/21	402.1440							
Sodium Absorption Ratio	03/19/21	0.2225							
pH (SU)	03/19/21	6.80							

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Collected By: HMK

Delivery By : HMK

0.46

0.80

89.2 *

103.0 *

Work Order :

Control Number: 2103010676 Customer Name : CLINTON, EAST IW Customer/Permit No. : 619 / AR0048836 001 Report Date : 08/02/

Lead

04/01 0800 KNM Sodium Absorption Ratio

Nitrate + Nitrite

Analysis Date Time By

03/19 1644 EDA

03/30 1023 AKA

03/25 1017 AKA

03/30 1508 KNM

03/19 1330 HMK

03/30 1508 KNM

03/30 1508 KNM

03/30 1508 KNM

03/30 1508 KNM

04/06 1433 BXW

03/30 1508 KNM

03/26 1845 KNM

03/30 1508 KNM

03/22 1331 BXW

Sample Date : 03/19/21 Sample Time : 1330 Sample Type : GRAB WWATER

8/02/22	Sample From : IRRIGATION WATER Purchase Order :							
Ŀ	aboratory Analysis	3			Quality 2	Assurance		
					Precision	Accuracy		
Parameter	Result	<u>Notes</u>	Quantity	Method	😤 RPD	% Recovery		
BOD, 5-day	18.0 mg/L			SM 2011 5210 B	14.97	106.0 *		
Ammonia as N, (HACH/SM)	5.47 mg/L			SM 2011 4500-NH3-G	1.57	90.3 *		
Total Kjeldahl Nitrogen	16.7 mg/L			02/2014 HACH 10242	8.01	115.0 *		
Potassium	4.6100 mg/L			EPA 200.8	5.34	111.2 *		
рН	8.4 S.U.			SM 2011 4500-H+B	0.00	N/A *		
Copper	< 0.0200 mg/L			EPA 200.8	0.41	101.5 *		
Zinc	< 0.0500 mg/L			EPA 200.8	4.07	102.0 *		
Arsenic	< 0.0100 mg/L			EPA 200.8	0.29	99.7 *		
Selenium	< 0.0150 mg/L			EPA 200.8	6.67	99.6 *		
Spec. Conductance @ 25 C	211.610 umho/	'c		EPA 120.1				
Cadmium	< 0.02000 mg/L			EPA 200.8	1.05	105.6 *		
Mercury	0.0010 mg/L			EPA 245.7	0.56	111.4 *		

* QA data shown is from a different sample or standard on the same date.

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< 0.01000 mg/L

6.53 mg/L

51.7228 Ratio

Signature

Inc.

EPA 200.8

HACH 10206

AGRN 724

AEG

Environmental Services Company, Inc. Corporate Office 13715 West Markham P.O. Box 55146

Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

	C	Client Information			[Pr	oject Inf	ormatior)				Rec	lues	sted	Para	ame	eters	;
Client:		Clinton, East IW			Permit/Pro	oject #:		AR0048	836										
Address:		P.O. Box 277			Purchase	Order #:													
_		Clinton, AR 72031			Work Ord	er#							91.)						
Phone:		501-745-4320			Sampler N	lame(s):	Har	der K	elly				102((s)				
Fax:		501-745-2164]		1	• /					4+0		nen				
Contact:		Mr. Phil Graham			and Signa	ture(s):	$\overline{\mathbf{\Pi}}$	7					8 Z		Com				
ESC Client Nu	mber:	619									see (
Sam	nple Iden	tification		Sample	Collection		Γ	Sample (Containers	5		(j)	EN-	(16.0	ıls (S				
Identificat	tion	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	tive	#		NH3	TKN	Meta				
Irrigatio	on Water	2103010676	3/19/21	1330	Grab	Wwater	Plastic	1 Liter	Cool ≤ 6° C		1	X					-		
		1	1	1	Grab	Wwater	Plastic	8 oz	Cool <u><</u> 6° C, H2SO4 to pH <2		1		X	X			-		
			F	L	Grab	Wwater	Plastic	8 oz	HNO3 to pH	1 < 2	1				Х				
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					1	1											+		
																	-		
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Relinquished By: (Signa	ture and Printed	Namė)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time		usto	dy Se	als:					
Relinquished By: (Signal	ture and Printed	Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time	-	urnal	round		-	Intact	?		
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Handusried By: (Signa	why h		3/19/21	1643	Received for Lab By: (Signature and Printed Name) Date Time			ς Γ ^ν	vere	sampi Yes		openy	preserv N	/ea: 10	-				
1 ()	10				Flow Data Field Test Time Analyst				t F	Resu	lt	Resu	lt	[Jnits				
Comments: N	Aetals: Hg	(50.15), Cu(29.HW), 2	Zn(30.HW),	As(33.HW),), Se(34.HW) Analyst. pH: 1330 HMIC				<u> </u>	8.4		8,1	$\left\{ \right\}$	S.U.	<u> </u>				
					Reading:		Oonddot.		~		-90	╘──┼	-2	1+		<u> </u>			
				Units:					-		$\neg \uparrow$					······			
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BXW

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Collected By: DMP

Delivery By : DMP

Purchase Order :

Work Order :

Control Number:	2107010259
Customer Name :	CLINTON, EAST IW
Customer/Permit	No. : 619 / AR0048836 001
Report Date : 08	3/02/21

Sample Date : 07/26/21 Sample Time : 1155 Sample Type : GRAB WWATER Sample From : IRRIGATION WATER

		Laboratory Analysis			Quality A	ssurance
Analysis					Precision	Accuracy
<u>Date Time By</u>	Parameter	ResultNo	<u>tes</u> <u>Quantity</u>	Method	% RPD	% Recover
07/28 0536 BXW	BOD, 5-day	7.9 mg/L		SM 2011 5210 B	16.95	96.0
7/28 1010 EJD	Ammonia as N, (HACH/SM)	1.66 mg/L		SM 2011 4500-NH3-G	0.78	97.9
07/28 1110 AKA	Total Kjeldahl Nitrogen	7.1 mg/L		02/2014 HACH 10242	0.00	105.0
)7/26 1200 DMP	рH	7.3 S.U.		SM 2011 4500-H+B	0.00	N/A
07/29 2311 NTR	Copper	< 0.0200 mg/L		EPA 200.8	6.34	122.0
07/29 2311 NTR	Zinc	< 0.0500 mg/L		EPA 200.8	5.99	109.7
)7/29 2311 NTR	Arsenic	< 0.0100 mg/L		EPA 200.8	9.89	115.1
07/29 2311 NTR	Selenium	< 0.0150 mg/L		EPA 200.8	12.93	96.3
7/26 1620 DMP	Spec. Conductance @ 25 C	144.900 umho/c		EPA 120.1	0.07	N/A
07/29 2311 NTR	Cadmium	< 0.0200 mg/L		EPA 200.8	8.32	92.0
7/27 1523 KNM	Mercury	< 0.0050 mg/L		EPA 245.1	10.53	99 3
7/29 2311 NTR	Lead	< 0.0100 mg/L		EPA 200.8	4.30	99.3
07/27 1155 EJD	Nitrate + Nitrite	3.22 mg/L		HACH 10206	3.32	100.0

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

Environmental Services Co., Inc.

NIL

En (...mental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

Client Information				Project Information					Requested Parameters										
Client:		Clinton, East IW			Permit/Pro	oject #:		AR0048	836						Γ				
Address:		P.O. Box 277			Purchase Order #:														
		Clinton, AR 72031			Work Order #								<u>;</u>						
Phone:		501-745-4320			Sampler N	lame(s):	FIFTI DECRIF					02(9							
Fax:	501-745-2164									<u> </u>		Ž +		ents					
Contact:	Mr. Phil Graham			and Signa	ture(s).	TT.	- 612-	PIZ	PIJ /2			103		mm					
ESC Client Number: 619						y chick have					A), A		U U e						
Sam	nple Iden	tification		Sample	Collection		T	Sample	Containana			î.	4(15.	6.C)	s (Se				
Identification ESC Control #		ESC Control #	Date	Time	Type Matrix Type Values 2		Dragon) 00	H3-P	L) XX	etais						
Irrigatio	n Water	2107010759	07/2/201	1155	Grob		Type	volume	Preserva	auve	#		z	F	Σ	┝──┥			
Ingato	n valer	2.010102)	Unequi	100	Grab	VVwater	Plastic	1 Liter	$Cool \leq 6^{\circ} C$ $Cool \leq 6^{\circ} C$,	;		×	 	l					
					Grab	Wwater	Plastic	8 oz	H2SO4 to pH <2		1		X	X					
		<u> </u>	<i></i>		Grab	Wwater	Plastic	8 oz	HNO3 to p	H <2	1	ļ!			X				
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												Regul	lar	Ń		Spec	ial		
Relinquished By: (Signature and Printed Name)		TILBIZI	Time	Received for Lab	By: (Signature and	Printed Name	e) 1a	Date	Time		Were	sampl	ples properly prese		preser	ved:			
			y y	Flow Da	ata)	Field Test	7.7474	Analyst		Resu	ilt	Resu	ilt T	No					
Comments: Metals: Hg(50.15), Cu(29.HW), Zn(30.HW), As(33.HW), \$			Se(34.HW)	Analyst:		pH:	1+51200	> DUP		7375 SU									
Cd(48.HW), Pb(82.HW), 00.MD				Time:		Conduct:	1620	2 DAP		744.9		9 19 20 MHO			OS				
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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341 Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Collected By: JGK

Delivery By : JGK

Purchase Order :

Work Order :

Control Number:	2111010350	Sample	Date
Customer Name :	CLINTON, EAST IW	Sample	Time
Customer/Permit	No. : 619 / AR0048836 001	Sample	Туре
Report Date : 12	2/15/21	Sample	From

Sample Date : 11/15/21 Sample Time : 1010 Sample Type : GRAB WWATER Sample From : IRRIGATION WATER

		Laboratory Analysis	3			Quality 7	Assurance
Analysis			_			Precision	Accuracy
Date Time By	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
11/17 0935 SLL	BOD, 5-day	22.8 mg/L			SM 2011 5210 B	4.33	108.0 *
11/23 1104 SLL	Ammonia as N, (HACH/SM)	8.23 mg/L			SM 2011 4500-NH3-G	0.00	103.0 *
11/29 0550 NTR	Total Kjeldahl Nitrogen	15.1 mg/L			02/2014 HACH 10242	4.17	96.0 *
11/15 1015 JGK	рН	8.0 S.U.			SM 2011 4500-H+B	0.00	N/A *
11/18 0000 NTR	Copper	< 0.0200 mg/L			EPA 200.8	0.44	96.6 *
11/18 0000 NTR	Zinc	< 0.0500 mg/L			EPA 200.8	0.96	90.0 *
11/18 0000 NTR	Arsenic	< 0.0100 mg/L			EPA 200.8	0.01	88.6 *
11/18 0000 NTR	Selenium	< 0.0150 mg/L			EPA 200.8	1.70	89.7 *
11/15 1015 JGK	Electric Conductivity	215.00 umho,	/c		EPA 9050A(MOD)	0.00	100.0 *
11/18 0000 NTR	Cadmium	< 0.0200 mg/L			EPA 200.8	0.44	87.0 *
12/14 1200 NTR	Mercury	< 0.0050 mg/L			EPA 245.1	4.45	81.6 *
11/18 0000 NTR	Lead	< 0.0100 mg/L			EPA 200.8	0.25	93.1 *
12/01 1000 NTR	Nitrate + Nitrite	4.11 mg/L			HACH 10206	5.29	95.5

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

Environmental Services/Co., Inc.

En mental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

Client Information					Project Information							Req	lues	sted	Parameters			
Client:	Clinton, East IW			Permit/Project #: AR0048836														
Address:	P.O. Box 277			Purchase (Order #:													
	Clinton, AR 7203	1		Work Order #							91.)							
Phone:	Phone: 501-745-4320			Sampler N	ame(s):	5.10	nocmsil	ارز				02((;				
Fax:	501-745-2164			1							1	Z +		Jents				Í
Contact Mr. Phil Graham			and Signat	ure(s):	$\overline{\bigcirc}$					1	NO3		nmo					
ESC Client Number:	619			1		$\overline{}$						(A),		ee C				
Sample Ider	tification	T	Sample	Collection	eneren an	Í	Sample (Container	S		3.)	N(15	16.C	s (S				
Identification	ESC Control #	Date	Time	Type Matrix		Туре			ative	#	go	KH3-	LKN(Metal				
Irrigation Water	2111010360	Ulisto.		Grab	Wwater	Plastic	1 Liter	$Cool < 6^\circ$	2	1	x		<u> </u>					
			1010	Grab	Mwater	Plastic	8.07	$Cool \leq 6^{\circ} C$, H2SO4 to pH <2		1	Ê	Y	Y					
				Grab	Mustor	Diastic	0 02 8 oz		u -2	1		<u>⊢</u>		v				
				Giau	vvwater	Plastic	0.02		-	'		<u> </u>		^				
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Relinquished By: (Signature and Printed	d Name)	Date	Time	Received By: (Signature and Printed Name)			Name) Date		Tin	Time Turr		naround:			Coccial I			
Refinqu)shed By: (Signature and Printed	d Name)	Date	Time	Received for Lab I	By: (Signature and	Printed Name	e)	Date	Time We		Were	Vere samples prope		operly	perly preserved:			
J. M. T. Kocard LI MISTZI 1601		1601	An UM	MM Jacus Thisto		The left Tree t	11/132	1600		Dee	Yes 🖊				No			
Comments: Metals: Ho(50.15) Cu(29 HW/) Zn(30 HW) As(33 HW/)			Se(34 HW)	Analyst		riela Test	Time	Anaiy	'St A	Result				Units				
Cd(48.HW), Pb(82.HW), 00.MD				Time:		Conduct 35	1015	The 2		21	15 215		5	UMHOS				
					Reading:			ļ										
					Units:			1633	THE		This	· Doc	ume	nt is	Page	- 1	of	
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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: Customer Name : Customer/Permit Report Date : 0	2103010321 CLINTON, EAST 001 No. : 495 / AR0048836 001 3/25/21	Compos Sample Sample Sample	site Date:0 e Time : 10 e Type : CC e From : FI	ted By: PHIL GRAHAM/HMK ry By : HMK Drder : ase Order :			
Analysis		Laboratory Analys	sis			Quality i	Assurance
Date Time By	Parameter	Result	Notes	Quantity	Method	Precision 2 DD	* Poccuracy
03/18 1350 HMK	Dissolved Oxygen	9.30 mg/	/L	86.80 #/dav	HACH 10360 R1 2		<u>s Recovery</u>
03/24 1309 AKA	Ammonia as N, (HACH/SM)	1.38 mg/	'L	12.88 #/dav	SM 2011 4500-NH3-G	0.11	101 0 *
03/18 1350 HMK	рН	8.2 S.U	J.		SM 2011 4500-H+B	0.00	$N/\Delta *$
03/23 0940 ZWA	Solids, Total Suspended	< 2.50 mg/	'L	23.33 #/day	SM 2011 2540 D	33,29	$N/\Delta *$
03/18 1805 EDA	E. Coliforms	< 1.0 /10)Oml		06/2012 Colilert18	0.00	N/A
03/18 1805 EDA	Fecal Coliform	< 1.0 /10)Oml		06/2012 Colilert18	0.00	N/A *
03/19 0917 EDA	BOD, Carbonaceous	< 2.0 mg/	'L	18.67 #/day	SM 2011 5210 B	14.63	127.0 *
	F	low 1.120000 M	1GD				

* QA data shown is from a different sample or standard on the same date.

