4500 NORTH WEST AVE. • P. O. BOX 231 • EL DORADO, AR 71731 • (870) 863-1400

EL DORADO

CHEMICAL COMPANY

November 21, 2013

Arkansas Department of Environmental Quality
Water Enforcement Branch
5301 Northshore Drive
North Little Rock, AR 72118-5317

RE: NPDES Permit AR0000752 Discharge Monitoring Report for period ending October 31, 2013.

Enclosed you will find the Discharge Monitoring Reports ending October 31, 2013. The DMR's for Outfall 010-A were entered on the blank DMR forms provided by Amy Schluterman, ADEQ Water Enforcement.
If you have any questions regarding this report, please contact Larken Pennington at (870) 863-1125.

Sincerely,

Greg Withrow

Greg Withrow
General Manager

Enclosures

NON-COMPLIANCE REPORT

Facility Name: El Dorado Chemical Company

Permit Number: AR0000752 **AFIN:** 70-00040

Month / Year: Oct-13

Type of Violation	Permit Limit	Date of Violation	Cause of Violation	Corrective Action or Other Narrative
Outfall 002 / pH Maximum (10.3 su.)	10.3 su Maximum	10/31/2013	Heavy rainfall in a short period of time caused Outfall 002 to discharge.	Discharges from Outfall 002 consist of an overflow from the stabilization/pretreatment basin within the wastewater treatment process during periods of excessive rainfall. The background concentrations from the creek upstream of Outfall 002 could have influenced the results.
Outfall 002 / NH3-N Monthly Average and Daily Max (18.2 mg/L)	12 mg/L Monthly Average / 18 mg/L Daily Max	10/31/2013	Heavy rainfall in a short period of time caused Outfall 002 to discharge.	Discharges from Outfall 002 consist of an overflow from the stabilization/pretreatment basin within the wastewater treatment process during periods of excessive rainfall. The background concentrations from the creek upstream of Outfall 002 could have influenced the results.
Outfall 002 / NO3-N Monthly Average (31.3 mg/L)	26.3 mg/L Monthly Average	10/31/2013	Heavy rainfall in a short period of time caused Outfall 002 to discharge.	Discharges from Outfall 002 consist of an overflow from the stabilization/pretreatment basin within the wastewater treatment process during periods of excessive rainfall. The background concentrations from the creek upstream of Outfall 002 could have influenced the results.
Outfall 002 / Lead Monthly Average and Daily Max (34.4 ug/L)	3.8 ug/L Monthly Average / 7.62 ug/L Daily Max	10/31/2013	Heavy rainfall in a short period of time caused Outfall 002 to discharge.	Discharges from Outfall 002 consist of an overflow from the stabilization/pretreatment basin within the wastewater treatment process during periods of excessive rainfall. The background concentrations from the creek upstream of Outfall 002 could have influenced the results.
Outfall 002 / Copper Monthly Average (23.3 ug/L)	12.2 ug/L Monthly Average	10/31/2013	Heavy rainfall in a short period of time caused Outfall 002 to discharge.	Discharges from Outfall 002 consist of an overflow from the stabilization/pretreatment basin within the wastewater treatment process during periods of excessive rainfall. The background concentrations from the creek upstream of Outfall 002 could have influenced the results.
Outfall 010 / Zinc Monthly Average Loading (7.84 lb/day)	7.35 lb/day Monthly Average Loading	10/9/2013	Unknown	
Outfall 006 / Zinc Monthly Average (169.0 ug/L)	115.62 ug/L Monthly Average	10/1/2013, 10/31/13	Unknown	EDCC continues to monitor and evaluate potential sources of the Zinc excursion.
Outfall 006 / Lead Monthly Average (14.01 ug/L)	3.8 ug/L Monthly Average	10/1/2013, 10/31/13	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 006 / Lead Daily Max (18.4 ug/L)	7.62 ug/L Daily Max	10/1/2013	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 006 / TDS Monthly Average (350 mg/L)	291 mg/L Monthly Average	10/1/2013	Unknown	EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover.
Outfall 006 / TDS Daily Max (520 mg/L)	436.5 mg/L Daily Max	10/1/2013	Unknown	EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover.
Outfall 007 / Zinc Monthly Average (162.5 ug/L)	115.62 ug/L Monthly Average	10/1/2013, 10/31/13	Unknown	EDCC continues to monitor and evaluate potential sources of the Zinc excursion.
Outfall 007 / Lead Monthly Average (20.45 ug/L)	3.8 ug/L Monthly Average	10/1/2013, 10/31/13	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 007/ Lead Daily Max (30.8 ug/)	7.62 ug/L Daily Max	10/1/2013	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 007 / TDS Monthly Average (425mg/L)	291 mg/L Monthly Average	10/1/2013	Unknown	EDCC has land applied pelletized lime in the area of outfall 007 in an effort to promote vegetative cover.
Outfall 007 / TDS Daily Max (570 mg/L)	436.5 mg/L Daily Max	10/1/2013	Unknown	EDCC has land applied pelletized lime in the area of outfall 007 in an effort to promote vegetative cover.

I CERTIFY THAT UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

Signature / Date

Bio-Analytical Laboratories (BAL)
ADEQ#88-0630
Project X5256

Bio-Analytical Laboratories' Executive Summary

Permittee: El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731
Project #: X5256
Outfall: Outfall 002 (overflow pond for process water and storm water)
Permit #: AR0000752/ AFIN #70-00040
Contact: Ms. Larken Pennington
Test Dates: November 1 - 3, 2013
Test Type: 48-hour acute toxicity test using *Pimephales promelas* (EPA 2000.0).
48-hour acute toxicity test using *Daphnia pulex* (EPA 2021.0)

Results:

For *Pimephales promelas:*

1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C- 1.
2. Report the NOEC for survival, Parameter TOM6C - 0.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM6C - 0.00%.

For *Daphnia pulex:*

1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D- 1.
2. Report the NOEC for survival, Parameter TOM3D -0.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D - 7.62%.

This report contains a total of 35 pages, including this page. The results pertain only to the samples listed in the chain of custody documents in Appendix A. The information contained within meets the requirements set forth by ADEQ. The chemical data in this report is for monitoring purposes only and should not be reported on discharge monitoring reports.

Bio-Analytical Laboratories

3240 Spurgin Road
Post Office Box 527
Doyline, LA 71023

(318) 745-2772
1-800-259-1246
Fax: (318) 745-2773

THE RESULTS OF TWO 48-HOUR ACUTE TOXICITY TESTS FOR OUTFALL 002 AT

EL DORADO CHEMICAL COMPANY
El Dorado, Arkansas

NPDES #AR0000752
AFIN #70-00040

EPA Methods 2000.0 and 2021.0

Project X5256

Test Dates: November 1 - 3, 2013
Report Date: November 18, 2013

Prepared for:
Ms. Larken Pennington
El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731

Prepared by:
Ginger Briggs
Bio-Analytical Laboratories
P.O. Box 527
Doyline, LA 71023
ADEQ #88-0630

BAL
ADEQ #88-0630
Project X5256

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BAL
ADEQ #88-0630
Project X5256

1.0 Introduction

Bio-Analytical Laboratories (BAL), Doyline, Louisiana conducted two 48-hour acute toxicity tests for Outfall 002 at El Dorado Chemical Company, El Dorado, Arkansas. The test organisms used were the fathead minnow, *Pimephales promelas* and the cladoceran, *Daphnia pulex*. The purpose of this study is to determine if an appropriately dilute effluent sample adversely affects the survival of the test organism. Toxicity is defined as a statistically significant difference at the 95 percent confidence level between the survival of the test organisms in the critical dilution (the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions) compared to the survival of the test organisms in the control. The test endpoints are the No-Observed-Effect-Concentration (NOEC), which is defined as the highest effluent concentration that is not statistically different from the control, and the 48-hour LC_{50}, the concentration in which 50 percent of the test organisms died.

2.0 Methods and Materials

2.1 Test Methods

All methods followed were according to the latest edition of "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012),"Standard Methods for The Examination of Water and Wastewater. 20th Edition" (APHA 1998), and BAL's standard operating procedures.

2.2 Test Organisms

The fathead minnows were raised in-house and were approximately two days old at test initiation. The *Daphnia pulex* test organisms were raised in-house and were less than 24 hours old at test initiation. Forty-eight hour reference toxicant tests, using sodium chloride (NaCl), were conducted monthly in order to document organism sensitivity and demonstration of capability.

2.3 Dilution Water

Soft reconstituted water made per EPA guidelines was used as the dilution water and the control for the acute tests.

2.4 Test Concentrations

The test concentrations used in the tests were 100.0, 75.0, 56.0, 42.0 and 32.0 percent effluent and a reconstituted water control. The critical dilution was defined as 100.0 percent effluent. The tests were conducted using five replicates of eight animals each for a total of 40 animals per concentration.

2.5 Sample Collection

One sample of Outfall 002 was collected by El Dorado Chemical personnel on October 31, 2013. Upon completion of collection, the sample was packed in ice and delivered to Bio-Analytical Laboratories by BAL personnel. The temperature upon arrival was -0.4^0 Celsius.

2.6 Sample Preparation

Upon arrival, the sample was logged in, given an identification number and refrigerated unless needed. Prior to use, the sample was warmed to 25$\pm$1^0 Celsius. The total residual chlorine level (SM4500-Cl D 1997) was measured with a Capital Controls^R amperometric titrator and recorded if present. The total ammonia level was measured using a HACH^R test strip. The initial pH of the sample was greater than 9.0; therefore, a portion of the sample was adjusted to a pH range of 6.0-9.0 using 1.0 Normal Hydrochloric Acid (1.0N HCl). An extra 100.0 percent pH-adjusted dilution was run with the test. Dissolved oxygen (SM4500-O G 1997), pH (SM4500-H+ B 1997) and conductivity (SM2510-B 1997) measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity (SM2320-B 1997) and hardness (SM2340-C 1997) levels were measured on the control and the highest effluent concentration.

2.7 Monitoring of the Tests

The tests were run in a Precision^R dual controlled illuminated incubator at a temperature of 25$\pm$1^0 Celsius. An AEMC^R data logger was used to monitor diurnal temperature throughout the testing period. Light cycle and intensity were recorded twice a month.

BAL
ADEQ #88-0630
Project X5256

2.8 Data Analysis

The NOEC and LC_{50} values values were obtained by approved EPA methods of analysis, using the ToxCalc statistical program.

3.0 Results and Discussion

The results of the tests can be found in Table 1. Significant differences in survival were noted in the critical dilution in both tests after only 24 hours (p=.05). The NOEC value for both tests was zero percent effluent (p=.05). The 48-hour LC_{50} value for the fathead minnow test and the *Daphnia pulex* test was 16.0 and 16.4 percent effluent, respectively. Adjusting the pH of the sample did not reduce the toxicity. See Appendix C- Statistical Analysis, for more information.

Table 1: Results of the 48-hour Acute Definitive Toxicity Tests

Percent Effluent	Percent Survival	
Test Organism	*Pimephales promelas*	*Daphnia pulex*
Control	100.0	95.0
32.0	0.0	2.5
42.0	0.0	0.0
56.0	0.0	0.0
75.0	0.0	0.0
100.0	0.0	0.0

The 48-hour reference toxicant test results indicate that the test organisms were within the respective sensitivity range. The graphs of the acute reference toxicant tests can be found in Appendix D.

BAL
ADEQ #88-0630
Project X5256

4.0 Conclusions

The sample of Outfall 002 collected from El Dorado Chemical Company, El Dorado, Arkansas, on October 31, 2013, was found to be lethally toxic to the fathead minnow test organisms and the *Daphnia pulex* test organisms in the 100 percent critical dilution after 24 hours of exposure (p=.05). The 48-hour LC_{50} value for the fathead minnow test and the *Daphnia pulex* test was 16.0 and 16.4 percent effluent, respectively (p=.05). Adjusting the pH of the sample did not reduce the toxicity.

BAL
ADEQ #88-0630
Project X5256

5.0 References

EPA, 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. EPA-821-R-02-012, Office of Water.

EPA, 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System. EPA-833-R-00-003, Office of Wastewater Management.

EPA, 2000. Method Guidance and Recommendations for Whole Effluent (WET) Testing. EPA-821-B-00-04, Office of Water

APHA, 1998. Standard Methods for The Examination of Water and Wastewater. 20th Edition.

APPENDIX A
CHAIN-OF-CUSTODY DOCUMENTS

Bio-Analytical Laboratories

3240 Spurgin Road
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Doyline, LA 71023

(318) 745-2772
1-800-259-1349
Fax: (318) 745-2773

NELAP/LELAP 01975, ADEQ 88-0630, TCEQ T104704278

Laboratory Use Only:

Company: El Dorado Chemical Company				**Phone:** (870) 863-1484	**Analysis:**								**Project Number:** X5256	
Address: 4500 Norwest Ave., El Dorado, AR 71731				**Fax:** (870) 863-7499										
Permit #: AR0000752/AFIN 70-00040				**Purchase Order:**									**Temp. upon arrival:**	
Sampler's Signature/Printed Name/Affiliation: Larken Pennington / Larken Pennington / EDCC													**Thermometer #:** 29	
													Tech: LC	
Date Start / **Date End**	**Time Start** / **Time End**	**C**	**G**	**# and type of container**	**Sample Identification**	Chronic Ceriodaphnia	Chronic minnow	Acute minnow (fresh/marine)	Acute Daphnia species	Acute Mysid	Acute Ceriodaphnia	Fecal Coliform	**Date:** 11/1/13 **Lab Control Number:**	**Preservative: (below)**
10/31/13	8:15-10:15	X		6 half gallon	002			X	X				C8154	Ice

Temperature upon arrival: -0.4°C

Relinquished by/Affiliation: Larken Pennington / EDCC	**Date:** 11/1/13	**Time:** 8:15am	**Received by/Affiliation:**	**Date:** 11/1/13	**Time:** 0900
Relinquished by/Affiliation:	**Date:**	**Time:**	**Received by/Affiliation:**	**Date:**	**Time:**
Relinquished by/Affiliation:	**Date:** 11/1/13	**Time:** 1200	**Received by/Affiliation:**	**Date:** 11/1/13	**Time:** 1200

Method of Shipment: ___ Lab ___ Bus ___ Fed Ex ___ DHL ___ UPS ___ Client ___ Other **Tracking #** _____

Comments:

COC Rev. 3.0

APPENDIX B
RAW DATA SHEETS

BIO-ANALYTICAL LABORATORIES
ACUTE TOXICITY TEST WATER QUALITY DATA

Project# X5256

Client: EDCC/El Dorado Chemical Company

Address: 4500 Northwest Ave El Dorado AR 71731

NPDES#AR0000752 Outfall 002

Technicians: EGB/AH/LC

Test initiated: Date 11/1/13 Time 1405

Test terminated: Date 11/3/13 Time 1530

Dissolved Oxygen Meter: Model # YSI 55D Serial #06E2089 AU
pH Meter: Model #Orion 230A+ Serial #105253
Conductivity Meter: Model # Control Co. Serial #80277924
Amperometric Titrator: Model #Fischer-Porter Serial #92W445766

Sample Information

Sample ID#	Initial D.O. (mg/L and %)	Aerate? Minutes/ Final D.O(mg/L & %)	Total Residual Chlorine (mg/L)	Dechlorinated? Amount?	Ammonia (NH3) mg/L	Salinity	Hardness	Alkalinity	Tech
C8154	9.2/108.4%	Y/20 8.1/95.1%	<0.01	NO	0.0	N/A	48.0	100.0	YC
↓	9.9/120.3%	Y/20 8.1/96.6%	↓	↓	↓	↓	↓	↓	YC

pH 9.6

Dilution Water Information

Dilution Water	ID#	Initial D.O (mg/L & %)	Aerate? Minutes/D.O (mg/L & %)	Total Residual Chlorine (mg/L)	Ammonia (NH3) mg/L	pH	Hardness	Alkalinity	Tech
Soft H2O	3552	NA	NA	NA	NA	7.4	48.0	32.0	YC
↓	3555	↓	↓	↓	↓	7.3	48.0	32.0	YC

Test Species Information

Test Species Info.	Species: ID#: D.pulex BAC/K110416	Species: ID#: P.promelas BAL/103013	Species: ID#:	Species: ID#:
Age	<24hrs	2days		
Test Container Size	30.0ml	250.0ml		
Test volume	25.0ml	200.0ml		
Feeding: Type	Algae/YCT	Artemia		
Amount	Fed 2.0 hours before initiation			
Aeration?	NA	NA		
Amount				
Condition of survivors	→ good EGB 11/3/13			

Comments:

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5256

Client EDCC

Test started: Date 11/1/13 Time 1405

Test ended: Date 11/3/13 Time 1530

Sample Description 002 Test Species D. pulex ID# BA4/K16-L16

Technician:	0hour SC	24hour LC	48hour EBB	72hour	96hour
Time:	0hour 1405	24hour 1040	48hour 1530	72hour	96hour
Temperature (°C):	0hour 24.7	24hour 24.1	48hour 24.6	72hour	96hour

Test Dilution	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0/0																						
0	A	N/A	8	7	7			8.1	8.3/8.4	8.4			7.4	7.8/7.7	7.5			144.6	303/289	255		
	B		8	7	7																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
					8/8/11/13																	
32.0	A		8	6	6			8.1	8.2/8.3	8.3			9.1	7.8/9.1	7.6			338	403/303	363		
	B		8	7	1																	
	C		8	8	0																	
	D		8	6	0																	
	E		8	7	0																	
Chemistry Tech prerenewal/postrenewal								LC	LC/LC	EBB			LC	LC/LC	EBB			LC	LC/LC	EBB		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5256

Client EDCC

Test started: Date 11/1/13 Time 1405

Test ended: Date 11/3/13 Time 1530

Test Species D. pulex ID# BAL/K16-446

Sample Description 002

Technician:	Ohour XC	24hour XC	48hour EGB	72hour	96hour
Time:	Ohour 1405	24hour 1040	48hour 1530	72hour	96hour
Temperature (°C):	Ohour 24.7	24hour 24.1	48hour 24.6	72hour	96hour

Test Dilution	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0/0																						
42.0	A	N/A	8	5	0			8.1	8.1/8.3	7.9			9.2	7.9/9.3	7.6			316	437/351	408		
	B		8	6	0																	
	C		8	4	0																	
	D		8	3	0																	
	E		8	5	0																	
56.0	A		8	2	0			8.1	8.0/8.2	7.8			9.3	7.9/9.3	7.7			430	427/417	474		
	B		8	0	0																	
	C		8	4	0																	
	D		8	1	0																	
	E		8	0	0																	
Chemistry Tech prerenewal/postrenewal								XC	XC/XC				XC	XC/XC	EGB			XC	XC/XC	EGB		

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BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5256

Client EDCC 002

Sample Description 002

Test started: Date 11/1/13 Time 1405

Test ended: Date 11/3/13 Time 1530

Test Species D. pulex ID# BAL/K16-46

Technician:	0hour LC	24hour LC	48hour EB	72hour	96hour	
Time:	0hour 1405	24hour 1040	48hour 1530	72hour	96hour	
Temperature (°C):	0hour 24.7	24hour 24.7	48hour 24.6	72hour	96hour	

Test Dilution	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0/0																						
75.0	A	N/A	8	0				8.0	8.0				9.4	8.0				508	541			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
100.0	A		8	0				8.1	8.0				9.6	8.0				599	609			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								LC	LC				LC	LC				LC	LC			