Signature

Environmental Services Co., Inc.

En nmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Client Information Project Information **Requested Parameters** Client: Clinton, East 001 Permit/Project #: AR0048836 ш Address: P.O. Box 277 Purchase Order #: Coli(43.1 Clinton, AR 72031 Work Order # Phone: 501-745-4320 Sampler Name(s): cohan ш (43.IF), Fax: 501-745-2164 CBOD(70.), TSS(28.) Contact: Mr. Phil Graham and Signature(s): Fecal Coliform ESC Client Number: ŅH3-N(15.A) 495 (3X per week) Sample Identification Sample Collection Sample Containers Identification ESC Control # Date Time Type Matrix Type Volume Preservative # 2103010321 **Final Effluent** 3-17-21 10 Am 24Hr. Comp Wwater Plastic 1/2 Gal Cool < 6° C Х 1 10.9M 3/10/21 Cool < 6* C, H2SO4 to pH <2 24Hr. Comp Wwater Plastic Х 8 oz 1 3/18/2 1350 Grab Wwater Plastic 100mls Cool ≤ 6 °C Х 2 telinguished By: (Signature and Printed Name Date Time Received By: (Signature and F Date Time Custody Seals Diahan Philbraham 3-17-21 tanden 10 Am 35 3/18/2 Used? Intact? Relinguished By: (Signature and Printed Name) Date Time Received/By: (Signature and Printed Name [urnaround] C Special Regular Relinguished By: (Signature and Printed Name Date Time Received for Lab By: (Signature and Printed Name) Date Time Were samples properly preserved: 3/12/21 1751 1MMAmon/ Reviduin Wan 3/10/21 HAM. 751 Yes No Flow Data Field Test Time Analyst Result Result Units Comments: <u>द्र</u>ुरे 🗐 Analyst: 1-MIC Grab pH: 1369 HM1C 8.25 8.13 S.U. Time: 1360 Grab DO: 4 9 34 9 8 Z mg/L Reading: 1,12 Units: MGD E Coli Start 805 EDA Fecal Start: This Document is Page 1805 EDA off

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2101010237	Composite Date:01/17/21 -01/18/21	Collected By: WCW
Customer Name : CLINTON, EAST 001	Sample Time : 0900-0900/0900(01/18	Delivery By : WGW
Customer/Permit No. : 495 / AR0048836 001	Sample Type : COMP/GRAB WWATER	Work Order
Report Date : 02/10/21	Sample From : FINAL EFFLUENT	Burchase Order
	1	rurchase order :

	1.4	aboratory Analysis				Quality /	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Ouantity	Method	& DDD	Accuracy & Decenary
01/18 0905 WGW	Dissolved Oxygen	11.11 mg/L		96.29 #/day	SM 2001 4500-0 C		3 Recovery
01/21 1100 AKA	Ammonia as N. (HACH/SM)	8.06 mg/L	(\mathbf{h}) (\mathbf{c})	69.85 #/day	H/CM 11 10005 (4500)	0.00	N/A
01/18 0905 WGW	рН	8 0 S II		05.05 #/uay	R/SM 11 10205/4500	3.44	97.2 *
01/20 1020 282	Phoenhorus Total (as P)	0 717 mg/l		C 22 11/2	SM 2011 4500-H+B	0.00	N/A
01/10 0045 EDA	Colida Total Currended			6.21 #/day	HACH 10209	1.25	112.0
01/19 10043 EDA	Borras, rocar Suspended	9.00 mg/L		78.00 #/day	SM 2011 2540 D	22.39	N/A *
01/18 1653 BXW	E. Colliorms	54.3 /100ml	-		06/2012 Colilert18	0.00	N/A
01/18 1650 BXW	Fecal Collform	86.9 /100m]	•		06/2012 Colilert18	0.00	N/A
02/10 1247 KNM	Cadmium	6.1100 ug/L	(c) N3	0.05 #/day	EPA 200.8	4 00	109 1
01/20 0638 BXW	BOD, Carbonaceous	< 2.0 mg/L		17.33 #/day	SM 2011 5210 B	0 00	200.1
01/19 1015 AKA	Nitrate + Nitrite	0.45 mg/L		3.90 #/dav	HACH 10206	0.00	100.0
				a se	10200	9.25	102.0 *
	Flov	w 1.040000 MGD					

N3 The sample detection is too low to permit accurate quantification, but estimated concentration is less than the laboratory PQL and greater than the laboratory method detection limit.

- * QA data shown is from a different sample or standard on the same date.
- (b) Exceeds Permit Limits for Average Concentration
- (c) Exceeds Permit Limits for Average Quantity

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

Environmental Services Co., Inc.

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vironmental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



CHAIN OF CUSTODY

Springdale, Arkansa 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

Phone: 501-221-2	2565	Fax: 501-221-1341		<u> </u>	1AIN U	if CU:	5101	JY											
	С	lient Information				Pro	oject Inf	ormation					Req	lues	ted	Par	ame	eters	;
Client:		Clinton, East 001			Permit/Pro	ject #:		AR00488	336										
Address:		P.O. Box 277			Purchase (Purchase Order #:						3.E							
		Clinton, AR 72031			Work Orde	Work Order #								oli(4					
Phone:		501-745-4320			Sampler N	Sampler Name(s):			lought	(о ш					
Fax:		501-745-2164			1			**************************************	, , , ,			(8.)		ί.IF),	5				
Contact:		Mr. Phil Graham			and Signat	ure(s):	W. Olin	Nillaval	Anj/			SS(2		n (43	KN				
ESC Client Num	ber:	495 (3X per week)					where a production of the					Т (.	5.A)	lifor	ど				
Samp	ole Ident	tification		Sample	Collection	******	I	Sample (Containers	5		D(70	-N(1	° C	- N				
Identificatio	on	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	CBO	NH3	Fec	4				
Final Efflue	ent www	2101010750	Hizhi-Viski	0900-0960	24Hr. Comp	Wwater	Plastic	1/2 Gal	Cool < 6° C	;	1	x	 						
1		401010237	" _ "	11 L 11	24Hr. Comp	Wwater	Plastic	8 oz	Cool < 6* C, H2SO4 to pH <2		1		x						
		1/18/21	0900	Grab	Wwater	Plastic	100mls	Cool <10° C, Na2S2O3		2			x						
		1	1/17-18/21	0983-6980	24 H2 Com	1. (Waler	Dechi	807	14002 -	4/2					\mathbf{X}	 +			
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Relinguished By: (Signatur	re and Printed	Name)	Date	Time	Received By: (Sig	nature and Printed	i Name)		Date	Tim	ie.	Used Turna	? around	n		Intac	t?		
		·····,					,					Regu	ılar	$\overline{\mathbf{v}}$	I	Spec	ial		
Relinguished By: (Signatur	re and Printed	Name)	Date	Time 1676	Received for Lab	By: (Signature and	Printed Name	9) 1/h	Date	Tim 1674	ie G	Were	samp	les pro	operly	preser	ved:	_	
WWW WWW W	V0.11.00	m (Nilloges)	1.10/21		for f	Flow Da	ata v	Field Test	Time	Analy	st	Resi	ult	Resu	ılt		Units		-
Comments:					IX I	Analyst:		Grab pH:	0405	WGW		8.0	\geq	8.0	<u>کما</u>	S.U.			
				3	ALE A	Reading:		Giab DO.	0905	WFW		11.1	╇	<u> </u>	<u> </u>	mg/L			
Metals	aliqu	oted from (mposi		- MALE	Units:		E Coli Start	1653	BXU									
ILNM	۰. ۱		<i>۱</i>	Ľ				Fecal Start:	1650	BXV	\vee	This	, Doc	umer	nt is	Page	: 1	of [



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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number:	210301041	5					Sample	Da
Customer Name :	CLINTON,	EAST	40.24	LA	PB	3	Sample	Ti
Customer Number	: 3004						Sample	Ty
Report Date : 04	1/24/21						Sample	Fr

Sample Date : 03/19/21 Sample Time : 1155 Sample Type : GRAB SOIL Sample From : EAST LA 40.24 PB3 Collected By: HMK Delivery By : HMK Work Order : Purchase Order :

		Laboratory Analysi:	<u>s</u>			Quality 1	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
04/14 1220 AKA	Ammonia Nitrogen	0.1800 mg/ka	g		SM 1997 4500-NH3 C	7.21	96.3 *
04/13 1809 KNM	Mercury	0.0800 mg/K	g		SW846 7474 02/07	15.92	97.4
03/25 1345 EDA	Nitrate Nitrogen	718.350 mg/kg	g		SM 2000 4500-NO3 E	3.28	101.0 *
04/14 0745 KNM	Phosphorous, Total (as P)	1.9745 mg/kg	g		EPA 365.3	5.65	100.0 *
04/16 1121 KNM	Magnesium	799.24 mg/Kg	g		SW-846 6020A	6.29	110.8 *
04/16 1121 KNM	Potassium	743.67 mg/Kg	g		SW-846 6020A	4.78	97.3 *
03/23 1550 ZWA	pH Soil	6.40 S.U.			SW846 9045C	3.08	N/A
04/16 1121 KNM	Nickel	18.889 mg/Ke	g [°]		SW-846 6020A	4.01	108.4 *
04/16 1121 KNM	Copper	7.359 mg/Kg	g		SW-846 6020A	3.04	109.8 *
04/16 1121 KNM	Zinc	44.201 mg/K	g		SW-846 6020A	3.11	96.8 *
04/24 0800 KNM	Nitrogen, Plant Available	13.10 mg/kg	g		SM1997 4500 N		
04/16 1121 KNM	Arsenic	6.632 mg/Kg	g		SW-846 6020A	2.43	107.4 *
04/16 1132 KNM	Selenium	1.274 mg/Kg	g		SW-846 6020A	2.98	103.8 *
04/19 1550 ZWA	Specific Conductance	213.6459 umhos	S		EPA (MOD)9050A	7.20	87.5
04/16 1132 KNM	Molybdenum	1.320 mg/Kg	g		SW-846 6020A	1.18	108.3 *
04/16 1121 KNM	Cadmium	< 0.017 mg/Kg	g		SW-846 6020A	3.65	107.8 *
03/22 1124 ZWA	Solids, % Total	74.441 %			SM 1997 2540 G	0.44	N/A *
04/16 1121 KNM	Lead	15.942 mg/Kg	g		SW-846 6020A	3.42	106.6 *
04/17 0800 KNM	Cation Exchange Capacity	14.2506 meg			EPA 9081		
04/17 0800 KNM	Sodium Absorption Ratio	0.1777 Ratio	0		AGRN 724		

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Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

		Laboratory Analysis	-			Quality 3	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes _	Quantity	Method	୫ RPD	% Recovery
04/14 1220 AKA	Ammonia Nitrogen	0.3120 mg/kg			SM 1997 4500-NH3 C	7.21	96.3 *
04/13 1809 KNM	Mercury	0.1530 mg/Kg			SW846 7474 02/07	15.92	97.4 *
03/25 1345 EDA	Nitrate Nitrogen	75.810 mg/kg			SM 2000 4500-NO3 E	3.28	101.0 *
04/14 0745 KNM	Phosphorous, Total (as P)	1.1125 mg/kg			EPA 365.3	5.65	100.0 *
04/16 1127 KNM	Magnesium	1745.20 mg/Kg			SW-846 6020A	6.29	110.8 *
04/16 1127 KNM	Potassium	1146.90 mg/Kg			SW-846 6020A	4.78	97.3 *
03/23 1550 ZWA	pH Soil	6.90 S.U.			SW846 9045C	3.08	N/A *
04/16 1127 KNM	Nickel	31.567 mg/Kg			SW-846 6020A	4.01	108.4 *
04/16 1127 KNM	Copper	20.893 mg/Kg			SW-846 6020A	3.04	109.8 *
04/16 1127 KNM	Zinc	114.311 mg/Kg			SW-846 6020A	3.11	96.8 *
04/24 0800 KNM	Nitrogen, Plant Available	23.80 mg/kg			SM1997 4500 N		
04/16 1127 KNM	Arsenic	12.436 mg/Kg			SW-846 6020A	2.43	107.4 *
04/16 1132 KNM	Selenium	3.439 mg/Kg			SW-846 6020A	2.98	103.8 *
04/19 1550 ZWA	Specific Conductance	299.7150 umhos			EPA (MOD)9050A	7.20	87.5 *
04/16 1132 KNM	Molybdenum	3.628 mg/Kg			SW-846 6020A	1.18	108.3 *
04/16 1127 KNM	Cadmium	< 0.047 mg/Kg			SW-846 6020A	3.65	107.8 *
03/22 1124 ZWA	Solids, % Total	28.816 %			SM 1997 2540 G	0.44	N/A *
04/16 1127 KNM	Lead	24.773 mg/Kg			SW-846 6020A	3.42	106.6 *
04/17 0800 KNM	Cation Exchange Capacity	32.4005 meg			EPA 9081		
04/17 0800 KNM	Sodium Absorption Ratio	0.4248 Ratio			AGRN 724		
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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2103010417	Sample Date : 03/19/21	Collected By: HMK
Customer Name : CLINTON, EAST 55.57 LA PB 10	Sample Time : 1115	Delivery By : HMK
Customer/Permit No. : 511 / AR0048836 001	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/24/21	Sample From : EAST LA 55.57 PB10	Purchase Order :