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5256

Client EDCC

Test started: Date 11/1/13 Time 1405

Test ended: Date 11/3/13 Time 1530

Test Species D. pulex ID# BAL/K16-L16

Sample Description 002

Technician:	Ohour LC	24hour LC	48hour EGB	72hour /	96hour /
Time:	Ohour 1405	24hour 1040	48hour 1530	72hour /	96hour /
Temperature (°C):	Ohour 24.7	24hour 24.7	48hour 24.1	72hour /	96hour /

Test Dilution	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
100 pH Adj	A		8	4	0			8.1	8.2 / 8.2	8.0			9.0	7.8 / 8.6	7.6			645	669 / 640	806		
	B		8	3	0																	
	C		8	0	0																	
	D		8	2	0																	
	E		8	1	0																	
									/					/					/			
Chemistry Tech prerenewal/postrenewal								LC	LC / LC	EGB			LC	LC / LC	EGB			LC	LC / LC	BB		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5256

Client EDCC

Test started: Date 11/1/13 Time 1430

Test ended: Date 11/3/13 Time 1520

Test Species ~~D. pulex~~ P. promelas ID# BAL 1103013 10/31

Sample Description 002

Technician: Ohour JC 24hour JC 48hour EGB 72hour _____ 96hour _____

Time: Ohour 1430 24hour 1050 48hour 1520 72hour _____ 96hour _____

Temperature (°C): Ohour 24.7 24hour 24.7 48hour 24.6 72hour _____ 96hour _____

Test Dilution	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0/0																						
0	A	N/A	8	8	8			8.1	7.8/8.4	8.1			7.4	~~8.5~~ 7.4	7.6			194.6	234/243	201		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
32.0	A		8	0				8.1	7.4				9.1	8.0				338	376			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								JC	JC/JC	EGB			JC	JC/JC	EGB			JC	JC/JC	EGB		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5256

Client EDCC

Test started: Date 11/1/13 Time 1430

Test ended: Date 11/3/13 Time 1520

Sample Description 002 Test Species P. promelas ID# BAL/103013

Technician: Ohour [illegible] 24hour [illegible] 48hour EDB 72hour _____ 96hour _____

Time: Ohour 1430 24hour 1050 48hour 1520 72hour _____ 96hour _____

Temperature (°C): Ohour 24.7 24hour 24.7 48hour 24.6 72hour _____ 96hour _____

Test Dilution	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0/0																						
42.0	A	N/A	8	0				8.1	7.3				9.2	8.2				376	411			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
56.0	A		8	0				8.1	7.3				9.3	8.3				430	408			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								LC	LC				LC	LC				LC	LC			

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5256

Client EDCC 002

Sample Description 002

Test started: Date 11/1/13 Time 1430

Test ended: Date 11/3/13 Time 1520

Test Species P.promelas ID# BAL/103013

Technician:	Ohour LC	24hour LC	48hour EGB	72hour	96hour
Time:	Ohour 1430	24hour 1050	48hour 1520	72hour	96hour
Temperature (°C):	Ohour 24.7	24hour 24.7	48hour 24.6	72hour	96hour

Test Dilution	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0/0																						
75.0	A	N/A	8	0				8.0	7.3				9.4	8.5				508	509			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
100.0	A		8	0				8.1	7.3				9.6	8.5				599	618			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								LC	LC/JC				RC	LC/JC				LC	LC/JC			

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5256

Client EDCC

Test started: Date 11/1/13 Time 1430

Test ended: Date 11/3/13 Time 1520

Sample Description 002 Test Species P. promelas ID# BAL/103013

Technician:	Ohour JC	24hour JC	48hour EGB	72hour /	96hour /
Time:	Ohour 1430	24hour 1050	48hour 1520	72hour /	96hour /
Temperature (°C):	Ohour 24.7	24hour 24.7	48hour 24.6	72hour /	96hour /

Test Dilution	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		N/A																				
100 pH Adj.	A		8	0				8.1	NA				9.0	8.0				605	702			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
									/					/					/			
Chemistry Tech prerenewal/postrenewal								JC	JC/JC				JC	JC/JC				JC	JC/JC			

ACUTE2 Rev 1.0

APPENDIX C
STATISTICAL ANALYSIS

Daphnid Acute Test-48 Hr Survival

Start Date:	11/1/2013	Test ID:	X5256DP	Sample ID:	AR0000752 002
End Date:	11/3/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/31/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	DP-Daphnia pulex

Comments:

Conc-%	1	2	3	4	5
D-Control	0.8750	0.8750	1.0000	1.0000	1.0000
32	0.0000	0.1250	0.0000	0.0000	0.0000
42	0.0000	0.0000	0.0000	0.0000	0.0000
56	0.0000	0.0000	0.0000	0.0000	0.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100 PH	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	0.9500	1.0000	1.3196	1.2094	1.3931	7.623	5			
*32	0.0250	0.0263	0.2144	0.1777	0.3614	38.301	5	19.029	1.860	0.1080
42	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5			
56	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5			
75	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5			
100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5			
100 PH	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5			

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.89039		0.842		0.3182	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5		23.1545			
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates significant differences Treatments vs D-Control	0.06178	0.06585	3.05356	0.00843	6.0E-08	1, 8

Reviewed by: EGB 11/11/13

Daphnid Acute Test-48 Hr Survival

Start Date:	11/1/2013	Test ID:	X5256DP	Sample ID:	AR0000752 002
End Date:	11/3/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/31/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	DP-Daphnia pulex

Comments:

Conc-%	1	2	3	4	5
D-Control	0.8750	0.8750	1.0000	1.0000	1.0000
32	0.0000	0.1250	0.0000	0.0000	0.0000
42	0.0000	0.0000	0.0000	0.0000	0.0000
56	0.0000	0.0000	0.0000	0.0000	0.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100 PH	0.0000	0.0000	0.0000	0.0000	0.0000

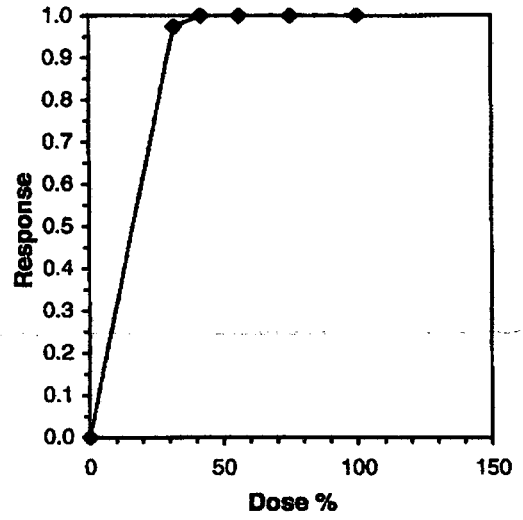
			Transform: Arcsin Square Root					Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Mean	N-Mean
D-Control	0.9500	1.0000	1.3196	1.2094	1.3931	7.623	5	0.9500	1.0000
32	0.0250	0.0263	0.2144	0.1777	0.3614	38.301	5	0.0250	0.0263
42	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	0.0000	0.0000
56	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	0.0000	0.0000
75	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	0.0000	0.0000
100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	0.0000	0.0000
100 PH	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.92295	0.881	0.36633	0.28
Equality of variance cannot be confirmed				

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	1.643	0.042	1.578	1.784	0.9816
IC10*	3.286	0.084	3.157	3.568	0.9816
IC15*	4.930	0.126	4.735	5.353	0.9816
IC20*	6.573	0.168	6.314	7.137	0.9816
IC25*	8.216	0.209	7.892	8.921	0.9816
IC40*	13.146	0.335	12.627	14.274	0.9816
IC50*	16.432	0.419	15.784	17.842	0.9816

* indicates IC estimate less than the lowest concentration



Reviewed by: EBB 11/11/13

Acute Fish Test-48 Hr Survival

Start Date:	11/1/2013	Test ID:	X5256PP	Sample ID:	AR0000752 002
End Date:	11/3/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/31/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas

Comments:

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
32	0.0000	0.0000	0.0000	0.0000	0.0000
42	0.0000	0.0000	0.0000	0.0000	0.0000
56	0.0000	0.0000	0.0000	0.0000	0.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100 PH	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5		
*32	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
*42	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
*56	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
*75	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
*100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
*100 PH	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	1	0.934		
Equality of variance cannot be confirmed				
Hypothesis Test (1-tail, 0.05)				
Steel's Many-One Rank Test indicates significant differences				
Treatments vs D-Control				

ToxCalc v5.0.23

Reviewed by: EBP 11/11/13

Acute Fish Test-48 Hr Survival

Start Date:	11/1/2013	Test ID:	X5256PP	Sample ID:	AR0000752 002
End Date:	11/3/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/31/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas

Comments:

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
32	0.0000	0.0000	0.0000	0.0000	0.0000
42	0.0000	0.0000	0.0000	0.0000	0.0000
56	0.0000	0.0000	0.0000	0.0000	0.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100 PH	0.0000	0.0000	0.0000	0.0000	0.0000

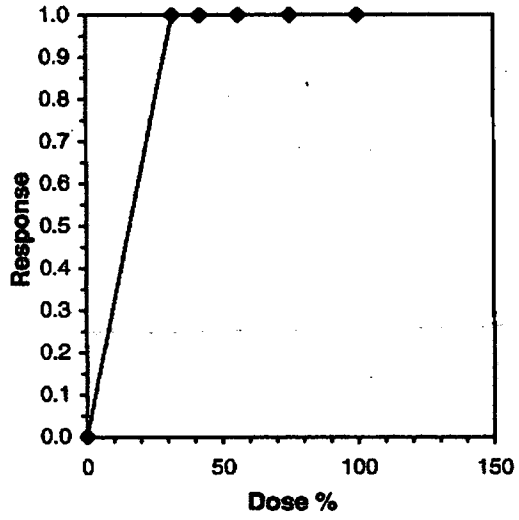
			Transform: Arcsin Square Root					Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Mean	N-Mean
								1.0000	1.0000
								0.0000	0.0000
								0.0000	0.0000
								0.0000	0.0000
								0.0000	0.0000
								0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	1	0.934		
Equality of variance cannot be confirmed				

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	1.600	0.000	1.600	1.600	#DIV/0!
IC10*	3.200	0.000	3.200	3.200	-1.0076
IC15*	4.800	0.000	4.800	4.800	1.0076
IC20*	6.400	0.000	6.400	6.400	-1.0076
IC25*	8.000	0.000	8.000	8.000	#DIV/0!
IC40*	12.800	0.000	12.800	12.800	-1.0076
IC50*	16.000	0.000	16.000	16.000	#DIV/0!