		Laboratory Analys	<u>is</u>			Quality	Assurance
Analysis						Precision	Accuracy
Date Time By	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
04/14 1220 AKA	Ammonia Nitrogen	0.4100 mg/1	cg		SM 1997 4500-NH3 C	7.21	96.3 *
04/07 1818 KNM	Mercury	< 0.0450 mg/1	٢g		SW846 7474 02/07	19.02	80.9 *
03/25 1345 EDA	Nitrate Nitrogen	176.080 mg/1	ĸġ		SM 2000 4500-NO3 E	3.28	101.0 *
04/14 0745 KNM	Phosphorous, Total (as P)	0.5872 mg/1	(g		EPA 365.3	5.65	100.0 *
04/16 1132 KNM	Magnesium	589.61 mg/1	٢g		SW-846 6020A	6.29	110.8 *
04/16 1132 KNM	Potassium	458.23 mg/1	٢g		SW-846 6020A	4.78	97.3 *
03/23 1550 ZWA	pH Soil	6.80 S.U			SW846 9045C	3.08	N/A *
04/16 1132 KNM	Nickel	9.919 mg/1	(g		SW-846 6J20A	4.01	108.4 *
04/16 1132 KNM	Copper	5.095 mg/1	٢g		SW-846 6020A	3.04	109.8 *
04/16 1132 KNM	Zinc	28.706 mg/1	(g		SW-846 6020A	3.11	96.8 *
04/24 0800 KNM	Nitrogen, Plant Available	8.11 mg/1	(g		SM1997 4500 N		
04/16 1132 KNM	Arsenic	3.628 mg/1	٢g		SW-846 6020A	2.43	107.4 *
04/16 1132 NTR	Selenium	1.781 mg/1	٢g		SW-846 6020A	2.98	108.5 *
04/19 1550 ZWA	Specific Conductance	221.7245 umh	s		EPA (MOD)9050A	7.20	87.5 *
04/16 1132 KNM	Molybdenum	1.677 mg/1	٢g		SW-846 6020A	1.18	108.3 *
04/16 1132 KNM	Cadmium	< 0.024 mg/H	٢g		SW-846 6020A	3.65	107.8 *
03/22 1124 ZWA	Solids, % Total	72.108 %			SM 1997 2540 G	0.44	N/A *
04/16 1132 KNM	Lead	9.206 mg/I	٢g		SW-846 6020A	3.42	106.6 *
04/17 0800 KNM	Cation Exchange Capacity	10.3785 meg			EPA 9081		
04/17 0800 KNM	Sodium Absorption Ratio	0.2123 Rat:	-0		AGRN 724		
		_			1		

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Control Number: 2103010418	Sample Date : 03/19/21	Collected By: HMK
Customer Name : CLINTON, EAST 55.57 LA PB 3	Sample Time : 1125	Delivery By : HMK
Customer Number : 3002	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/24/21	Sample From : EAST LA 55.57 PB3	Purchase Order :

				Laboratory Analys:	is			<u>Quality</u>	Assurance
An	alysi	s						Precision	Accuracy
<u>Date</u>	<u>Time</u>	<u>By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
04/14	1220	AKA	Ammonia Nitrogen	0.6620 mg/1	(g		SM 1997 4500-NH3 C	7.21	96.3 *
04/07	1818	KNM	Mercury	< 0.0310 mg/1	ζg		SW846 7474 02/07	19.02	80.9 *
03/25	1345	EDA	Nitrate Nitrogen	202.960 mg/1	٢g		SM 2000 4500-NO3 E	3.28	101.0 *
04/14	0745	KNM	Phosphorous, Total (as P)	2.3153 mg/1	cg		EPA 365.3	5.65	100.0 *
04/16	1207	KNM	Magnesium	752.59 mg/1	ζġ		SW-846 6020A	6.29	110.8 *
04/16	1207	KNM	Potassium	526.50 mg/1	٢g		SW-846 6020A	4.78	97.3 *
03/23	1550	ZWA	pH Soil	6.90 S.U	•		SW846 9045C	3.08	N/A *
04/16	1207	KNM	Nickel	13.158 mg/I	٢g		SW-846 6020A	4.01	108.4 *
04/16	1207	KNM	Copper	5.939 mg/1	ζġ		SW-846 6020A	3.04	109.8 *
04/16	1207	KNM	Zinc	39.203 mg/I	٢ġ		SW-846 6020A	3.11	96.8 *
04/24	0800	KNM	Nitrogen, Plant Available	7.21 mg/1	cg		SM1997 4500 N		
04/16	1207	KNM	Arsenic	4.459 mg/I	٢ġ		SW-846 6020A	2.43	107.4 *
04/16	1132	KNM	Selenium	2.218 mg/H	ζġ		SW-846 6020A	2.98	103.8 *
04/19	1550	ZWA	Specific Conductance	199.6038 umho	s		EPA (MOD)9050A	7.20	87.5 *
04/16	1132	KNM	Molybdenum	1.950 mg/H	ζg		SW-846 6020A	1.18	108.3 *
04/16	1207	KNM	Cadmium	< 0.028 mg/H	(g		SW-846 6020A	3.65	107.8 *
03/22	1124	ZWA	Solids, % Total	76.030 %	-		SM 1997 2540 G	0.44	N/A *
04/16	1207	KNM	Lead	9.530 mg/H	ζg		SW-846 6020A	3.42	106.6 *
04/17	0800	KNM	Cation Exchange Capacity	12.7056 meg	-		EPA 9081		
04/17	0800	KNM	Sodium Absorption Ratio	0.3140 Rati	-0		AGRN 724		

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2103010419	Sample Date : 03/19/21	Collected Bv: HMK
Customer Name : CLINTON, EAST 55.57 LA PB 30	Sample Time : 1140	Delivery By : HMK
Customer Number : 3001	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/24/21	Sample From : EAST LA 55.57 PB30	Purchase Order :

		<u>Laboratory Analysi</u>	S		Ouality	Assurance
Analysis					Precision	Accuracy
Date Time By	Parameter	Result	Notes Quantity	y Method	% RPD	% Recovery
04/14 1220 AKA	Ammonia Nitrogen	0.1960 mg/k	g	SM 1997 4500-NH3 C	7.21	96.3 *
04/07 1818 KNM	Mercury	< 0.0440 mg/K	g	SW846 7474 02/07	20.56	80.9 *
03/25 1345 EDA	Nitrate Nitrogen	291.360 mg/k	g	SM 2000 4500-NO3 E	3.28	101.0 *
04/14 0745 KNM	Phosphorous, Total (as P)	1.4577 mg/k	g	EPA 365.3	5,65	100.0 *
04/16 1156 KNM	Magnesium	612.17 mg/K	ğ	SW-846 6020A	6.29	110 8 *
04/16 1156 KNM	Potassium	693.62 mg/K	g	SW-846 6020A	4.78	97.3 *
03/23 1550 ZWA	pH Soil	6.60 S.U.	-	SW846 9045C	3.08	N/A *
04/16 1156 KNM	Nickel	10.643 mg/K	d	SW-846 6020A	4.01	108 4 *
04/16 1156 KNM	Copper	3.656 mg/K	đ	SW-846 6020A	3.04	109.8 *
04/16 1156 KNM	Zinc	25.087 mg/K	đ	SW-846 6020A	3.11	96.8 *
04/24 0800 KNM	Nitrogen, Plant Available	8.56 mg/k	d	SM1997 4500 N		20.0
04/16 1156 KNM	Arsenic	4.508 mg/K	a	SW-846 6020A	2.43	107 4 *
04/16 1132 KNM	Selenium	2.247 mg/K	a	SW-846 6020A	2.98	103.8 *
04/19 1550 ZWA	Specific Conductance	245.5300 umho	s	EPA (MOD) 9050A	7 20	87 5 *
04/16 1132 KNM	Molybdenum	1.977 mg/K	a	SW-846 6020A	1 19	108 2 *
04/16 1156 KNM	Cadmium	< 0.028 mg/K	a	SW-846 6020A	3 65	107.8 *
03/22 1124 ZWA	Solids, % Total	70.386 %		SM 1997 2540 G	0 44	N/A *
04/16 1156 KNM	Lead	10.051 mg/K	a	SW-846 6020A	3 42	106 6 *
04/17 0800 KNM	Cation Exchange Capacity	55.6369 meg		EPA 9081	3.72	100.0
04/17 0800 KNM	Sodium Absorption Ratio	0.0676 Rati	0	AGRN 724		
	-					

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2103010420	Sample Date : 03/19/21	Collected By: HMK
Customer Name : CLINTON, EAST LA AIRPORT9	Sample Time : 1250	Delivery By : HMK
Customer Number : 2959	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/24/21	Sample From : EAST LA AIRPORT9	Purchase Order :

			<u>Laboratory Analysis</u>				Ouality /	Assurance
Ana	alysis						Precision	Accuracy
Date	<u>Time</u> By	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
04/14	1220 AF	A Ammonia Nitrogen	4.2550 mg/kg			SM 1997 4500-NH3 C	7.21	96.3 *
04/07	1818 KN	M Mercury	< 0.0440 mg/Kg			SW846 7474 02/07	20.56	80.9 *
03/25	1345 EI	A Nitrate Nitrogen	323.640 mg/kg			SM 2000 4500-NO3 E	3.28	101.0
04/14	0745 KN	M Phosphorous, Total (as P)	< 0.2567 mg/kg			EPA 365.3	5.65	100 0 *
04/16	1202 KN	M Magnesium	396.40 mg/Kg			SW-846 6020A	6.29	110 8 *
04/16	1202 KN	M Potassium	375.01 mg/Kg			SW-846 6020A	4.78	97 3 *
03/23	1550 ZW	A pH Soil	7.10 S.U.			SW846 9045C	3.08	N/A *
04/16	1202 KN	M Nickel	8.489 mg/Kg			SW-846 6020A	4.01	108 4 *
04/16	1202 KN	M Copper	3.528 mg/Kg			SW-846 6020A	3.04	109.8 *
04/16	1202 KN	M Zinc	16.986 mg/Kg			SW-846 6020A	3,11	96.8 *
04/24	0800 KN	M Nitrogen, Plant Available	6.12 mg/kg			SM1997 4500 N	5.11	50.0
04/16	1202 KN	M Arsenic	3.933 mg/Kg			SW-846 6020A	2 43	1074 *
04/16	1132 KN	M Selenium	1.682 mg/Kg			SW-846 6020A	19,97	108 5
04/19	1550 ZW	A Specific Conductance	97.4922 umhos			EPA (MOD) 9050A	7 20	87 5 *
04/16	1132 KN	M Molybdenum	1.473 mg/Kg			SW-846 6020A	1 19	108.2 *
04/16	1202 KN	M Cadmium	< 0.021 mg/Kg			SW-846 6020A	3 65	107.8 *
03/22	1124 ZW	A Solids, % Total	77.862 % -			SM 1997 2540 G	0 44	N/A *
04/16	1202 KN	M Lead	7.595 mg/Kg			SW-846 6020A	3 42	106 6 *
04/17	0800 KN	M Cation Exchange Capacity	9.2592 meg			EPA 9081	5.42	100.0
04/17	0800 KN	M Sodium Absorption Ratio	0.1891 Ratio			AGRN 724		

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Environmental Services Co., Inc.

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2103010421	Sample Date : 03/19/21	Collected By: HMK
Customer Name : CLINTON, EAST LA WD13	Sample Time : 1320	Delivery By : HMK
Customer Number : 2960	Sample Type : GRAB SOIL	Work Order :
Report Date : 04/24/21	Sample From : EAST LA WD13	Purchase Order :

		<u>Laboratory Analysis</u>	5			Quality 2	Assurance
Analysis						Precision	Accuracy
Date Time By	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
04/14 1220 AKA	. Ammonia Nitrogen	0.0290 mg/kg	J		SM 1997 4500-NH3 C	7.21	96.3 *
04/07 1818 KNN	Mercury	0.0560 mg/Kg	Ţ		SW846 7474 02/07	19.02	80.9 *
03/24 1600 EDA	Nitrate Nitrogen	6.564 mg/kg	ſ		SM 2000 4500-NO3 E	0.54	100.0 *
04/14 0745 KNN	Phosphorous, Total (as P)	0.1101 mg/kg	Ţ		EPA 365.3	4.67	100.0
04/16 1213 KNM	Magnesium	735.81 mg/Kg	ı		SW-846 6020A	6.29	110.8 *
04/16 1213 KNM	Potassium	674.19 mg/Kg	Ţ		SW-846 6020A	15.19	97.3 *
03/23 1550 ZWA	pH Soil	6.80 S.U.			SW846 9045C	3.08	N/A *
04/16 1213 KNN	Nickel	13.396 mg/Kg	ſ		SW-846 6020A	4.92	108.4 *
04/16 1213 KNM	Copper	4.988 mg/Kg	ſ		SW-846 6020A	3,61	109.8 *
04/16 1213 KNM	Zinc	31.241 mg/Kg	ſ		SW-846 6020A	5.01	96.8 *
04/24 0800 KNM	Nitrogen, Plant Available	5.37 mg/kg	ſ		SM1997 4500 N		
04/16 1213 KNM	Arsenic	5.415 mg/Kg	ſ		SW-846 6020A	2,93	107.4 *
04/16 1132 KNM	Selenium	2.699 mg/Kg	ſ		SW-846 6020A	19.97	108.5 *
04/19 1550 ZWA	Specific Conductance	402.1440 umhos	5		EPA (MOD)9050A	7.20	87.5 *
04/16 1132 KNM	Molybdenum	2.538 mg/Kg	r		SW-846 6020A	1.19	108.2 *
04/16 1213 KNM	Cadmium	< 0.038 mg/Kg	ſ		SW-846 6020A	3.70	107.8 *
03/22 1124 ZWA	Solids, % Total	76.395 %			SM 1997 2540 G	0.44	N/A *
04/16 1213 KNM	Lead	9.896 mg/Kg	ſ		SW-846 6020A	4.02	106.6 *
04/17 0800 KNM	Cation Exchange Capacity	12.8939 meg			EPA 9081		
04/17 080 KNM	Sodium Absorption Ratio	0.2225 Ratio	•		AGRN 724		
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Environmental Services Co., Inc.