* Indicates IC estimate less than the lowest concentration

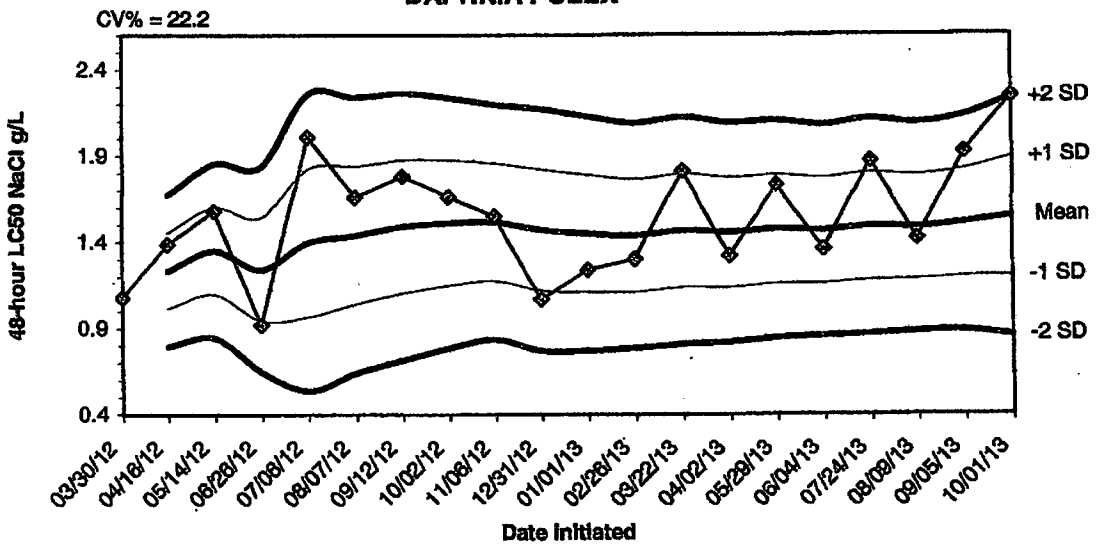


ToxCalc v5.0.23

Reviewed by: 11/11/13

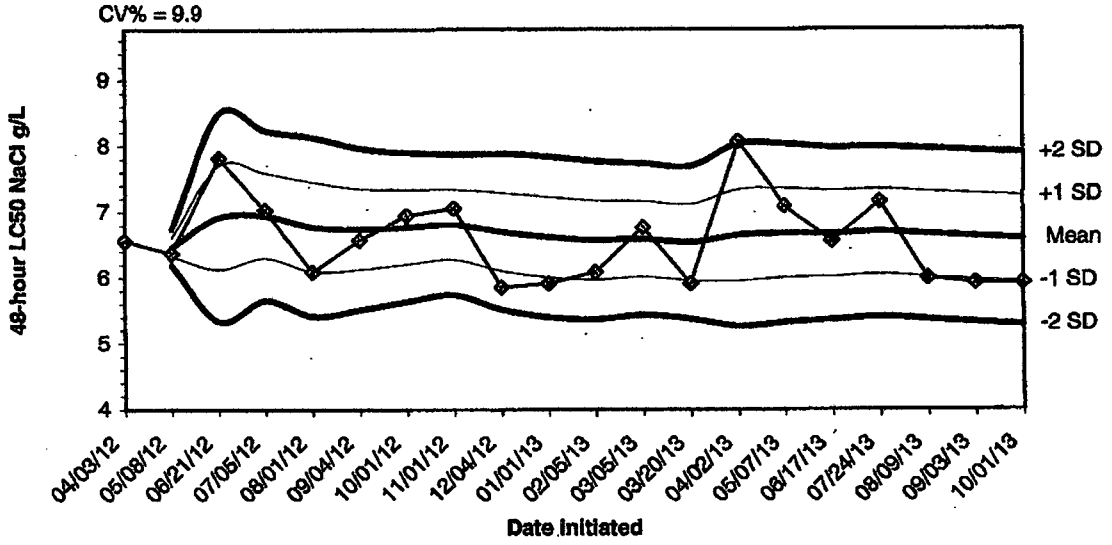
APPENDIX D
QUALITY ASSURANCE CHARTS

2013 48-HOUR ACUTE REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/30/12	1.0800					
04/16/12	1.3900	1.2350	1.0158	0.7966	1.4542	1.6734
05/14/12	1.5800	1.3500	1.0976	0.8452	1.6024	1.8548
06/26/12	0.9200	1.2425	0.9447	0.6469	1.5403	1.8381
07/06/12	2.0100	1.3960	0.9667	0.5373	1.8253	2.2547
08/07/12	1.6600	1.4400	1.0412	0.6423	1.8388	2.2377
09/12/12	1.7800	1.4886	1.1025	0.7164	1.8747	2.2608
10/02/12	1.6600	1.5100	1.1474	0.7849	1.8726	2.2351
11/06/12	1.5500	1.5144	1.1750	0.8356	1.8539	2.1933
12/31/12	1.0700	1.4700	1.1205	0.7710	1.8195	2.1690
01/01/13	1.2400	1.4491	1.1103	0.7716	1.7878	2.1266
02/26/13	1.3000	1.4367	1.1108	0.7850	1.7625	2.0883
03/22/13	1.8100	1.4654	1.1367	0.8080	1.7941	2.1228
04/02/13	1.3200	1.4550	1.1368	0.8186	1.7732	2.0914
05/29/13	1.7300	1.4733	1.1586	0.8439	1.7881	2.1028
06/04/13	1.3600	1.4663	1.1609	0.8555	1.7716	2.0770
07/24/13	1.8700	1.4900	1.1785	0.8671	1.8015	2.1129
08/09/13	1.4200	1.4861	1.1835	0.8809	1.7887	2.0913
09/05/13	1.9200	1.5089	1.1985	0.8880	1.8194	2.1299
10/01/13	2.2400	1.5455	1.2019	0.8583	1.8891	2.2327

2013 48-HOUR ACUTE REFERENCE TOXICANT TEST RESULTS FOR PIMEPHALES PROMELAS



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
04/03/12	6.5600					
05/08/12	6.3700	6.4650	6.3306	6.1963	6.5994	6.7337
06/21/12	7.8200	6.9167	6.1286	5.3406	7.7047	8.4928
07/05/12	7.0300	6.9450	6.2991	5.6531	7.5909	8.2369
08/01/12	6.0900	6.7740	6.0964	5.4188	7.4516	8.1292
09/04/12	6.5700	6.7400	6.1282	5.5165	7.3518	7.9635
10/01/12	6.9500	6.7700	6.2059	5.6419	7.3341	7.8981
11/01/12	7.0600	6.8063	6.2741	5.7419	7.3384	7.8706
12/04/12	5.8600	6.7011	6.1118	5.5224	7.2904	7.8798
01/01/13	5.9200	6.6230	6.0149	5.4069	7.2311	7.8391
02/05/13	6.0900	6.5745	5.9757	5.3769	7.1734	7.7722
03/05/13	6.7700	6.5908	6.0171	5.4434	7.1646	7.7383
03/20/13	5.9200	6.5392	5.9593	5.3793	7.1192	7.6992
04/02/13	8.0700	6.6486	5.9573	5.2660	7.3398	8.0311
05/07/13	7.0900	6.6780	6.0022	5.3264	7.3538	8.0296
06/17/13	6.5600	6.6706	6.0171	5.3635	7.3242	7.9777
07/24/13	7.1600	6.6994	6.0556	5.4117	7.3433	7.9871
08/09/13	6.0000	6.6606	6.0145	5.3685	7.3066	7.9526
09/03/13	5.9200	6.6216	5.9712	5.3208	7.2720	7.9224
10/01/13	5.9200	6.5865	5.9343	5.2821	7.2387	7.8909

APPENDIX E
AGENCY FORMS

Acute Forms
Daphnia pulex Survival

Permittee: El Dorado Chemical - Outfall 002
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 10/31/13** **To: 10/31/13**
From: **To:**
Test Initiated: 11/1/13
Dilution Water Used: **Receiving Water** **X Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	32.0	42.0	56.0	75.0	100.0	100.0 pH
24-hour	A	87.5	75.0	62.5	25.0	0.0	0.0	50.0
	B	87.5	87.5	75.0	0.0	0.0	0.0	37.5
	C	100.0	100.0	50.0	50.0	0.0	0.0	0.0
	D	100.0	75.0	37.5	50.0	0.0	0.0	25.0
	E	100.0	87.5	75.0	0.0	0.0	0.0	12.5
48-hour	A	87.5	0.0	0.0	0.0	0.0	0.0	0.0
	B	87.5	12.5	0.0	0.0	0.0	0.0	0.0
	C	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	D	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	E	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	95.0	2.5	0.0	0.0	0.0	0.0	0.0

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
a.) LOW FLOW OR CRITICAL DILUTION (100%) X YES NO
b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%) YES NO
2. Enter percent effluent corresponding to the LC_{50} below:
LC_{50} = 16.43% effluent
95 % confidence limits: N/A
Method of LC_{50} calculation: Graphical
3. If you answered NO to 1.a) enter (P) otherwise enter (F): F
4. Enter response to item 3 on DMR Form, parameter TEM3D
5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
6. Enter response to item 5 on DMR Form, parameter TFM3D

Biomonitoring
Daphnia 48 hour Acute Static Renewal
Chemical Parameters Chart*

Permittee: El Dorado Chemical Outfall 002
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Briggs, Cotty
Sample Collected **From:** **Date 10/31/13** **Time 0815**
To: **Date 10/31/13** **Time 1015**
Test Begin **Date 11/1/13** **Time 1405**
Test End **Date 11/3/13** **Time 1530**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut./Time	0hrs.	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.1	8.4	8.4	24.7	24.7	24.6	32.0	32.0		48.0	48.0		7.4	7.4	7.5
32.0	8.1	8.3	8.3	24.7	24.7	24.6							9.1	9.1	7.6
42.0	8.1	8.3	7.9	24.7	24.7	24.6							9.2	9.3	7.6
56.0	8.1	8.2	7.8	24.7	24.7	24.6							9.3	9.3	7.7
75.0	8.0	8.0		24.7	24.7								9.4	8.0	
100.0	8.1	8.0		24.7	24.7		100.0			48.0			9.6	8.0	
100.0 pH	8.1	8.2	8.0	24.7	24.7	24.6							9.0	8.6	7.6

*This Form is to be submitted with each DMR.
Alkalinity and hardness to be reported as mg/l $CaCO_3$

Bio-Analytical Laboratories (BAL)
ADEQ#88-0630
Project X5228

Bio-Analytical Laboratories' Executive Summary

Permittee: El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731
Project #: X5228
Outfall: Outfall 006 (contaminated storm water)
Permit #: AR0000752/ AFIN #70-00040
Contact: Ms. Larken Pennington
Test Dates: October 2 - 4, 2013
Test Type: 48-hour acute toxicity test using *Pimephales promelas* (EPA 2000.0).
48-hour acute toxicity test using *Daphnia pulex* (EPA 2021.0)
Results:

For *Pimephales promelas:*
1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C- 0 **(Pass)**.
2. Report the NOEC for survival, Parameter TOM6C - 100.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM6C - 0.00%.

For *Daphnia pulex:*
1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D- 0 **(Pass)**.
2. Report the NOEC for survival, Parameter TOM3D -100.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D - 7.62%.

This report contains a total of 33 pages, including this page. The results pertain only to the samples listed in the chain of custody documents in Appendix A. The information contained within meets the requirements set forth by ADEQ. The chemical data in this report is for monitoring purposes only and should not be reported on discharge monitoring reports.

Bio-Analytical Laboratories

3240 Spurgin Road
Post Office Box 527
Doyline, LA 71023

(318) 745-2772
1-800-259-1246
Fax: (318) 745-2773

THE RESULTS OF TWO 48-HOUR ACUTE TOXICITY TESTS FOR OUTFALL 006 AT

EL DORADO CHEMICAL COMPANY
El Dorado, Arkansas

NPDES #AR0000752
AFIN #70-00040

EPA Methods 2000.0 and 2021.0

Project X5228

Test Dates: October 2 - 4, 2013
Report Date: October 14, 2013

Prepared for:
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ADEQ #88-0630

BAL
ADEQ #88-0630
Project X5228

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1.0 Introduction

Bio-Analytical Laboratories (BAL), Doyline, Louisiana conducted two 48-hour acute toxicity tests for Outfall 006 at El Dorado Chemical Company, El Dorado, Arkansas. The test organisms used were the fathead minnow, *Pimephales promelas* and the cladoceran, *Daphnia pulex*. The purpose of this study is to determine if an appropriately dilute effluent sample adversely affects the survival of the test organism. Toxicity is defined as a statistically significant difference at the 95 percent confidence level between the survival of the test organisms in the critical dilution (the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions) compared to the survival of the test organisms in the control. The test endpoints are the No-Observed-Effect-Concentration (NOEC), which is defined as the highest effluent concentration that is not statistically different from the control, and the 48-hour LC_{50}, the concentration in which 50 percent of the test organisms died.

2.0 Methods and Materials

2.1 Test Methods

All methods followed were according to the latest edition of "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012).

2.2 Test Organisms

The fathead minnows were raised in-house at test temperature and were approximately four days old at test initiation. The *Daphnia pulex* test organisms were raised in-house at test temperature and were less than 24 hours old at test initiation. Forty-eight hour reference toxicant tests were conducted monthly in order to document organism sensitivity and demonstration of capability.

2.3 Dilution Water

Soft reconstituted water made per EPA guidelines was used as the dilution water and the control for the acute tests.

2.4 Test Concentrations

The test concentrations used in the tests were 100.0, 75.0, 56.0, 42.0, 32.0 and 22.0 percent effluent and a reconstituted water control. The critical dilution was defined as 100.0 percent effluent. The tests were conducted using five replicates of eight animals each for a total of 40 animals per concentration.

2.5 Sample Collection

One sample of Outfall 006 was collected by El Dorado Chemical personnel on October 1, 2013. Upon completion of collection, the sample was chilled and delivered to Bio-Analytical Laboratories by BAL personnel. The sample temperature upon arrival was 1.2^0 Celsius.

2.6 Sample Preparation

Upon arrival, the sample was logged in, given an identification number and refrigerated unless needed. Prior to use, the sample was warmed to 25 ± 1^0 Celsius. The total residual chlorine level was measured with a Capital Controls^R amperometric titrator and recorded if present. Dissolved oxygen, pH and conductivity measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity and hardness levels were measured on the control and the highest effluent concentration.

2.7 Monitoring of the Tests

The tests were run in a Precision^R dual controlled illuminated incubator at a temperature of 25 ± 1^0 Celsius. An AEMC^R data logger was used to monitor diurnal temperature throughout the testing period. Light cycle and intensity were recorded twice a month.

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2.8 Data Analysis

The NOEC and LC_{50} values values were obtained by approved EPA methods of analysis, using the ToxCalc statistical program.

3.0 Results and Discussion

The results of the tests can be found in Table 1. Significant differences in survival were not noted in the 100 percent critical dilution after 48 hours of exposure (p=.05). The NOEC value for both tests was 100.0 percent effluent (p=.05). The 48-hour LC_{50} values could not be determined because greater than 50.0 percent survival occurred in the 100.0 percent dilution.

Table 1: Results of the 48-hour Acute Definitive Toxicity Tests

Percent Effluent	Percent Survival	
Test Organism	*Pimephales promelas* (Fathead Minnow)	*Daphnia pulex*
Control	100.0	97.5
22.0	100.0	97.5
32.0	100.0	100.0
42.0	100.0	92.5
56.0	97.5	100.0
75.0	100.0	95.0
100.0	100.0	95.0

The 48-hour reference toxicant test results indicate that the test organisms were within the respective sensitivity range. The graphs of the acute reference toxicant tests can be found in Appendix D.

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4.0 Conclusions

The sample of Outfall 006 collected from El Dorado Chemical Company, El Dorado, Arkansas, on October 1, 2013, was not found to be lethally toxic to the *Daphnia pulex* test organisms nor the fathead minnow test organisms in the 100.0 percent critical dilution after 48 hours of exposure (p=.05).

5.0 References

EPA, 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. EPA-821-R-02-012, Office of Water.

EPA, 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System. EPA-833-R-00-003, Office of Wastewater Management.

EPA, 2000. Method Guidance and Recommendations for Whole Effluent (WET) Testing. EPA-821-B-00-04, Office of Water

APHA, 1998. Standard Methods for The Examination of Water and Wastewater. 20th Edition.

APPENDIX A
CHAIN-OF-CUSTODY DOCUMENTS

Bio-Analytical Laboratories
3240 Spurgin Road
Post Office Box 627
Doyline, LA 71023
(318) 746-2772
1-800-259-1946
Fax: (318) 746-2773

NELAP/LELAP 01975, ADEQ 88-0630, TCEQ T104704278

Laboratory Use Only:

Company: El Dorado Chemical Company	Phone: (870) 863-1484	Analysis:								
Address: 4500 Norwest Ave., El Dorado, AR 71731	Fax: (870) 863-7499									
Permit #: AR0000752/AFIN 70-00040	Purchase Order:									
Sampler's Signature/Printed Name/Affiliation: Larken Pennington / Larken Pennington / EDCC										

Date Start / Date End	Time Start / Time End	C	G	# and type of container	Sample Identification	Chronic Ceriodaphnia	Chronic minnow	Acute minnow(fresh/marine)	Acute Daphnia species	Acute Mysid	Acute Ceriodaphnia	Fecal Coliform	Lab Control Number:	Preservative: (below)
10-1-13 - 10-1-13	7:35 am - 9:35 pm	X		6 half gallon	006			X	X				180216	ICE

Project Number: X5228

Temp. upon arrival:

Temperature upon arrival: 1.2°C
Thermometer #: 29
Tech: LC
Date: 10/2/13

Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:
Larken Pennington / EDCC	10/2/13	0930		10/2/13	0930
Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:
Relinquished by/Affiliation:	Date: 10/2/13	Time: 1125	Received by/Affiliation:	Date: 10/2/13	Time: 1125

Method of Shipment: ✓ Lab ____ Bus ____ Fed Ex ____ DHL ____ UPS ____ Client ____ Other Tracking #____

Comments:

COC Rev. 3.0

APPENDIX B
RAW DATA SHEETS

BIO-ANALYTICAL LABORATORIES
ACUTE TOXICITY TEST WATER QUALITY DATA

Project# X5228

Client: EDCC/El Dorado Chemical Company

Address: 4500 Northwest Ave El Dorado AR 71731

NPDES#AR0000752 Outfall 006

Technicians: EGB/AH/LC/GW

Test initiated: Date 10/2/13 Time 1355

Test terminated: Date 10/4/13 Time 1225

Dissolved Oxygen Meter: Model # YSI 55D Serial #06E2089 AU
pH Meter: Model #Orion 230A+ Serial #105253
Conductivity Meter: Model # Control Co. Serial #80277924
Amperometric Titrator: Model #Fischer-Porter Serial #92W445766