Env mental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com

Fax: 501-221-1341

Phone: 501-221-2565



Springdale, Arkansas 479-750-1170

Carlsbad, New Mexico 575-887-1ESC

CHAIN OF CUSTODY

	Client Information				Project Information				I	Requested Parameters								
Client:		Clinton, City of (Ea	st Land Ap	p)	Permit/Pro	oject #:												
Address:		P.O. Box 277			Purchase Order #:				6									
		Clinton, AR 72031			Work Ord	er#						ts)	s(01	35.M	Î			
Phone:		501-745-4320		Sampler N	lame(s):	Har	Jan	Lalla	i		nen	Pho	c)pud	(33./				
Fax:	Mr. Phil Graham			. ,	+-76	,	read			m	.3)	U U U	AN					
Contact:	- h- h	501-745-2164			and Signa	ture(s):	N	7			\neg	ŭ	n(01	Spe	.1), F			
ESC Client Nu	imber:	Various										See	roge	3.S),	a(01			
Sar	nple Ider	ntification		Sample	Collection	031474)#9436499999999999999999999999999	I	Sample	Container	S		als (e Nit	H(2:	noni			
Identifica	ation	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserv	ative	#	Met	Nitrat	Soil p	Amr			
East LA 40.24 PB	3 (3004)	2103010415	3/19/21	1155	Grab	Soil	Glass	1 Liter	Cool < 6° (c	1	х	x	x	x			
East LA 40.24 PB	30 (3003)	2103910416	j	1210	Grab	Soil	Glass	1 Liter	Cool < 6° (c	1	x	x	x	x		1	
East LA 55.57 PB	10 (511)	2103010417		1115	Grab	Soil	Glass	1 Liter	Cool < 6° (c T	1	х	х	x	x			1
East LA 55.57 PB	3 (3002)	2103910418		1125	Grab	Soil	Glass	1 Liter	 Cool < 6° (2	1	x	х	x	x			†¶
East LA 55.57 PB	30 (3001)	2103010419		1140	Grab	Soil	Glass	1 Liter	Cool < 6° (c l	1	x	x	x	x		1	
East LA Airport9 (2959)	2103010420		1250	Grab	Soil	Glass	1 Liter	Cool < 6° (1	x	x	x	x		1	
East LA WD13 (29	960)	2103010421	L.	1320	Grab	Soil	Glass	1 Liter	Cool < 6° (1	x	x	x	x		1	<u>†</u>]
																	-	<u>†</u> [
											1							
Relinquished By: (Signa	ature and Printed	d Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time	- C	Justo	dy Se	als:				<u></u>
Relinquished By: (Signa	ature and Printed	d Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Time	-	urnal	round	M	(Intact?		
Relinquished By/Signature and Printed Name/ Date Time Received Name/ J/(9/)2(1643)		Received for Lab	By: (Signature and MBCH 0	d Printed Nan	ne) Man	Date ろ/14/ン/	Time 164	- ▼ 3	Regula Vere	ar samp Yes	les pro	périy	Special preservec No	_ل ۲				
			Flow/Da	ata	Field Test	Time	Analyst	A I	Resu	lt	Resu	lt	Un	its				
Comments: F	ng(01.14), M As(33.HS), C	in(12.HS), K(19.HS), Ni(2 2d(48.HS), Pb(82.HS), 00	28.HS), Cu(29).MS	9.HS), Zn(30.1	าร)	Analyst: Time:					$-\top$							
		······				Reading:												
						Units:												
										1	T	his	Doc	umer	nt is l	Page /	∕df	1

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2103010411	Sample Date : 03/19/21	Collected By: HMK
Customer Name : CLINTON, EAST GW13	Sample Time : 1100	Delivery By : HMK
Customer/Permit No. : 507 / AR0048836 001	Sample Type : GRAB WELL	Work Order :
Report Date : 04/08/21	Sample From : CLINTON WELL #13	Purchase Order :

		Laboratory Analysis				Ouality :	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
03/23 1330 EDA	Chloride (as Cl)	9.9 mg/L			SM 2011 4500 Cl C	0.00	89.9 *
03/19 1100 HMK	рН	6.5 S.U.			SM 2011 4500-H+B	0.00	N/A
03/30 1542 BXW	Solids, Total Dissolved	249.0 mg/L			SM 2011 2540 C	5 41	N/A *
03/19 1100 HMK	Spec. Conductance @ 25 C	213.000 umho/	с		EPA 120.1	0 00	N/N
03/22 1331 BXW	Nitrate + Nitrite	0.55 mg/L			HACH 10206	0.00	103 0
03/19 1100 HMK	Well Depth, Total	15.33 Feet				N/A	105.0 N/A
03/19 1100 HMK	Depth to Water	9.75 Feet				N/A	N/A
* QA data sho	wn is from a different samp	le or standard on t	he same d	late.			

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

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Labora	tory Analysis	Quality Assurance
Customer Name : CLINTON, EAST GW14 Customer/Permit No. : 508 / AR0048836 001 Report Date : 04/08/21	Sample Juce : 05/15/21 Sample Time : 1045 Sample Type : GRAB WELL Sample From : CLINON WELL #14	Delivery By : HMK Work Order : Purchase Order :
Control Number: 2103010412	Sample Date · 03/19/21	Collected Dr. UMK

					1	A	
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
03/23 1330 EDA	Chloride (as Cl)	< 0.5 mg/L			SM 2011 4500 Cl C	0.00	89.9 *
03/19 1045 HMK	pH	5.9 S.U.			SM 2011 4500-H+B	0.00	N/A *
03/30 1542 BXW	Solids, Total Dissolved	164.0 mg/L			SM 2011 2540 C	0.60	N/A *
03/19 1045 HMK	Spec. Conductance @ 25 C	123.000 umho/	с		EPA 120.1	0.00	N/A *
03/22 1331 BXW	Nitrate + Nitrite	7.73 mg/L			HACH 10206	0 80	103 0 *
03/19 1045 HMK	Well Depth, Total	13.08 Feet				N/A	105.0 N/A
03/19 1045 HMK	Depth to Water	9.33 Feet				N/A	N/A
* QA data sho	own is from a different sampl	e or standard on t	ne same o	date.			

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature

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Envir	onmental S	ervices	G Company,	, Inc.		
Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-1341			Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172			
Control Number: 2103010413 Customer Name : CLINTON, EAST GW16 Customer/Permit No. : 509 / AR0048836 001 Report Date : 04/08/21	Sample Sample Sample Sample	Date : 03, Time : Type : NO From :	/19/21 FLOW	Coll Deli Work Purc	ected By: very By : Order : nase Order :	
Analysis <u>Date Time By</u> <u>Parameter</u> 03/19 No Flow	or standard on	<u>Notes</u>	<u>Quantity</u>	<u>Method</u>	Quality : Precision <u>% RPD</u> N/A	Accuracy Accuracy <u>% Recovery</u> N/A
*						

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Ishar	atom. Apalyzia	
Report Date : 04/08/21	Sample From : CLINTON WELL #17	Purchase Order :
Lustomer/Permit No. : 649 / AR0048747 001	Sample Type : GRAB WELL	Work Order :
Customer Name : CLINTON, EAST GW17	Sample Time : 1015	Delivery By : HMK
Control Number: 2103010414	Sample Date : 03/19/21	Collected By: HMK

]	Laboratory Analysis	3			Quality (Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
03/23 1330 EDA	Chloride (as Cl)	< 0.5 mg/L			SM 2011 4500 Cl C	0.00	89.9 *
03/19 1015 HMK	рН	5.5 S.U.			SM 2011 4500-H+B	0.00	N/A *
03/30 1542 BXW	Solids, Total Dissolved	64.0 mg/L			SM 2011 2540 C	0.60	N/A *
03/19 1015 HMK	Spec. Conductance @ 25 C	109.000 umho/	c		EPA 120.1	0.00	N/A *
03/22 1331 BXW	Nitrate + Nitrite	0.84 mg/L			HACH 10206	0.80	103.0 *
03/19 1015 HMK	Well Depth, Total	17.50 Feet				N/A	N/A
03/19 1015 HMK	Depth to Water	11.83 Feet				N/A	N/A
* OA data sho	wn is from a different sampl	le or standard on t	he same (date.			

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Environmental Services Company Little Rock, AR 72211 Groundwater Monitoring Chain of Custody

Sampler Name(s): Hayderk	elly		/		
Sample Date: 3/19/21		-			
		· .	S	 ŝ	z

Sample Identification (Customer #)	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth		F	рН		Sr	pecific C	onducta	nce		Temp Degr	erature ees C	- -	CI, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (8 oz Plastic H2SO4)
Clinton W	ells	1			#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
#13 (507)	2103010411	1100	9.9"	15' 4''	65	6.5	6.4	1109	13	13	13	1100	12.7	13.4	129	1100	X	x
#14 (508)	2103010412	1045	9.410	13' 1"	5.9	5.9	5.9	pag	23	30	29	1945	11.9	123	120	1045	x	x
#16 (509)	2103010413	NOFL	ow	14' 0''													x	x
#17 (649)	2193010414	1015	11'10"	17′ 6″	5.5	5.5	5.5	1015	49	49	49	1015	14.7	14.6	14.5	1015	x	x
				·														
																		9967 YOM DAN ALY 19 AVAILAB
	<i>.</i>								1	Λ								
Relinquished	by: Hayden he	that	Time:	19121	F	Receive	d By La	ib: M	whit]L	Date	:3/14	1/21	l	ne: 17K	0
Comments	, ,	1													· <u> </u> -'			

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Control Number: 2106010566 Customer Name : CLINTON, EAST GW13 Customer/Permit No. : 507 / AR0048836 001 Report Date : 06/28/21	Sample Date : 06/24/21 Sample Time : 0850 Sample Type : GRAB WELL WA Sample From : WELL#13	Collected By: WGW Delivery By : WGW ATER Work Order : Purchase Order :
Analysis <u>Date Time By</u> <u>Parameter</u> 06/28 1035 BXW Chloride (as Cl) 06/24 0855 WGW pH 06/25 1020 AKA Solids, Total Dissolved 06/24 0855 WGW Spec. Conductance @ 25 C 06/28 0913 EJD Nitrate + Nitrite 06/24 0855 WGW Well Depth, Total 06/24 0855 WGW Depth to Water	Result Notes Quantity 4.9 mg/L 7.2 S.U. 56.7 mg/L 1027.000 umho/c 1.53 mg/L 15.40 Feet 13.50 Feet 13.50 Feet	y Method Quality Assurance SM 2011 4500 Cl C Precision Accuracy SM 2011 4500-H+B 0.00 100.0 SM 2011 2540 C 6.14 N/A EPA 120.1 0.00 N/A HACH 10206 0.27 99.0 N/A N/A N/A
* QA data shown is from a different sampl	e or standard on the same date.	

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Labor	atory Analysis	Quality Assurance
Customer Name : CLINTON, EAST GW14 Customer/Permit No. : 508 / AR0048836 001 Report Date : 06/28/21	Sample Date : 08724721 Sample Time : 0910 Sample Type : GRAB WELL WATER Sample From : WELL #14	Delivery By : WGW Work Order : Purchase Order :
Control Number: 2106010567	Sample Date $\cdot 06/24/21$	Collected Br. WCW

Anarysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
06/28 1035 BXW	Chloride (as Cl)	< 0.5 mg/L			SM 2011 4500 Cl C	0.00	100.0 *
06/24 0915 WGW	рН	7.2 S.U.			SM 2011 4500-H+B	0.00	N/A *
06/25 1020 AKA	Solids, Total Dissolved	65.0 mg/L			SM 2011 2540 C	6.14	N/A *
06/24 0915 WGW	Spec. Conductance @ 25 C	101.000 umho,	/c		EPA 120.1	0.00	N/A *
06/28 0913 EJD	Nitrate + Nitrite	0.75 mg/L			HACH 10206	0.27	99.0 *
06/24 0915 WGW	Well Depth, Total	13.10 Feet			4 8000	N/A	N/A
06/24 0915 WGW	Depth to Water	11.10 Feet				N/A	N/A
* QA data sho	wn is from a different sample	e or standard on t	the same d	late.			

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Control Number: 2106010568 Customer Name : CLINTON, EAST GW16 Customer/Permit No. : 509 / AR0048836 001 Report Date : 07/01/21	Sample Date : 06/24/21 Sample Time : 0900 Sample Type : DRY WELL Sample From :	Collected By: WGW Delivery By : Work Order : Purchase Order :			
Analysis <u>Date Time By</u> <u>Parameter</u> 06/24 0900 WGW Dry Well	<u>Result</u> <u>Notes</u> <u>Quantity</u> 1.00	Method Quality Assurance Precision Accura % RPD % Recov N/A N/	≧ acy <i>Jery</i> ∕A		
· VA data shown is from a different sample	or standard on the same date.				

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Control Number: 2106010569	Sample Date : 06/24/21	Collected By: WGW
Customer Name : CLINTON, EAST GW17	Sample Time : 0830	Delivery By : WGW
Customer/Permit No. : 649 / AR0048747 001	Sample Type : GRAB WEEL WATER	Work Order :
Report Date : 06/28/21	Sample From : WELL#17	Purchase Order :

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		Laboratory Analy	VSIS			Quality 2	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	<u>Notes</u>	Quantity	Method	% RPD	% Recovery
06/28 1035 BXW	Chloride (as Cl)	< 0.5 mg	g/L		SM 2011 4500 Cl C	0.00	100.0 *
06/24 0835 WGW	рН	7.1 S.	.U.		SM 2011 4500-H+B	0.00	N/A *
06/25 1020 AKA	Solids, Total Dissolved	60.0 mg	g/L		SM 2011 2540 C	6.14	N/A *
06/24 0835 WGW	Spec. Conductance @ 25 C	69.200 un	mho/c		EPA 120.1	0.00	N/A *
06/28 0913 EJD	Nitrate + Nitrite	5.10 mg	g/L		HACH 10206	0.27	99.0 *
06/24 0835 WGW	Well Depth, Total	17.60 Fe	et			N/A	N/A
06/24 0835 WGW	Depth to Water	12.60 Fe	eet			N/A	N/A
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* QA data shown is from a different sample or standard on the same date.

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Environmental Services Company Little Rock, AR 72211 Groundwater Monitoring Chain of Custody

Sampler Name(s): William Willoughby
and Signature: Willing Milleus un

				stody				Sam	ole Da	te: <u>6</u> /	24 /21							
Sample Identification (Customer #)	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth	pH				Sp	ecific Co	onductar	nce		Temp Degr	erature rees C		Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (8 oz Plastic H2SO4)
Clinton Ea	st Wells		F		#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
#13 (507)	2104010566	6850	13'51'	15' 4''	7.2	7.2	7.2	0857-	107.7	1076	107.4	0855	25	25	25	0855	x	x
#14 (508)	2104010307	0910	1)'1"	13′ 1″	7.2	7.2	7.2	0915	101	101.6	100.7	0915	25	25	20	0915	x	x
#16 (509)	2101001056	NOF	(0948 UN	14' 0''													X	x
#17 (649)	2106010519	0830	12'6"	17' 6"	7.1	7.1	7.1	0835	69.2	69.2	69.0	6835	25	25	25	0835	x	x
Relinquished b	v: William Wille	suchby	Time:	1333	3 R	eceived	d By La	b: 11	lon,	m c	2/Pres	NAMIA-	Date	: 61-7	4/171	Tin	1213	24
Comments:	-	7 /			<u></u>				Π			Adre VA			~ <i>EU</i>			

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Control Number: Customer Name : Customer/Permit Report Date : 0	2107010261 CLINTON, EAST GW13 No. : 507 / AR0048836 001 7/30/21	Sample Sample Sample Sample	Date : 07 Time : 14 Type : GR From : WE	/26/21 10 AB WATER LL#13	Collected By: DMP Delivery By : DMP Work Order : Purchase Order :					
Analysis	-	Laboratory Analysi	<u>s</u>			Quality 2 Precision	<u>Assurance</u> Accuracy			
Date Time By 07/30 1410 EJD 07/26 1415 DMP 07/28 1125 AKA 07/26 1625 DMP 07/27 1155 EJD 07/26 1410 DMP 07/26 1410 DMP 07/26 1410 DMP	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	Result 10.0 mg/L 6.3 S.U. 106.7 mg/L 167.000 umho 0.48 mg/L 15.40 Feet 8.10 Feet	<u>Notes</u>	Quantity	Method SM 2011 4500 Cl C SM 2011 4500-H+B SM 2011 2540 C EPA 120.1 HACH 10206	<pre>% RPD 18.18 0.00 3.05 0.07 3.32 N/A N/A</pre>	<pre>% Recovery. 101.0 N/A * N/A N/A * 100.0 * N/A N/A</pre>			

* QA data shown is from a different sample or standard on the same date.

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En amental Services Company, Inc. Corporate Office

13715 West Markham P.O. Box 55146 Little Rock, AR 72211 Little Rock, AR 72215 website: www.esclabs.com



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Environmental Services Com, y, Inc. Northwest Branch 1107 Century Springdale, AR 72764

Phone: 501-221-2565	Fax: 501-221-1341		Cr	JAIN (JF CU	510	DY	F	Phone	479)-750)-117	0 F	⁻ax 4	79-7	50-117	'2
	Client Information				Pr	oject Inf	formation	**************************************	********			Rec	ueste	ed P	'arar	neter	S
Company Name:	Clinton, East GW1	3		Permit/Prc	ject #:		AR0048	836	101-brofalléxen;2005-60		1	1			Τ		Γ
Address:	P.O. Box 277			Purchase	Order #:			4 T			1						
	Clinton, AR 72031			Work Orde	>r #						1						
Telephone:	501-745-4320			Sampler N	ame(s):	TA	070	PTFR	775		1						
Contact:	Mr. Phil Graham			-		<u> </u>	. مي		<u> </u>								
FAX:	501-745-2164		***	and Signa	ture(s):	120	121	Oto,		1	oride						
ESC Client Number:	507			1		Car or y		<u> </u>	<u>_</u>		Ŀ	3(91					
Sample Id	entification	T	Sample	Collection		Τ	Sample (Containers	s	inite compose	(27.)	ON+					
	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	TDS	N02					
Well #13	21070102.61	07/26/21	1410	Grab	Water	Plastic	1 Liter	< 6 Deg C		1	x	╞═┥		\neg		+	
		1.	L	Grab	Water	Plastic	1 Liter	H2SO4		1		x			-	1	
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Relinquished By: (Signature and Pri	ated Name)	Date	Time	Received By: (Sig	inature and Printec	J Name)		Date	Tim	ne	Custo	ody Sea	als:				1
Relinquished By: (Signature and Prir	nted Name)	Date	Time	Received By: (Siç	inature and Printed	d Name)		Date	Tim	ıe	Used Turna	? around	2	lr	ntact?		L
Relinquiched By: /Signature and Pri	ntod Namo)	Data	Time	Descional feed at							Regu	lar	Ż	S	pecial		
David Tere	THED PIRCE	07/2//2/	1640	Received for Lab E	By: (Signature and	Printed Name	r^{2}	Date	Tim		Were	sampl Yes	es prope	erly pre	eserveo No	*	
Cool all samples to $\leq 6 \deg$	rees C with ice.	lannai glanni danan d		1	Flow D	ata J	Field/Test	Time	Analys	st	Resi	ult	Result		Un	its	
Comments:					Analyst:		pH:	1415	RA	\mathcal{P}	6.	3	6.2	2	<u>5.</u> C	7.	
				1	Time:		Sp Cond:	1625	Dh	P	167	.0	167.0	20	<u>M</u>	HOS	,
					Reading:												
Total Depth-99.10:	15446																
H20 Depth - 99.9:	8ft1in				Chlorinated?	ΥN	Fecal Start:			İ	This	; Doci	ument	is Pa	age	of	\vdash

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Control Number: 2107010262		Sample Date :	07/26/21	Collected By: DMP					
Customer Name : CLINTON, EAST GW14		Sample Time :	1330	Delivery By : DMP					
Customer/Permit No. : 508 / AR0048836 001		Sample Type :	GRAB WATER	Work Order :					
Report Date : 07/30/21		Sample From :	WELL#14	Purchase Order :					
Analysis <u>Date</u> <u>Time</u> <u>By</u> 07/30 1410 EJD 07/26 1335 DMP 07/28 1125 AKA 07/26 1630 DMP 07/27 1155 EJD 07/26 1330 DMP 07/26 1330 DMP	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	Caboratory AnalysisResultNotes10.0 mg/L6.0 S.U.80.0 mg/L103.300 umho/c0.78 mg/L13.10 Feet9.45 Feet	Quantity	<u>Method</u> SM 2011 4500 Cl C SM 2011 4500-H+B SM 2011 2540 C EPA 120.1 HACH 10206	Quality Precision % RPD 18.18 0.00 3.05 0.07 3.32 N/A N/A	Assurance Accuracy <u>% Recovery</u> 101.0 * N/A * N/A * 100.0 * N/A N/A			

* QA data shown is from a different sample or standard on the same date.

Signature _____ Environmental Services Co., Inc.

En imental Services Company, Inc. Corporate Office

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Environmental Services Com, J, Inc. Northwest Branch 1107 Century Springdale, AR 72764

Phone: 501-221-2565	Fax: 501-221-1341		CF	1AIN (JF CU	510	DY	F	Phone	479	-750)-117	0 Fa	ax 479	}-750	-1172	
	Client Information				Pr	oject Inf	formation		00427463823483467675459948	hác dura da anna anna anna anna anna anna anna	Γ	Rec	jueste	d Pa	rame	eters	NA SALAR
Company Name:	Clinton, East GW1	4		Permit/Pro	oject #:		AR0048	836]		Τ			
Address:	P.O. Box 277			Purchase	Order #:												
	Clinton, AR 72031			Work Orde	er#			************									
Telephone:	501-745-4320			Sampler N	lame(s):	1 TAI	M	PIF	RU	$\overline{\nabla}$							
Contact:	Mr. Todd Burgess					V	-	+ <u>*</u> <u>*</u>			s(7.)						
FAX:	501-745-2164			and Signa	ture(s):	1720	IL PI	ie	N		oride						
ESC Client Number:	508			Ŭ		Le					, Chl	3(91					
Sample Id	dentification		Sample	Collection		The second se	Sample (Container	s		(27.)	N N V +					
	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	TDS	NO2					
Well # 14	2/07010262	07/26/21	1330	Grab	Water	Plastic	1 Liter	≤ 6 Deg C		1	X						
		L	L	Grab	Water	Plastic	1 Liter	H2SO4		1		X					
					1	1		1									
							-										
					1	1	1										
					1	1	1							-			
					1	1	1	1						+		·	
					1	1	1							+		_	
Relinquished By: (Signature and Pr	inted Name)	Date	Time	Received By: (Sig	gnature and Printed	d Name)		Date	Tim	ie	Custo	ody Se	als:		L	l	in an
Relinguished By: (Signature and Pri	rinted Name)	Date	Time	Received By: (Si	gnature and Printer	d Name)	•••••	Date	Tim	ie	Used Turna	? around	\underline{n}	Inta	ct?		
Deline interit D. (Oline interit											Regu	ılar	V	Spe	cial		
Docid Pre- Signature and Pri	AND PIERE	07/2/2)	Time (AUC)	Received for Lab	By: (Signature and	Printed Name	e) nh~	Date	Tim 120	e הי	Were	sampl	ies propei	rly prese	erved:		
Cool all samples to \leq 6 deg	grees C with ice.	-1-01-1	10.02	1/	Flow D	ata V	Field/Test	Time	Analys	st	Resi	ult	Result	—	Units	_	
Comments:				·	Analyst:		pH:	1335	DN	R	6.1	\overline{a}	6.0	13	.V.	-	
				L	Time:		Sp Cond:	1630	DN	P	10	53	103.3	07	NHI	25	
······································					Reading:		<u> </u>		<u> </u>					<u> </u>			
Total Depth-99.10:	13+4 17m			bikan dia manina kaominina dia mpika			 										
H20 Depth - 99.9:	9F+ 4.5in				Chlorinated?	ΥN	Fecal Start:		1		This	Doc	ument i	is Pag	e 7	1	-

BXV

Corporate Office 13715 West Markham Little Rock, AR 72211 Tel. (501)221-2565 Fax (501)221-13	341	Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172								
Control Number: 2107010263 Customer Name : CLINTON, EAST GW16 Customer/Permit No. : 509 / AR0048836 001 Report Date : 07/30/21	Sample Sample Sample Sample	Date : 07/ Time : 125 Type : DRY From :	26/21 0 WELL	Collected By: DMP Delivery By : Work Order : Purchase Order :						
Analysis <u>Date Time By</u> <u>Parameter</u> 07/26 1250 DMP Dry Well	Result 0.00	<u>Notes</u>	Quantity	Method	Quality Precision <u>% RPD</u> N/A	Assurance Accuracy <u>% Recovery</u> N/A				
z. adda bhomi ib irom a arrierene bampie or	Scandard Off	one build	~~~.		1					

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CHAIN OF CUSTODY Phone: 501-221-2565 Fax: 501-221-1341 Phone 479-750-1170 Fax 479-750-1172 **Client Information Project Information Requested Parameters** Company Name: Clinton, East GW16 Permit/Project #: AR0048836 Address: P.O. Box 277 Purchase Order #: Clinton, AR 72031 Work Order # Telephone: 501-745-4320 Sampler Name(s): Chloride(7.) Contact: Mr. Todd Burgess FAX: 501-745-2164 and Signature(s): NO2 +NO3(91.) ESC Client Number: 509 TDS(27.), Sample Identification Sample Collection Sample Containers ESC Control # Date, Time Type Volume | Preservative # Matrix Туре 21070 0263 072.52 Well #16 Grab Water Plastic < 6 Deg C Х 1 Liter 1 Grab Water Plastic 1 Liter H2SO4 1 Х Relinquished By: (Signature and Printed Name) Date Time Received By: (Signature and Printed Name) Date Time Custody Seals: Used? m Intact? Relinguished By: (Signature and Printed Name) Date Time Received By: (Signature and Printed Name) Turnaround: Date Time Regular V Special Relinquished By: (Signature and Printed Name) 2612 Time Received for Lab By: (Signature and Printed Name) Date Time Were samples properly preserved: Yes 17 No Cool all samples to < 6 degrees C with ice Flow Data Field Test Time Analyst Result Result Units Comments: Analyst: pH: Time: Sp Cond: Reading: Units: Total Depth-99.10: 4+ H20 Depth - 99.9: Chlorinated? Y N Fecal Start: This Document is Page of

BXW

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number:	2107010264	Sample Date : 0	7/26/21	Collected By: DMP					
Customer Name :	CLINTON, EAST GW17	Sample Time : 1	220	Delivery By : DMP					
Customer/Permit	No. : 649 / AR0048747 001	Sample Type : G	RAB WATER	Work Order :					
Report Date : 0	7/30/21	Sample From : W	ELL#17	Purchase Order :					
Analysis <u>Date</u> <u>Time</u> <u>By</u> 07/30 1410 EJD 07/26 1225 DMP 07/28 1125 AKA 07/26 1635 DMP 07/27 1155 EJD 07/26 1220 DMP 07/26 1220 DMP	Parameter Chloride (as Cl) pH Solids, Total Dissolved Spec. Conductance @ 25 C Nitrate + Nitrite Well Depth, Total Depth to Water	Laboratory Analysis 	Quantity	<u>Method</u> SM 2011 4500 Cl C SM 2011 4500-H+B SM 2011 2540 C EPA 120.1 HACH 10206	Quality Precision <u>% RPD</u> 18.18 0.00 3.05 0.07 3.32 N/A N/A	Assurance Accuracy <u>% Recovery</u> 101.0 * N/A * N/A * 100.0 * N/A N/A			

* QA data shown is from a different sample or standard on the same date.