Sample Information

Sample ID#	Initial D.O. (mg/L and %)	Aerate? Minutes/ Final D.O(mg/L & %)	Total Residual Chlorine (mg/L)	Dechlorinated? Amount?	Ammonia (NH3) mg/L	Salinity	Hardness	Alkalinity	Tech
C802d	9.2/104.3%	Y/20 8.4/98.4%	<0.01	NO	6.0	N/A	172.0	28.0	LC
↓	8.0/101.7%	Y/10 8.2/97.7%	↓	↓	↓	↓			LC
				↓		↓			

Dilution Water Information

Dilution Water	ID#	Initial D.O (mg/L & %)	Aerate? Minutes/D.O (mg/L & %)	Total Residual Chlorine (mg/L)	Ammonia (NH3) mg/L	pH	Hardness	Alkalinity	Tech
		NA	NA	NA	NA				
Soft H2O	3543					7.5	44.0	36.0	EGB
↓									

Test Species Information

Test Species Info.	Species: ID#: Daphnia Neo	Species: ID#: Pimephales 10/3/13	Species: ID#:	Species: ID#:
Age	<24h	4days		
Test Container Size	30ml	250ml		
Test volume	25ml	200ml		
Feeding: Type	YCT: Algae	Artemia		
Amount	Fed 2hrs prior to test initiation			
Aeration?	NA	NA		
Amount				
Condition of survivors	Good			

Comments: 10/4/13

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5228

Client El Dorado Chemical

Sample Description 0016

Test started: Date 10/2/13 Time 1415

Test ended: Date 10/4/13 Time 1225

Test Species D. pulex ID# BAL/N12

Technician:	Ohour AH	24hour AH	48hour AH	72hour	96hour
Time:	Ohour 1415	24hour 1305	48hour 1225	72hour	96hour
Temperature (°C):	Ohour 24.6	24hour 24.4	48hour 24.6	72hour	96hour

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
0	A		8	8	8			8.3	8.2/8.4	8.1			7.5	7.7/7.5	7.1			184.1	203/180	210		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	7																	
22	A		8	8	8			8.3	8.0/8.4	7.8			7.4	7.3/7.2	7.3			319	313/324	358		
	B		8	8	8																	
	C		8	8	7																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								JC	AH/JC	AH			JC	AH/JC	AH			JC	AH/JC	AH		

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BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5228

Client El Dorado Chemical

Sample Description 006

Test started: Date 10/2/13 Time 1415

Test ended: Date 10/4/13 Time 1225

Test Species D. pulex ID# BRA/N12

Technician: Ohour AH 24hour AH 48hour AH 72hour ____ 96hour ____

Time: Ohour 1415 24hour 1205 48hour 1225 72hour ____ 96hour ____

Temperature (°C): Ohour 24.10 24hour 24.4 48hour 24.6 72hour ____ 96hour ____

Test Dilution %	Replicate	Test Salinity NA	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
32	A		8	8	8			8.3	8.3/8.3	7.8			7.4	7.5/7.2	7.4			379	374/374	382		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
42	A		8	8	7			8.3	8.3/8.3	7.8			7.4	7.5/7.2	7.4			436	454/454	493		
	B		8	7	7																	
	C		8	8	8																	
	D		8	7	7																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AC	AH/AC	AH			AC	AH/AC	AH			AC	AH/AC	AH		

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BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5228

Client El Dorado Chemical

Sample Description 006

Test started: Date 10/2/13 Time 1415

Test ended: Date 10/4/13 Time 1225

Test Species D. pulex ID# BAY/N12

Technician:	Ohour AH	24hour AH	48hour AH	72hour ____ 96hour ____
Time:	Ohour 1416	24hour 1305	48hour 1220	72hour ____ 96hour ____
Temperature (°C):	Ohour 24.6	24hour 24.4	48hour 24.6	72hour ____ 96hour ____

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		NA	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
56	A		8	8	8			8.3	8.3/8.3	7.9			7.4	7.6/7.1	7.5			509	512/514	770		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
75	A		8	7	7			8.3	8.2/8.2	8.0			7.4	7.6/7.1	7.4			607	708/703	918		
	B		8	7	7																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								LC	AH/LC	AH			LC	AH/LC	AH			LC	AH/LC	AH		

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BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5228

Client El Dorado Chemical

Sample Description 006

Test started: Date 10/2/13 Time 1415

Test ended: Date 10/4/13 Time 1225

Test Species D. pulex ID# BAL N:2

Technician:	Ohour PH	24hour PH	48hour PH	72hour ___	96hour ___
Time:	Ohour 1415	24hour 1305	48hour 1225	72hour ___	96hour ___
Temperature (°C):	Ohour 24.1a	24hour 24.4	48hour 24.1a	72hour ___	96hour ___

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		NA	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100	A		8	8	7			8.4	8.2	8.2			7.4	7.6 7.1	7.4			778	783	855		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	7																	
	E		8	8	8																	
	A		8																			
	B		8																			
	C		8																			
	D		8																			
	E		8																			
Chemistry Tech prerenewal/postrenewal								JC	AB JC	PH			JC	PH JC	PH			JC	PH JC	PH		

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BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5228

Client El Dorado Chemical

Test started: Date 10/2/13 Time 1355

Test ended: Date 10/4/13 Time 1220

Sample Description 0016

Test Species P. promelas ID# Batch 92813

Technician:	Ohour JC	24hour JC	48hour JC	72hour	96hour
Time:	Ohour 1355	24hour 1300	48hour 1220	72hour	96hour
Temperature (°C):	Ohour 24.4	24hour 24.4	48hour 24.6	72hour	96hour

Test Dilution %	Replicate	Test Salinity NA	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0	A		8	8	8			8.3	8.1/8.4	7.9			7.5	7.9/7.5	7.6			184	184/184	190		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
22	A		8	8	8			8.3	8.1/8.4	7.9			7.4	7.6/7.2	7.6			319	325/324	324		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AH	JC/JC	JC			AH	JC/JC	JC			AH	JC/JC	JC		

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BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5228

Client El Dorado Chemical

Test started: Date 10/2/13 Time 1355

Test ended: Date 10/4/13 Time 1330

Test Species P. promelas ID# Batch 92813

Sample Description 0016

Technician:	Ohour JC	24hour JC	48hour JC	72hour ____ 96hour ____
Time:	Ohour 1355	24hour 1300	48hour 1330	72hour ____ 96hour ____
Temperature (°C):	Ohour 24.4	24hour 24.4	48hour 24.6	72hour ____ 96hour ____

Test Dilution %	Replicate	Test Salinity N/A	# Live Organisms 0 hr	24	48	72	96	Dissolved Oxygen 0	24	48	72	96	pH 0	24	48	72	96	Conductivity 0	24	48	72	96
32	A		8	8	8			8.3	8.0/8.3	7.8			7.4	7.6/7.7	7.6			379	382/374	378		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
42	A		8	8	8			8.3	8.0/8.3	7.8			7.4	7.6/7.7	7.6			430	434/436	488		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AH	JC/JC	JC			AH	JC/JC	JC			AH	JC/JC	JC		

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BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5228

Client El Dorado Chemical

Test started: Date 10/2/13 Time 1355

Test ended: Date 10/4/13 Time 1220

Test Species P. promelas ID# Bac192813

Sample Description 0016

Technician:	0hour AC	24hour AC	48hour AC	72hour	96hour		
Time:	0hour 1355	24hour 1300	48hour 1220	72hour	96hour		
Temperature (°C):	0hour 24.4	24hour 24.4	48hour 24.6	72hour	96hour		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		NA	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
56	A		8	7	7			8.3	8.0/8.3	7.8			7.4	7.5/7.1	7.5			509	584/584	758		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
75	A		8	8	8			8.3	7.9/8.3	7.8			7.4	7.5/7.1	7.5			627	701/730	973		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AH	AC/AC	LC			AH	AC/AC	LC			AH	AC/AC	LC		

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BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5228

Client El Dorado Chemical

Test started: Date 10/3/13 Time 1355

Test ended: Date 10/4/13 Time 820

Test Species P. promelas ID# Bac192813

Sample Description 006

Technician:	0hour LC	24hour LC	48hour LC	72hour	96hour		
Time:	0hour 1355	24hour 1300	48hour 820	72hour	96hour		
Temperature (°C):	0hour 24.4	24hour 24.4	48hour 24.6	72hour	96hour		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
100	A		8	8	8			8.4	7.7/8.0	7.5			7.4	7.4/7.1	7.4			778	793/793	808		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
	A		8						/					/					/			
	B		8																			
	C		8																			
	D		8																			
	E		8																			
Chemistry Tech prerenewal/postrenewal								AH	LC/LC	LC			AH	LC/LC	LC			AH	LC/LC	LC		

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APPENDIX C
STATISTICAL ANALYSIS

Daphnid Acute Test-48 Hr Survival

Start Date:	10/2/2013	Test ID:	X5228DP	Sample ID:	6
End Date:	10/4/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/2/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	CD-Ceriodaphnia dubia

Comments:

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	0.8750
22	1.0000	1.0000	0.8750	1.0000	1.0000
32	1.0000	1.0000	1.0000	1.0000	1.0000
42	0.8750	0.8750	1.0000	0.8750	1.0000
56	1.0000	1.0000	1.0000	1.0000	1.0000
75	0.8750	0.8750	1.0000	1.0000	1.0000
100	0.8750	1.0000	1.0000	0.8750	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5		
22	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	27.50	16.00
32	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
42	0.9250	0.9487	1.2829	1.2094	1.3931	7.841	5	22.50	16.00
56	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
75	0.9500	0.9744	1.3196	1.2094	1.3931	7.623	5	25.00	16.00
100	0.9500	0.9744	1.3196	1.2094	1.3931	7.623	5	25.00	16.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.89848	0.934	-0.6258	-0.5235
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1
Treatments vs D-Control				

Reviewed by: EGB 10/8/13

Acute Fish Test-48 Hr Survival

Start Date:	10/2/2013	Test ID:	X5228PP	Sample ID:	6
End Date:	10/4/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/2/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas