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Environmental Services Com, , Inc. Northwest Branch 1107 Century Springdale, AR 72764

Phone: 501-221-2565	Fax: 501-221-1341		Ur	1AIN C		5101	UΥ	Р	hone	479-	750-	·1170	Fa	x 479-7	'50-1´	172
	Client Information				Pr	oject Inf	ormation			l	F	Requ	Jestec	l Para	mete	ərs
Company Name:	Clinton, East GW1	7		Permit/Pro	ject #:		AR00487	747								
Address:	P.O. Box 277			Purchase	Order #:											
	Clinton, AR 72031			- Work Orde	er#											
Telephone:	501-745-4320	****		- Sampler N	ame(s):	DA	UCD	PPPK	2(5							
Contact:	Mr. Todd Burgess			-				7			a(7.)					
FAX:	501-745-2164			and Signat	ture(s):	\mathcal{D}	2072	Plet	-0-	\overline{D}	lorid	$\widehat{}$				
ESC Client Number:	649										- C	33(91				
Sample Id	entification		Sample	Collection			Sample (Containers	5		(27.)	N V +				
	ESC Control #	Date	Time	Туре	Matrix	Туре	Volume	Preserva	ative	#	Ĕ	NO2				
Vell # 17	2107010264	07/26/21	1220	Grab	Water	Plastic	1 Liter	≤ 6 Deg C	Î	1	x					
	1	Ĺ	4	Grab	Water	Plastic	1 Liter	H2SO4		1		X				
						1										
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				1										$\uparrow \uparrow \uparrow$		
Relinquished By: (Signature and Pri	inted Name)	Date	Time	Received By: (Si	gnature and Printe	d Name)		Date	Tim	e (Sustor	dy Seal	is:		 r=	
Relinquished By: (Signature and Pri	inted Name)	Date	Time	Received By: (Sig	gnature and Printer	d Name)		Date	Tim	e 1	Jsed? Turnai	round:	2	Intact		┛─┤
			0		2					F	Regula	ar 📮	\square_{-}	Specia	ı 厂	
Hours and Pri-	MAKID PIERR	07/2/2/2	Ede 11me	Manna American	By: (Signature and	Printed Name Han, Jun H	m	117.6/21	1.64	e D	vere	sample Yes	s properiy	y preserv N	ed: o	-
Cool all samples to < 6 deg	rees C with ice.	~~ <i></i>		/	Flow D	ata/	Field Test	Time	Analys	st_F	₹esu	lt P	esult	U	nits	
Comments:			/		Analyst:		pH:	1225	Pr-	P	<u>5, 5</u>	; 5	1.5	5,1	1	
					Time:		Sp Cond:	1655	VM	\mathbb{P}_{+}	65	24	25.2	<u>10 v</u>	<u>nHa</u>	<u>^</u>
					Reading. Units:									+		
Total Depth-99.10:	1774612											<u> </u>		+	·····	
H20 Depth - 99.9:	114+81n				Chlorinated?	YN	Fecal Start:			F	This	Docu	ment is	Page	l/	1

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

> Collected By: JGK Delivery By : JGK Work Order : Purchase Order :

Control Number: 2112010370	Sample Date : 12/13/21
Customer Name : CLINTON, EAST GW13	Sample Time : 0920
Customer/Permit No. : 507 / AR0048836 001	Sample Type : GRAB WELL WATER
Report Date : 01/04/22	Sample From : #13 (507)

		Laboratory Ana	lysis			Quality 7	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	* Recovery
12/15 0940 DWC	Chloride (as Cl)	20.0 1	mg/L		SM 2011 4500 C1 C		98.0 *
12/13 0920 JGK	рН	6.1	s.u.		SM 2011 4500-H+B	0.00	N/7 *
12/20 0550 NTR	Solids, Total Dissolved	180.0 1	mq/L		SM 2011 2540 C	2.26	N/A *
12/13 0920 JGK	Spec. Conductance @ 25 C	168.200	umho/c		EPA 120 1	0.12	IN/A ~
12/13 0920 JGK	Temperature	9.80	°C		SM 2000 2550 B	0.12	N/A
12/13 1000 NTR	Nitrate + Nitrite	0.89 1	ma/L		HACH 10206	4 21	N/A
12/13 0920 JGK	Well Depth, Total	15.25	Feet		111011 10200	τ.Ζ. NJ / D	TOT.0 ~
12/13 0920 JGK	Depth to Water	9.66	Feet			N/A N/A	N/A
						14/11	N/ P
					i		

* QA data shown is from a different sample or standard on the same date.

Signature

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Control Number: 2112010371	Sample Date : 12/13/21	Collected By: JGK
Customer Name : CLINTON, EAST GW14	Sample Time : 0910	Delivery By : JGK
Customer/Permit No. : 508 / AR0048836 001	Sample Type : GRAB WELL WATER	Work Order :
Report Date : 01/04/22	Sample From : #14 (508)	Purchase Order :
	Dampie riom . #14 (500)	Purchase Order :

		Laboratory Analysi	S			Quality 2	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
12/15 0940 DWC	Chloride (as Cl)	10.0 mg/L			SM 2011 4500 Cl C	0.00	98.0 *
12/13 0910 JGK	рН	5.7 S.U.			SM 2011 4500-H+B	0.00	N/A *
12/20 0550 NTR	Solids, Total Dissolved	72.0 mg/L			SM 2011 2540 C	2.26	$N/\Delta *$
12/13 0910 JGK	Spec. Conductance @ 25 C	108.200 umho	/c		EPA 120.1	0 12	$N/\Delta \star$
12/13 0910 JGK	Temperature	13.70 °C			SM 2000 2550 B	0 00	N/Z *
12/13 1000 NTR	Nitrate + Nitrite	0.81 mg/L			HACH 10206	4 21	101 8 *
12/13 0910 JGK	Well Depth, Total	13.08 Feet				N/A	N/D
12/13 0910 JGK	Depth to Water	10.25 Feet				N/A	N/A

* QA data shown is from a different sample or standard on the same date.

Signature

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Control Number: 2112010372 Customer Name : CLINTON, EAST GW16 Customer/Permit No. : 509 / AR0048836 001 Report Date : 01/04/22	Sample Date : 12/13/21 Sample Time : 0945 Sample Type : DRY WELL Sample From : #16 (509)	Collected By: JGK Delivery By : JGK Work Order : Purchase Order :						
Analysis <u>Date Time By</u> <u>Parameter</u> 12/13 0945 JGK Well Depth, Total	<u>Result</u> <u>Notes</u> <u>Quantity</u> 0.00 14.00 Feet	Method Quality Assurance Precision Accuracy % RPD % Recovery N/A N/A N/A N/A						
* QA data shown is from a different sample or	standard on the same date.							

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature _

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Northwest Arkansas Branch 1107 Century Avenue Springdale, AR 72762 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2112010373	Sample Date : 12/13/21	Collected By: JGK
Customer Name : CLINTON, EAST GW17	Sample Time : 0900	Delivery By : JGK
Customer/Permit No. : 649 / AR0048747 001	Sample Type : GRAB WELL WATER	Work Order :
Report Date : 01/04/22	Sample From : #17 (649)	Purchase Order :

		Laboratory Anal	ysis			Ouality	Assurance
Analysis						Precision	Accuracy
<u>Date Time By</u>	Parameter	Result	Notes	Quantity	Method	% RPD	% Recovery
12/15 0940 DWC	Chloride (as Cl)	10.0 m	g/L		SM 2011 4500 Cl C	0.00	98.0 *
12/13 0900 JGK	рH	5.1 S	.u.		SM 2011 4500-H+B	0.00	N/A *
12/20 0550 NTR	Solids, Total Dissolved	60.0 m	d/L		SM 2011 2540 C	2.26	$N/\Delta *$
12/13 0900 JGK	Spec. Conductance @ 25 C	69.000 u	mho/c		EPA 120.1	0 12	$N/\Delta *$
12/13 0900 JGK	Temperature	17.10 °	C		SM 2000 2550 B	0.00	$N/\Delta *$
12/13 1000 NTR	Nitrate + Nitrite	5.06 m	q/L		HACH 10206	4 21	101 8 *
12/13 0900 JGK	Well Depth, Total	17.50 F	eet			N/A	N/Z
12/13 0900 JGK	Depth to Water	14.25 F	eet			N/A	N/A
* QA data sho	wn is from a different sam	ole or standard (on the same	date.			

Signature

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Environmenta Little Roc **Groundwater Monite**

Sample

Identification (Customer #)

#13 (507)

#14 (508)

#16 (509)

#17 (649)

Relinquished by: Comments:

for

Clinton Wells

	Laboratory Control Number	Sample Time:	Depth To Water	Total Well Depth			эΗ	Samı	ole Da Sp	te: ecific Co	<u>l</u> onducta	<u>2113</u> nce	21	Temp Degr	erature ees C		Cl, TDS (1L Plastic ≤ 6 Deg C)	NO3+N O2 (8 oz Plastic
/e	lls				#1	#2	#3	Time	#1	#2	#3	Time	#1	#2	#3	Time		
2	1/20/0370	0920	9'8''	15' 4"	6.1	6.0	6.0	0920	1682	168-0	168:2	0920	9.8	9.8	9.8	0920	x	x
2	112010371	0910	10'3"	13' 1"	5.7	5.8	5.7	OCIID	108-2	1.08.0	108-2	0410	13.7	13.5	13.7	0910	x	X
2	112010372	0945	Dry	14' 0''	ĺ	Dey	w (11	6945	Dr	y WI	211	0945	Dry	Wei	l	0945	x	X
2	112010373	0900	14'3''	17' 6"	5.1	5.0	5-1	0900	69.0	69.4	69.4	0900	17,1	17.3	17.1	0900	x	х
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	*****																	ungen marken som berken uter som
																		410-04-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0
																		0777-71721021010100000000000000000000000

CITY OF CLINTON CLINTON WATER AND SEWER DEPARTMENT P.O. BOX 277 CLINTON, AR 72031 TELEPHONE (501) 745-4320 FAX (501) 745-2164

TO: <u>ESC</u>	
----------------	--

ATTN:_____JOYCE

FAX#:______501-221-1341

FROM: <u>Clinton Water + Sewer</u>

PAGES INCLUDING COVER PAGE: ____/

MESSAGE: Yearly Report 2021

East Plant: 68,112 mg, 193,5 Inches, 2283,19 Acres Dest Plant: No Discharge

Grown : Bermuda Hay Crops East side hand Dwners: Steve Bone & Will Dawson Danny Boone + Ray Grey Jeanings Owners :

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Control Number: 2207010292 Customer Name : CLINTON, EAST IW	Sample Date : 07/25/22 Sample Time : 1222	Collected By: JTH
Customer/Permit No. : 619 / AR0048836 001 Report Date : 08/02/22	Sample Type : GRAB/WWATER Sample From : IRRIGATION WATER	Work Order : Purchase Order :

7	- 7			Laboratory Anal	ysis			Quality A	Ssurance
An	aiysi	S						Precision	Accuracy
Date	Time	By	Parameter	Result	Notes	Quantity	Method		& Pagement
07/29	1800	$_{ m JFT}$	Sodium	17.6321 m	Ig/L		EPA 200 8	<u> </u>	<u>* Recovery</u>
07/29	1800	$_{ m JFT}$	Magnesium	2.0023 m	Ig/L		EPA 200 8	0.45	* 1.06
07/28	1200	ACL	Ammonia as N, (HACH/SM)	< 0.01 m	a/L		SM 2011 4500-NH2 C	0.25	115.2 *
07/29	1100	AAC	Total Kjeldahl Nitrogen	6.2 m	a/L		02/2014 HACH 10242	1.51	95.0 *
07/27	1440	ACL	Nitrate Nitrogen	1.6610 m	a/T.		U2/2014 HACH 10242	2.74	112.0
07/27	1440	ACL	Nitrite Nitrogen	0.1390 m	a/I.		EDD 254 1	0.00	102.0
07/29	1800	JFT	Potassium	6 6241 m	g/I.		EPA 354.1	1.80	102.0
07/29	1600	JFT	Calcium	5 6312 m	a/T		EPA 200.8	1.64	109.5 *
07/26	0930	ACL	Oil & Grease, Total	< 5 00 m	g/u a/I		EPA 200.8	0.81	107.0 *
07/25	1225	JTH	pH		9/1		EPA 1664 B	0.76	98.0 *
07/26	1015	ACL	Phosphorus Total (ag D)	2 0 0 5	.U.		SM 2011 4500-H+B	1.65	N/A *
07/27	1018	AAC	Solide Total Suspended	5.020 11	g/L		EPA 365.1	0.90	102.0 *
07/29	1800	TET	Nickel	55.00 m	g/L		SM 2011 2540 D	0.00	N/A *
07/29	1800	.757	Coppor	< 0.02000 m	g/L		EPA 200.8	0.62	100.0 *
07/20	1000	TET	Copper	< 0.0200 m	g/L		EPA 200.8	1.40	100.6 *
07/20	1000	JEI		0.0447 m	g/L		EPA 200.8	0.71	99.5 *
07/29	1800	UFI	Arsenic	0.0109 mg	g/L		EPA 200.8	0.46	106.3 *
07/30	1000	NIR	Nitrogen, Plant Available	3.66 mg	g/L		33 MSA 2nd Ed		20010
07/29	1800	JFT	Selenium	< 0.0150 mg	g/L		EPA 200.8	0.81	985*
07/26	1458	ACL	Electric Conductivity	1831.00 ur	mho/c		EPA 9050A(MOD)	0.44	99 0
07/29	T800	JFT	Molybdenum	< 0.0500 mg	g/L		EPA 200.8	0 60	104.6 *
07/25	1326	JFT	Fecal Coliform	1732.9 /:	100ml		06/2012 Colilert18	0.00	N/A *

* QA data shown is from a different sample or standard on the same date.

Report for Control Number: 2207010292 Continued on Next Page

Neo Justin		Laboratory Analysis	2			Ouality 2	Assurance
Analysis <u>Date</u> <u>Time</u> <u>By</u> 07/29 1800 JFT 07/28 1214 AAC 07/27 1315 ACL 07/27 1440 AAC 07/29 1800 JFT 07/29 1800 JFT	Parameter Cadmium Mercury BOD, Carbonaceous Solids, % Total Lead Sodium Absorption Ratio	<u>Result</u> < 0.02000 mg/L < 0.0050 mg/L 8.7 mg/L < 1.000 % 0.01458 mg/L 51.3731 Ratic	<u>Notes</u> _	Quantity	Method EPA 200.8 EPA 245.7 SM 2011 5210 B SM 1997 2540 G EPA 200.8 AGRN 724	Quality 1 Precision <u>% RPD</u> 0.33 0.00 22.09 0.00 0.12 0.45	Accuracy <u>Accuracy</u> <u>8 Recovery</u> 99.9 * 82.0 * 101.0 * N/A 96.5 * 86.1 *
* QA data show	vn is from a different samp:	le or standard on th	he same (late.			

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature _

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Page 2

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CHAIN OF CUSTODY



Carlsbad, New Mexico 575-887-1ESC

Client Information Project Information Requested Picture Client: Clinton, East IW Permit/Project #: AR0048836 Address: P.O. Box 277 Purchase Order #: (2) Clinton, AR 72031 Work Order # (2) (2) Phone: 501-745-4320 Sampler Name(s): (2) Fax: 501-745-2164 (3) (4) Contact: Mr. Phil Graham and Signature(s): (4) ESC Client Number: 619 (5) (4)	Oll & Grease (21)
Client: Clinton, East IW Permit/Project #: AR0048836 Image: Clinton, AR 72031 Address: P.O. Box 277 Purchase Order #: Image: Clinton, AR 72031 Work Order #: Image: Clinton, AR 72031 Image: Clinton, Clinton, Clinton, Clinton, AR 72031 Image: Clinton, C	UII & Grease (21) (Fecal Coliform (43.IF)
Address: P.O. Box 277 Purchase Order #: Image: Clinton, AR 72031 Work Order # Phone: 501-745-4320 Sampler Name(s): Image: Clinton,	Ull & Grease (21) (Fecal Coliform (43.IF)
Clinton, AR 72031 Work Order # Phone: 501-745-4320 Fax: 501-745-2164 Contact: Mr. Phil Graham ESC Client Number: 619	UII & Grease (21) (Fecal Coliform (43.IF)
Phone: 501-745-4320 Sampler Name(s): Dames Holder III III IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	UII & Grease (21) (Fecal Coliform (43.IF)
Fax: 501-745-2164 Contact: Mr. Phil Graham ESC Client Number: 619	UII & Grease (21) (Fecal Coliform (43.IF)
Contact: Mr. Phil Graham and Signature(s): Janua Haldin ESC Client Number: 619	Ull & Grease (2' (Fecal Coliform (4:
ESC Client Number: 619 $1 \\ 1 \\ 2 \\ 1 \\ 1 \\ 2 \\ 1 \\ 2 \\ 1 \\ 2 \\ 2$	UII & Grease (Fecal Colifor
	CII & Gr
Sample Identification Sample Collection Sample Containers	
Identification ESC Control # Date Time Type Matrix Type Volume Preservative # 0 0 2 2 2 2	
Irrigation Water 4207010202 7-85-82 1282 Grab Wwater Plastic 1 Liter Cool < 6° C 1 X X	
Grab Wwater Plastic 8 oz H2SO4 to pH <2 1 X	
Grab Wwater Plastic 8 oz HNO3 to pH <2 1	
Grab Wwater Glass 250 ml H2SO4 to pH <2 1	x
Grab Wwater Plastic 100 ml Cool < 6° C 1	x
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Relinquished By: (Signature and Printed Name) Date Time Received for Lab By: (Signature and Printed Name) Date Time Were samples properly pre	eserved:
Plow Data Field Test Time Analyst Result Result	Units
Comments: Metals: Hg(50.15), Cu(29.HW), Zn(30.HW), As(33.HW), Se(34.HW) Analyst: pH: いれた 3アル 9.06 9.08 S.L	.U.
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APPENDIX C SOIL SURVEY



United States Department of Agriculture

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Van Buren County, Arkansas



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



	MAP L	EGEND		MAP INFORMATION
Area of Int	e rest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:20,000.
Soils	Soil Map Unit Polygons Soil Map Unit Lines	00 V	Very Stony Spot Wet Spot	Please rely on the bar scale on each map sheet for map measurements.
Special I	Soil Map Unit Points Point Features	۵ ••	Other Special Line Features	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)
9 8	Blowout Borrow Pit	Water Feat	tures Streams and Canals ation	Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the
° ×	Closed Depression Gravel Pit	~	Rails Interstate Highways US Routes	Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.
:. ©	Gravelly Spot Landfill	~	Major Roads Local Roads	of the version date(s) listed below.
∧ ⊸ ⊗	Lava Flow Marsh or swamp Mine or Quarry	Backgrour	nd Aerial Photography	Survey Area Data: Version 5, Sep 13, 2021 Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.
0	Miscellaneous Water Perennial Water			Date(s) aerial images were photographed: Nov 19, 2020—Nov 28, 2020
× +	Rock Outcrop Saline Spot Sandy Spot			The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundering may be ovident
 ⊜ ◊	Severely Eroded Spot Sinkhole			shinting of map unit boundaries may be evident.
) S	Slide or Slip Sodic Spot			

10

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Barling silt loam, occasionally flooded	30.0	0.7%
2	Cane loam, 3 to 8 percent slopes	25.5	0.6%
4	Enders gravelly fine sandy loam, 3 to 8 percent slopes	725.0	15.9%
5	Enders gravelly fine sandy loam, 8 to 12 percent slopes	489.2	10.7%
7	Enders-Nella-Steprock complex, 8 to 20 percent slopes	65.3	1.4%
8	Enders-Nella-Steprock complex, 20 to 40 percent slopes	124.4	2.7%
9	Enders-Steprock complex, 8 to 20 percent slopes	858.8	18.8%
10	Enders-Steprock complex, 20 to 40 percent slopes	137.9	3.0%
12	Kenn-Ceda complex, 0 to 3 percent slopes, frequently flooded	524.2	11.5%
16	Linker gravelly fine sandy loam, 3 to 8 percent slopes	52.8	1.2%
19	Linker-Mountainburg complex, 8 to 20 percent slopes	4.9	0.1%
23	Nella-Steprock complex, 20 to 40 percent slopes	14.7	0.3%
24	Sidon fine sandy loam, 1 to 3 percent slopes	28.5	0.6%
27	Spadra loam, 0 to 3 percent slopes, occasionally flooded	496.3	10.9%
29	Steprock-Linker complex, 3 to 8 percent slopes	268.3	5.9%
30	Steprock-Mountainburg complex, 3 to 8 percent slopes	294.6	6.5%
31	Steprock-Mountainburg complex, 8 to 20 percent slopes	126.3	2.8%
32	Steprock-Mountainburg-Rock outcrop complex, 40 to 60 percent slopes	104.1	2.3%
33	Steprock-Nella-Mountainburg complex, 20 to 40 percent slopes	28.6	0.6%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
34	Taft silt loam, 0 to 2 percent slopes	51.0	1.1%
36	Water	113.4	2.5%
Totals for Area of Interest		4,564.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities. Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Van Buren County, Arkansas

1—Barling silt loam, occasionally flooded

Map Unit Setting

National map unit symbol: Iyq5 Elevation: 200 to 700 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: All areas are prime farmland

Map Unit Composition

Barling and similar soils: 90 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Barling

Setting

Landform: River valleys, flood plains *Down-slope shape:* Linear *Across-slope shape:* Linear *Parent material:* Silty alluvium derived from sandstone and siltstone

Typical profile

Ap - 0 to 5 inches: silt loam BA - 5 to 10 inches: silt loam Bw1 - 10 to 48 inches: silt loam Bw2 - 48 to 72 inches: silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 12 to 48 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Aquents

Percent of map unit: 10 percent Landform: River valleys, depressions Down-slope shape: Concave Across-slope shape: Convex Hydric soil rating: Yes

2—Cane loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: lyqj Elevation: 400 to 600 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Cane and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Cane

Setting

Landform: Hills Landform position (three-dimensional): Nose slope Down-slope shape: Convex Across-slope shape: Linear, convex Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

Ap - 0 to 6 inches: loam Bt - 6 to 23 inches: loam Btx - 23 to 72 inches: clay loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 19 to 27 inches to fragipan
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: C Hydric soil rating: No

4-Enders gravelly fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: lyr2 Elevation: 500 to 2,500 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Enders and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Enders

Setting

Landform: Hills, hills Landform position (three-dimensional): Nose slope, interfluve Down-slope shape: Convex Across-slope shape: Linear, convex Parent material: Clayey residuum weathered from acid shale

Typical profile

A - 0 to 3 inches: gravelly fine sandy loam BA - 3 to 7 inches: gravelly loam Bt - 7 to 37 inches: clay BC - 37 to 52 inches: channery silty clay Cr - 52 to 68 inches: weathered bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: D Hydric soil rating: No

5-Enders gravelly fine sandy loam, 8 to 12 percent slopes

Map Unit Setting

National map unit symbol: lyr3 Elevation: 500 to 2,500 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Enders and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Enders

Setting

Landform: Hills, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex, linear Across-slope shape: Linear, convex Parent material: Clayey residuum weathered from acid shale

Typical profile

A - 0 to 3 inches: gravelly fine sandy loam BA - 3 to 7 inches: gravelly loam Bt - 7 to 37 inches: clay BC - 37 to 52 inches: channery silty clay Cr - 52 to 68 inches: weathered bedrock

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: D Hydric soil rating: No

7-Enders-Nella-Steprock complex, 8 to 20 percent slopes

Map Unit Setting

National map unit symbol: 2s1y2 Elevation: 500 to 2,500 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 175 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Enders and similar soils: 50 percent Nella and similar soils: 21 percent Steprock and similar soils: 20 percent Minor components: 9 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Enders

Setting

Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear Parent material: Clayey residuum weathered from acid shale

Typical profile

A - 0 to 3 inches: stony fine sandy loam E - 3 to 8 inches: gravelly silt loam Bt1 - 8 to 40 inches: clay Bt2 - 40 to 54 inches: clay Cr - 54 to 58 inches: bedrock

Properties and qualities

Slope: 8 to 20 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Hydric soil rating: No

Description of Nella

Setting

Landform: Hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 3 inches: stony fine sandy loam
BA - 3 to 10 inches: gravelly fine sandy loam
Bt1 - 10 to 42 inches: gravelly sandy clay loam
Bt2 - 42 to 72 inches: very gravelly sandy clay loam

Properties and qualities

Slope: 8 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: B Hydric soil rating: No

Description of Steprock

Setting

Landform: Hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 2 inches: stony fine sandy loam BA - 2 to 8 inches: flaggy loam Bt - 8 to 27 inches: very gravelly loam Cr - 27 to 46 inches: weathered bedrock

Properties and qualities

Slope: 8 to 20 percent Depth to restrictive feature: 20 to 40 inches to paralithic bedrock Drainage class: Well drained Runoff class: Medium Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Linker

Percent of map unit: 9 percent Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear

8-Enders-Nella-Steprock complex, 20 to 40 percent slopes

Map Unit Setting

National map unit symbol: 2s1y3 Elevation: 500 to 1,500 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 175 to 250 days Farmland classification: Not prime farmland

Map Unit Composition

Enders and similar soils: 55 percent *Nella and similar soils:* 20 percent *Steprock and similar soils:* 19 percent *Minor components:* 6 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Enders

Setting

Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear Parent material: Clayey residuum weathered from acid shale

Typical profile

A - 0 to 3 inches: stony fine sandy loam E - 3 to 8 inches: gravelly silt loam Bt1 - 8 to 40 inches: clay Bt2 - 40 to 54 inches: clay Cr - 54 to 58 inches: bedrock

Properties and qualities

Slope: 20 to 40 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Hydric soil rating: No

Description of Nella

Setting

Landform: Hillsides or mountainsides Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Linear, convex Across-slope shape: Convex, linear Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 3 inches: stony fine sandy loam BA - 3 to 10 inches: gravelly fine sandy loam Bt1 - 10 to 42 inches: gravelly sandy clay loam Bt2 - 42 to 72 inches: very gravelly sandy clay loam

Properties and qualities

Slope: 20 to 40 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: B Hydric soil rating: No

Description of Steprock

Setting

Landform: Hillsides or mountainsides Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex, linear Across-slope shape: Linear, convex Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 2 inches: stony fine sandy loam
BA - 2 to 8 inches: flaggy loam
Bt - 8 to 27 inches: very gravelly loam
Cr - 27 to 46 inches: weathered bedrock

Properties and qualities

Slope: 20 to 40 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 6 percent Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear

9-Enders-Steprock complex, 8 to 20 percent slopes

Map Unit Setting

National map unit symbol: 2s1xz Elevation: 500 to 2,500 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Enders and similar soils: 50 percent *Steprock and similar soils:* 30 percent *Minor components:* 20 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Enders

Setting

Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear Parent material: Clayey residuum weathered from acid shale

Typical profile

A - 0 to 3 inches: stony fine sandy loam E - 3 to 8 inches: gravelly silt loam Bt1 - 8 to 40 inches: clay Bt2 - 40 to 54 inches: clay Cr - 54 to 58 inches: bedrock

Properties and qualities

Slope: 8 to 20 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Hydric soil rating: No

Description of Steprock

Setting

Landform: Benches, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 2 inches: stony fine sandy loam

- E 2 to 8 inches: flaggy loam
- Bt 8 to 27 inches: very gravelly loam

Cr - 27 to 46 inches: weathered bedrock

Properties and qualities

Slope: 8 to 20 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Nella

Percent of map unit: 15 percent Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, base slope, side slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear

Linker

Percent of map unit: 5 percent Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear

10-Enders-Steprock complex, 20 to 40 percent slopes

Map Unit Setting

National map unit symbol: 2s1y0 Elevation: 500 to 2,500 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 175 to 250 days Farmland classification: Not prime farmland

Map Unit Composition

Enders and similar soils: 45 percent Steprock and similar soils: 35 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Enders

Setting

Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear Parent material: Clayey residuum weathered from acid shale

Typical profile

A - 0 to 3 inches: stony fine sandy loam E - 3 to 8 inches: gravelly silt loam Bt1 - 8 to 40 inches: clay Bt2 - 40 to 54 inches: clay Cr - 54 to 58 inches: bedrock

Properties and qualities

Slope: 20 to 40 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Hydric soil rating: No

Description of Steprock

Setting

Landform: Hills, benches Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex, linear Across-slope shape: Linear, convex Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 2 inches: stony fine sandy loam
BA - 2 to 8 inches: flaggy loam
Bt - 8 to 27 inches: very gravelly loam
Cr - 27 to 46 inches: weathered bedrock

Properties and qualities

Slope: 20 to 40 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Nella

Percent of map unit: 15 percent Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear

Rock outcrop

Percent of map unit: 5 percent Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope, base slope Down-slope shape: Concave, convex Across-slope shape: Convex, linear

12—Kenn-Ceda complex, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2y1kd Elevation: 490 to 980 feet Mean annual precipitation: 46 to 64 inches Mean annual air temperature: 46 to 72 degrees F Frost-free period: 200 to 235 days Farmland classification: Not prime farmland

Map Unit Composition

Kenn and similar soils: 60 percent Ceda and similar soils: 30 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kenn

Setting

Landform: Flood-plain steps Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Gravelly alluvium derived from sandstone and shale and/or alluvium

Typical profile

A - 0 to 10 inches: cobbly fine sandy loam
Bt1 - 10 to 19 inches: sandy clay loam
Bt2 - 19 to 29 inches: gravelly sandy clay loam
2BC - 29 to 45 inches: very gravelly sandy clay loam
2C - 45 to 79 inches: extremely gravelly fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B *Ecological site:* F119XY013AR - Loamy Floodplain *Hydric soil rating:* No

Description of Ceda

Setting

Landform: Flood-plain steps Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Concave Parent material: Gravelly alluvium derived from sandstone and shale

Typical profile

A - 0 to 6 inches: very cobbly fine sandy loam

C - 6 to 79 inches: extremely cobbly fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Surface area covered with cobbles, stones or boulders: 2.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 5w Hydrologic Soil Group: A Ecological site: F119XY012AR - Loamy Skeletal Floodplain Hydric soil rating: No