Comments:

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
22	1.0000	1.0000	1.0000	1.0000	1.0000
32	1.0000	1.0000	1.0000	1.0000	1.0000
42	1.0000	1.0000	1.0000	1.0000	1.0000
56	0.8750	1.0000	1.0000	1.0000	1.0000
75	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5		
22	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00
32	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00
42	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00
56	0.9750	0.9750	1.3564	1.2094	1.3931	6.055	5	25.00	16.00
75	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00
100	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00

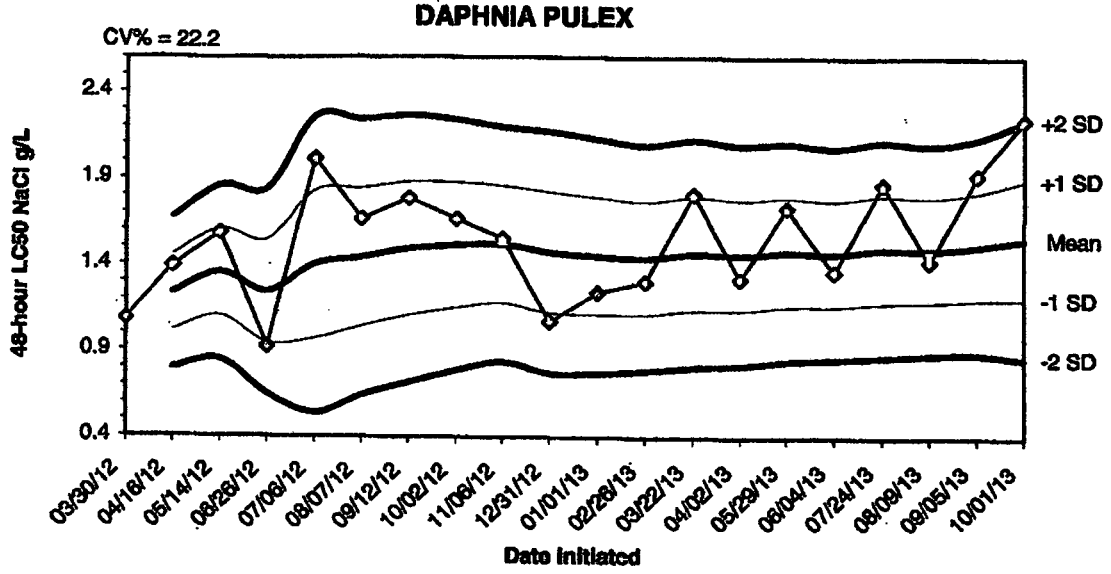
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.38831	0.934	-4.1486	23.0852
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1
Treatments vs D-Control				

Reviewed by: EGB 10/8/13

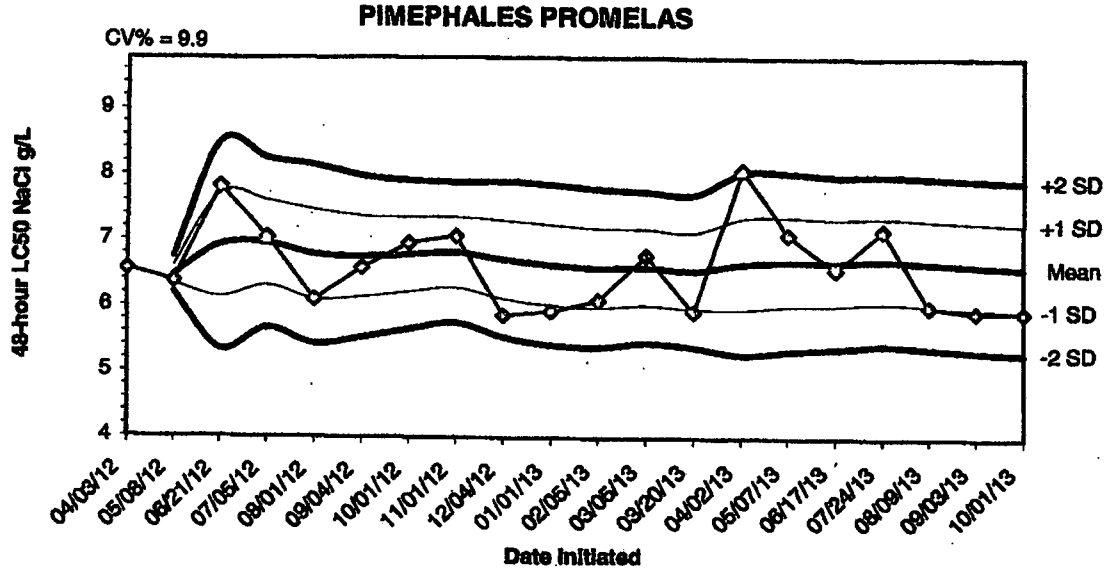
APPENDIX D
QUALITY ASSURANCE CHARTS

2013 48-HOUR ACUTE REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/30/12	1.0800					
04/16/12	1.3900	1.2350	1.0158	0.7966	1.4542	1.6734
05/14/12	1.5800	1.3500	1.0976	0.8452	1.6024	1.8548
06/26/12	0.9200	1.2425	0.9447	0.6469	1.5403	1.8381
07/06/12	2.0100	1.3960	0.9667	0.5373	1.8253	2.2547
08/07/12	1.6600	1.4400	1.0412	0.6423	1.8388	2.2377
09/12/12	1.7800	1.4886	1.1025	0.7164	1.8747	2.2608
10/02/12	1.6600	1.5100	1.1474	0.7849	1.8726	2.2351
11/06/12	1.5500	1.5144	1.1750	0.8356	1.8539	2.1933
12/31/12	1.0700	1.4700	1.1205	0.7710	1.8195	2.1690
01/01/13	1.2400	1.4491	1.1103	0.7716	1.7878	2.1266
02/26/13	1.3000	1.4367	1.1108	0.7850	1.7625	2.0883
03/22/13	1.8100	1.4654	1.1367	0.8080	1.7941	2.1228
04/02/13	1.3200	1.4550	1.1368	0.8186	1.7732	2.0914
05/29/13	1.7300	1.4733	1.1586	0.8439	1.7881	2.1028
06/04/13	1.3600	1.4663	1.1609	0.8555	1.7716	2.0770
07/24/13	1.8700	1.4900	1.1785	0.8671	1.8015	2.1129
08/09/13	1.4200	1.4861	1.1835	0.8809	1.7887	2.0913
09/05/13	1.9200	1.5089	1.1985	0.8880	1.8194	2.1299
10/01/13	2.2400	1.5455	1.2019	0.8583	1.8891	2.2327

2013 48-HOUR ACUTE REFERENCE TOXICANT TEST RESULTS FOR PIMEPHALES PROMELAS



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
04/03/12	6.5600					
05/08/12	6.3700	6.4650	6.3306	6.1963	6.5994	6.7337
06/21/12	7.8200	6.9167	6.1286	5.3406	7.7047	8.4928
07/05/12	7.0300	6.9450	6.2991	5.6531	7.5909	8.2369
08/01/12	6.0900	6.7740	6.0964	5.4188	7.4516	8.1292
09/04/12	6.5700	6.7400	6.1282	5.5165	7.3518	7.9635
10/01/12	6.9500	6.7700	6.2059	5.6419	7.3341	7.8981
11/01/12	7.0600	6.8063	6.2741	5.7419	7.3384	7.8706
12/04/12	5.8600	6.7011	6.1118	5.5224	7.2904	7.8798
01/01/13	5.9200	6.6230	6.0149	5.4069	7.2311	7.8391
02/05/13	6.0900	6.5745	5.9757	5.3769	7.1734	7.7722
03/05/13	6.7700	6.5908	6.0171	5.4434	7.1646	7.7383
03/20/13	5.9200	6.5392	5.9593	5.3793	7.1192	7.6992
04/02/13	8.0700	6.6486	5.9573	5.2660	7.3398	8.0311
05/07/13	7.0900	6.6780	6.0022	5.3264	7.3538	8.0296
06/17/13	6.5600	6.6706	6.0171	5.3635	7.3242	7.9777
07/24/13	7.1600	6.6994	6.0556	5.4117	7.3433	7.9871
08/09/13	6.0000	6.6606	6.0145	5.3685	7.3066	7.9526
09/03/13	5.9200	6.6216	5.9712	5.3208	7.2720	7.9224
10/01/13	5.9200	6.5865	5.9343	5.2821	7.2387	7.8909

APPENDIX E
AGENCY FORMS

Acute Forms
Daphnia pulex Survival

Permittee: El Dorado Chemical - Outfall 006
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 10/1/13** **To: 10/1/13**
From: **To:**
Test Initiated: 10/2/13
Dilution Water Used: **Receiving Water** **Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	22	32	42	56	75	100
24-hour	A	100.0	100.0	100.0	100.0	100.0	87.5	100.0
	B	100.0	100.0	100.0	87.5	100.0	87.5	100.0
	C	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	D	100.0	100.0	100.0	87.5	100.0	100.0	100.0
	E	100.0	100.0	100.0	100.0	100.0	100.0	100.0
48-hour	A	100.0	100.0	100.0	87.5	100.0	87.5	87.5
	B	100.0	100.0	100.0	87.5	100.0	87.5	100.0
	C	100.0	87.5	100.0	100.0	100.0	100.0	100.0
	D	100.0	100.0	100.0	87.5	100.0	100.0	87.5
	E	87.5	100.0	100.0	100.0	100.0	100.0	100.0
	Mean	97.5	97.5	100.0	92.5	100.0	95.0	95.0

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
a.) LOW FLOW OR CRITICAL DILUTION (100%) **YES** **X NO**
b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%) **YES** **NO**
2. Enter percent effluent corresponding to the LC_{50} below:
LC_{50} = N/A% effluent
95 % confidence limits: N/A
Method of LC_{50} calculation: N/A
3. If you answered NO to 1.a) enter (P) otherwise enter (F): P
4. Enter response to item 3 on DMR Form, parameter TEM3D
5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
6. Enter response to item 5 on DMR Form, parameter TFM3D