Minor Components

Woodall

Percent of map unit: 10 percent Landform: Flood-plain steps Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Linear Ecological site: F119XY015AR - Loamy Wet Bottomland Hydric soil rating: Yes

16—Linker gravelly fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2sntb Elevation: 230 to 860 feet Mean annual precipitation: 43 to 61 inches Mean annual air temperature: 54 to 63 degrees F Frost-free period: 200 to 264 days Farmland classification: All areas are prime farmland

Map Unit Composition

Linker and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Linker

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit Landform position (three-dimensional): Mountaintop, interfluve Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy residuum weathered from sandstone

Typical profile

Ap - 0 to 6 inches: gravelly fine sandy loam BA - 6 to 13 inches: gravelly loam Bt - 13 to 31 inches: gravelly clay loam R - 31 to 41 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Sodium adsorption ratio, maximum: 0.1
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Mountainburg

Percent of map unit: 11 percent Landform: Hills Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Convex Ecological site: R117XY012AR - Sandstone Ledge Hydric soil rating: No

Sidon

Percent of map unit: 4 percent Landform: Benches Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

19—Linker-Mountainburg complex, 8 to 20 percent slopes

Map Unit Setting

National map unit symbol: lyqh Elevation: 500 to 2,800 feet Mean annual precipitation: 35 to 67 inches Mean annual air temperature: 47 to 74 degrees F Frost-free period: 210 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Linker and similar soils: 50 percent *Mountainburg and similar soils:* 30 percent *Minor components:* 20 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Linker

Setting

Landform: Hills, hillslopes, benches, ledges Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear, convex Across-slope shape: Convex, linear Parent material: Loamy residuum weathered from sandstone

Typical profile

A - 0 to 5 inches: gravelly fine sandy loam BA - 5 to 12 inches: loam

Bt - 12 to 32 inches: sandy clay loam

R - 32 to 35 inches: unweathered bedrock

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C Hydric soil rating: No

Description of Mountainburg

Setting

Landform: Ledges, hills, benches, hillsides Landform position (three-dimensional): Side slope Down-slope shape: Convex, linear Across-slope shape: Linear, convex Parent material: Gravelly and stony, loamy residuum weathered from sandstone and siltstone

Typical profile

A - 0 to 3 inches: gravelly fine sandy loam

E - 3 to 7 inches: gravelly fine sandy loam

- Bt 7 to 17 inches: very gravelly sandy clay loam
- *R* 17 to 20 inches: unweathered bedrock

Properties and qualities

Slope: 8 to 12 percent

Depth to restrictive feature: 12 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: D Ecological site: R118AY013AR - SANDSTONE LEDGE Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 15 percent *Hydric soil rating:* No

Unnamed

Percent of map unit: 5 percent Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

23-Nella-Steprock complex, 20 to 40 percent slopes

Map Unit Setting

National map unit symbol: lyqn Elevation: 260 to 1,920 feet Mean annual precipitation: 35 to 67 inches Mean annual air temperature: 47 to 74 degrees F Frost-free period: 210 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Nella and similar soils: 50 percent Steprock and similar soils: 25 percent Minor components: 25 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nella

Setting

Landform: Hills, benches Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex, linear Across-slope shape: Linear, convex Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 3 inches: stony fine sandy loam
E - 3 to 10 inches: gravelly fine sandy loam
Bt1 - 10 to 42 inches: gravelly sandy clay loam
Bt2 - 42 to 72 inches: very gravelly sandy clay loam

Properties and qualities

Slope: 20 to 40 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: B Hydric soil rating: No

Description of Steprock

Setting

Landform: Hillsides or mountainsides, hills, benches Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountaintop, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 2 inches: stony fine sandy loam
BA - 2 to 8 inches: gravelly loam
Bt - 8 to 27 inches: very gravelly loam
Cr - 27 to 46 inches: weathered bedrock

Properties and qualities

Slope: 20 to 40 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 15 percent Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Rock outcrop

Percent of map unit: 10 percent Hydric soil rating: No

24—Sidon fine sandy loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: lyqp Elevation: 1,000 to 1,500 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: All areas are prime farmland

Map Unit Composition

Sidon and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sidon

Setting

Landform: Benches, plateaus Down-slope shape: Concave, convex Across-slope shape: Linear, convex Parent material: Clayey residuum weathered from sandstone and shale

Typical profile

Ap - 0 to 6 inches: fine sandy loam Bt - 6 to 24 inches: clay loam Btx - 24 to 39 inches: clay loam BC - 39 to 48 inches: sandy clay loam R - 48 to 50 inches: unweathered bedrock

Properties and qualities

Slope: 1 to 3 percent
 Depth to restrictive feature: 20 to 28 inches to fragipan; 40 to 60 inches to lithic bedrock
 Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 16 to 30 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2e Hydrologic Soil Group: C Hydric soil rating: No

27—Spadra loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2ymkm Elevation: 490 to 980 feet Mean annual precipitation: 45 to 56 inches Mean annual air temperature: 55 to 62 degrees F Frost-free period: 165 to 220 days Farmland classification: All areas are prime farmland

Map Unit Composition

Spadra and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Spadra

Setting

Landform: Flood-plain steps Landform position (three-dimensional): Tread Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy alluvium derived from sandstone and shale

Typical profile

Ap - 0 to 6 inches: loam Bt - 6 to 44 inches: loam BC - 44 to 59 inches: fine sandy loam C - 59 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Guthrie

Percent of map unit: 5 percent Landform: Stream terraces Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Aquepts

Percent of map unit: 4 percent Landform: Flood-plain steps Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Convex Hydric soil rating: Yes

Ceda

Percent of map unit: 3 percent Landform: Flood-plain steps Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Concave Ecological site: F119XY012AR - Loamy Skeletal Floodplain Hydric soil rating: No

Barling

Percent of map unit: 3 percent Landform: Flood-plain steps Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

29—Steprock-Linker complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2sp1w Elevation: 240 to 1,830 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 56 to 62 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Steprock and similar soils: 55 percent Linker and similar soils: 25 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Steprock

Setting

Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy residuum weathered from sandstone and shale

Typical profile

A - 0 to 4 inches: gravelly fine sandy loam BA - 4 to 8 inches: gravelly loam Bt - 8 to 27 inches: very gravelly loam Cr - 27 to 46 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C Hydric soil rating: No

Description of Linker

Setting

Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy residuum weathered from sandstone

Typical profile

A - 0 to 5 inches: gravelly fine sandy loam
BA - 5 to 12 inches: fine sandy loam
Bt1 - 12 to 24 inches: loam
Bt2 - 24 to 32 inches: sandy clay loam
R - 32 to 42 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent Depth to restrictive feature: 20 to 40 inches to lithic bedrock Drainage class: Well drained Runoff class: High

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 0.1
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: C Forage suitability group: Unnamed (G118AY099OK) Other vegetative classification: Unnamed (G118AY099OK) Hydric soil rating: No

Minor Components

Mountainburg

Percent of map unit: 10 percent Landform: Hillslopes Landform position (two-dimensional): Summit Landform position (three-dimensional): Crest Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Enders

Percent of map unit: 10 percent Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

30—Steprock-Mountainburg complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2sp1n Elevation: 280 to 1,940 feet Mean annual precipitation: 49 to 53 inches Mean annual air temperature: 54 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Steprock and similar soils: 50 percent

Mountainburg and similar soils: 30 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Steprock

Setting

Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy residuum weathered from sandstone and shale

Typical profile

A - 0 to 4 inches: gravelly fine sandy loam BA - 4 to 8 inches: gravelly loam Bt - 8 to 27 inches: very gravelly loam Cr - 27 to 46 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C Hydric soil rating: No

Description of Mountainburg

Setting

Landform: Hillslopes Landform position (two-dimensional): Summit Landform position (three-dimensional): Crest Down-slope shape: Linear Across-slope shape: Convex Parent material: Loamy residuum weathered from sandstone

Typical profile

A - 0 to 2 inches: gravelly fine sandy loam
BA - 2 to 7 inches: gravelly fine sandy loam
Bt - 7 to 17 inches: very gravelly sandy clay loam
R - 17 to 20 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent *Depth to restrictive feature:* 12 to 20 inches to lithic bedrock *Drainage class:* Well drained Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: D Ecological site: R117XY012AR - Sandstone Ledge Hydric soil rating: No

Minor Components

Enders

Percent of map unit: 10 percent Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Linker

Percent of map unit: 10 percent Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

31—Steprock-Mountainburg complex, 8 to 20 percent slopes

Map Unit Setting

National map unit symbol: 2sp1p Elevation: 280 to 1,940 feet Mean annual precipitation: 49 to 53 inches Mean annual air temperature: 54 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Steprock and similar soils: 50 percent Mountainburg and similar soils: 30 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Steprock

Setting

Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy residuum weathered from sandstone and shale

Typical profile

A - 0 to 4 inches: stony fine sandy loam BA - 4 to 8 inches: gravelly loam Bt - 8 to 27 inches: very gravelly loam Cr - 27 to 37 inches: bedrock

Properties and qualities

Slope: 8 to 20 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Hydric soil rating: No

Description of Mountainburg

Setting

Landform: Hillslopes Landform position (two-dimensional): Summit Landform position (three-dimensional): Crest Down-slope shape: Linear Across-slope shape: Convex Parent material: Loamy residuum weathered from sandstone

Typical profile

A - 0 to 2 inches: stony fine sandy loam
BA - 2 to 7 inches: stony fine sandy loam
Bt - 7 to 17 inches: very gravelly sandy clay loam
R - 17 to 27 inches: bedrock

Properties and qualities

Slope: 8 to 20 percent Depth to restrictive feature: 12 to 20 inches to lithic bedrock Drainage class: Well drained Runoff class: Medium Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R117XY012AR - Sandstone Ledge Hydric soil rating: No

Minor Components

Enders

Percent of map unit: 10 percent Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Linker

Percent of map unit: 10 percent Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

32—Steprock-Mountainburg-Rock outcrop complex, 40 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2sp1q Elevation: 330 to 1,670 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 56 to 62 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Steprock and similar soils: 35 percent Mountainburg and similar soils: 25 percent *Rock outcrop:* 20 percent *Minor components:* 20 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Steprock

Setting

Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Loamy residuum weathered from sandstone and shale

Typical profile

A - 0 to 2 inches: stony fine sandy loam BA - 2 to 8 inches: gravelly loam Bt - 8 to 27 inches: very gravelly loam Cr - 27 to 37 inches: bedrock

Properties and qualities

Slope: 40 to 60 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: C Hydric soil rating: No

Description of Mountainburg

Setting

Landform: Hillslopes Landform position (two-dimensional): Summit Landform position (three-dimensional): Crest Down-slope shape: Linear Across-slope shape: Convex Parent material: Loamy residuum weathered from sandstone

Typical profile

A - 0 to 2 inches: stony fine sandy loam
BA - 2 to 7 inches: stony fine sandy loam
Bt - 7 to 17 inches: very gravelly sandy clay loam
R - 17 to 27 inches: bedrock

Properties and qualities

Slope: 40 to 60 percent *Surface area covered with cobbles, stones or boulders:* 0.0 percent Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: D Ecological site: R117XY012AR - Sandstone Ledge Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear

Properties and qualities

Slope: 40 to 60 percent *Depth to restrictive feature:* 0 inches to lithic bedrock *Runoff class:* Very high

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8

Minor Components

Nella

Percent of map unit: 10 percent Landform: Hillslopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear

Enders

Percent of map unit: 10 percent Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear

33—Steprock-Nella-Mountainburg complex, 20 to 40 percent slopes

Map Unit Setting

National map unit symbol: 2sp1r Elevation: 330 to 1,380 feet Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 56 to 62 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Steprock and similar soils: 50 percent Nella and similar soils: 20 percent Mountainburg and similar soils: 15 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Steprock

Setting

Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Loamy residuum weathered from sandstone and shale

Typical profile

A - 0 to 2 inches: stony fine sandy loam BA - 2 to 8 inches: gravelly loam Bt - 8 to 27 inches: very gravelly loam Cr - 27 to 37 inches: bedrock

Properties and qualities

Slope: 20 to 40 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: C Hydric soil rating: No

Description of Nella

Setting

Landform: Hillslopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Alluvium and/or loamy colluvium derived from sandstone and shale

Typical profile

A - 0 to 3 inches: stony fine sandy loam
E - 3 to 10 inches: gravelly fine sandy loam
Bt1 - 10 to 42 inches: gravelly sandy clay loam
Bt2 - 42 to 72 inches: very gravelly sandy clay loam

Properties and qualities

Slope: 20 to 40 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Hydric soil rating: No

Description of Mountainburg

Setting

Landform: Hillslopes Landform position (two-dimensional): Summit Landform position (three-dimensional): Crest Down-slope shape: Linear Across-slope shape: Convex Parent material: Loamy residuum weathered from sandstone

Typical profile

A - 0 to 2 inches: stony fine sandy loam BA - 2 to 7 inches: stony fine sandy loam Bt - 7 to 17 inches: very gravelly sandy clay loam R - 17 to 27 inches: bedrock

Properties and qualities

Slope: 20 to 40 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: D Ecological site: R117XY012AR - Sandstone Ledge Hydric soil rating: No

Minor Components

Linker

Percent of map unit: 8 percent Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Enders

Percent of map unit: 7 percent Landform: Hillslopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

34—Taft silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t5yg Elevation: 190 to 1,910 feet Mean annual precipitation: 45 to 58 inches *Mean annual air temperature:* 55 to 63 degrees F *Frost-free period:* 210 to 260 days *Farmland classification:* All areas are prime farmland

Map Unit Composition

Taft and similar soils: 90 percent *Minor components:* 10 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Taft

Setting

Landform: Stream terraces Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Linear Parent material: Old fine-silty alluvium derived from shale and siltstone over residuum weathered from sandstone and shale

Typical profile

Ap - 0 to 6 inches: silt loam BE - 6 to 13 inches: silt loam Bw - 13 to 24 inches: silt loam 2Btx/E - 24 to 39 inches: silty clay loam 2Btx - 39 to 59 inches: silty clay loam 3Bt - 59 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 19 to 28 inches to fragipan
Drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 9 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3w Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Leadvale

Percent of map unit: 5 percent Landform: Stream terraces Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Guthrie, hydric

Percent of map unit: 4 percent Landform: Stream terraces Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Barling

Percent of map unit: 1 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

36—Water

Map Unit Setting

National map unit symbol: 1lfv4 Mean annual precipitation: 43 to 58 inches Mean annual air temperature: 47 to 71 degrees F Frost-free period: 215 to 264 days Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

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