Biomonitoring
Daphnia 48 hour Acute Static Renewal
Chemical Parameters Chart*

Permittee: El Dorado Chemical - Outfall 006
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Haughton, Cotty
Sample Collected **From:** **Date 10/1/13** **Time 1935**
To: **Date 10/1/13** **Time 2135**
Test Begin **Date 10/2/13** **Time 1415**
Test End **Date 10/4/13** **Time 1225**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut./Time	0hrs.	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.3	8.4	8.1	24.6	24.4	24.6	36.0			44.0			7.5	7.5	7.1
22	8.3	8.4	7.8	24.6	24.4	24.6							7.4	7.2	7.3
32	8.3	8.3	7.8	24.6	24.4	24.6							7.4	7.2	7.4
42	8.3	8.3	7.8	24.6	24.4	24.6							7.4	7.2	7.4
56	8.3	8.3	7.9	24.6	24.4	24.6							7.4	7.1	7.5
75	8.3	8.2	8.0	24.6	24.4	24.6							7.4	7.1	7.4
100	8.4	8.2	8.2	24.6	24.4	24.6	28.0			172.0			7.4	7.1	7.4

*This Form is to be submitted with each DMR.6.6
Alkalinity and hardness to be reported as mg/l $CaCO_3$

Acute Forms
Fathead Minnow Survival

Permittee: El Dorado Chemical - Outfall 006
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 10/1/13** **To: 10/1/13**
From: **To:**
Test Initiated: 10/2/13
Dilution Water Used: **Receiving Water** **Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	22	32	42	56	75	100
24-hour	A	100.0	100.0	100.0	100.0	87.5	100.0	100.0
	B	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	C	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	D	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	E	100.0	100.0	100.0	100.0	100.0	100.0	100.0
48-hour	A	100.0	100.0	100.0	100.0	87.5	100.0	100.0
	B	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	C	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	D	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	E	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Mean	100.0	100.0	100.0	100.0	97.5	100.0	100.0

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
a.) LOW FLOW OR CRITICAL DILUTION (100%) **YES** **X NO**
b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%) **YES** **NO**
2. Enter percent effluent corresponding to the LC_{50} below:
LC_{50} = N/A% effluent
95 % confidence limits: N/A
Method of LC_{50} calculation: N/A
3. If you answered NO to 1.a) enter (P) otherwise enter (F): P
4. Enter response to item 3 on DMR Form, parameter TEM3D
5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
6. Enter response to item 5 on DMR Form, parameter TFM3D

Biomonitoring
Fathead Minnow 48 hour Acute Static Renewal
Chemical Parameters Chart*

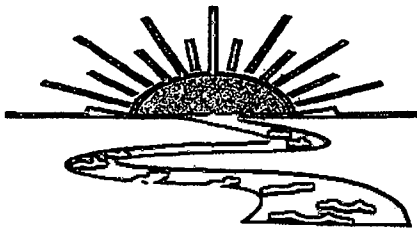
Permittee: El Dorado Chemical - Outfall 006
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Haughton, Cotty

Sample Collected	**From:**	**Date 10/1/13**	**Time 1935**
	To:	**Date 10/1/13**	**Time 2135**
Test Begin		**Date 10/2/13**	**Time 1355**
Test End		**Date 10/4/13**	**Time 1220**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut./Time	0hrs.	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.3	8.4	7.9	24.4	24.4	24.6	36.0			44.0			7.5	7.5	7.6
22	8.3	8.4	7.9	24.4	24.4	24.6							7.4	7.2	7.6
32	8.3	8.3	7.8	24.4	24.4	24.6							7.4	7.2	7.6
42	8.3	8.3	7.8	24.4	24.4	24.6							7.4	7.2	7.6
56	8.3	8.3	7.8	24.4	24.4	24.6							7.4	7.1	7.5
75	8.3	8.2	7.8	24.4	24.4	24.6							7.4	7.1	7.5
100	8.4	8.2	7.5	24.4	24.4	24.6	28.0			172.0			7.4	7.1	7.4

*This Form is to be submitted with each DMR.6.6
Alkalinity and hardness to be reported as mg/l $CaCO_3$

APPENDIX F
REPORT QUALITY ASSURANCE FORM



Bio-Analytical Laboratories

3240 Spurgin Road
Post Office Box 527
Doyline, LA 71023

(318) 745-2772
1-800-259-1246
Fax: (318) 745-2773

REPORT QUALITY ASSURANCE FORM

Client: EDCC 0010

Project#: X5228

Chain of Custody Documents Checked by: AH 10/7/13
Technician/Date

Raw Data Documents Checked by: AH 10/7/13
Technician/Date

Statistical Analysis Package Checked by: EGB 10/8/13
Quality Manager/Date

Quality Control Data Checked by: EGB 10/8/13
Quality Manager/Date

Report Checked by: EGB 10/14/13
Quality Manager/Date

I certify that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained in this document, to the best of my knowledge, is true, accurate and complete.

Erin G. Braggs BS
Quality Manager

10/14/13
Date

Report Rev. 3.0

Bio-Analytical Laboratories (BAL)
ADEQ#88-0630
Project X5229

Bio-Analytical Laboratories' Executive Summary

Permittee: El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731
Project #: X5229
Outfall: Outfall 007 (contaminated storm water)
Permit #: AR0000752/ AFIN #70-00040
Contact: Ms. Larken Pennington
Test Dates: October 2 - 4, 2013
Test Type: 48-hour acute toxicity test using *Pimephales promelas* (EPA 2000.0).
48-hour acute toxicity test using *Daphnia pulex* (EPA 2021.0)
Results:

For *Pimephales promelas:*
1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C- 1 **(Fail)**.
2. Report the NOEC for survival, Parameter TOM6C - 75.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM6C - 6.06%.

For *Daphnia pulex:*
1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D- 1 **(Fail)**.
2. Report the NOEC for survival, Parameter TOM3D - 75.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D - 6.06%.

Note: Initial pH of the sample was 6.4; therefore, it was not adjusted because it was within method range (6.0-9.0). The pH drifted during testing to as low as 4.5.

This report contains a total of 35 pages, including this page. The results pertain only to the samples listed in the chain of custody documents in Appendix A. The information contained within meets the requirements set forth by ADEQ. The chemical data in this report is for monitoring purposes only and should not be reported on discharge monitoring reports.

Bio-Analytical Laboratories

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THE RESULTS OF TWO 48-HOUR ACUTE TOXICITY TESTS FOR OUTFALL 007 AT

EL DORADO CHEMICAL COMPANY
El Dorado, Arkansas

NPDES #AR0000752
AFIN #70-00040

EPA Methods 2000.0 and 2021.0

Project X5229

Test Dates: October 2 - 4, 2013
Report Date: October 14, 2013

Prepared for:
Ms. Larken Pennington
El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731

Prepared by:
Ginger Briggs
Bio-Analytical Laboratories
P.O. Box 527
Doyline, LA 71023
ADEQ #88-0630

BAL
ADEQ #88-0630
Project X5229

TABLE OF CONTENTS

BAL
ADEQ #88-0630
Project X5229

1.0 Introduction

Bio-Analytical Laboratories (BAL), Doyline, Louisiana conducted two 48-hour acute toxicity tests for Outfall 007 at El Dorado Chemical Company, El Dorado, Arkansas. The test organisms used were the fathead minnow, *Pimephales promelas* and the cladoceran, *Daphnia pulex*. The purpose of this study is to determine if an appropriately dilute effluent sample adversely affects the survival of the test organism. Toxicity is defined as a statistically significant difference at the 95 percent confidence level between the survival of the test organisms in the critical dilution (the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions) compared to the survival of the test organisms in the control. The test endpoints are the No-Observed-Effect-Concentration (NOEC), which is defined as the highest effluent concentration that is not statistically different from the control, and the 48-hour LC_{50}, the concentration in which 50 percent of the test organisms died.

2.0 Methods and Materials

2.1 Test Methods

All methods followed were according to the latest edition of "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012).

2.2 Test Organisms

The fathead minnows were raised in-house at test temperature and were approximately four days old at test initiation. The *Daphnia pulex* test organisms were also raised in-house at test temperature and were less than 24 hours old at test initiation. Forty-eight hour reference toxicant tests were conducted monthly in order to document organism sensitivity and demonstration of capability.

2.3 Dilution Water

Soft reconstituted water made per EPA guidelines was used as the dilution water and the control for the acute tests.

2.4 Test Concentrations

The test concentrations used in the tests were 100.0, 75.0, 56.0, 50.0, 42.0 and 32.0 percent effluent and a reconstituted water control. The critical dilution was defined as 100.0 percent effluent. The tests were conducted using five replicates of eight animals each for a total of 40 animals per concentration.

2.5 Sample Collection

One sample of Outfall 007 was collected by El Dorado Chemical personnel on October 1, 2013. Upon completion of collection, the sample was chilled and delivered to Bio-Analytical Laboratories by BAL personnel. The sample temperature upon arrival was 0.9^0 Celsius.

2.6 Sample Preparation

Upon arrival, the sample was logged in, given an identification number and refrigerated unless needed. Prior to use, the sample was warmed to 25 ± 1^0 Celsius. The total residual chlorine level was measured with a Capital Controls^R amperometric titrator and recorded if present. Dissolved oxygen, pH and conductivity measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity and hardness levels were measured on the control and the highest effluent concentration.

2.7 Monitoring of the Tests

The tests were run in a Precision^R dual controlled illuminated incubator at a temperature of 25 ± 1^0 Celsius. An AEMC^R data logger was used to monitor diurnal temperature throughout the testing period. Light cycle and intensity were recorded twice a month.

2.8 Data Analysis

The NOEC and LC_{50} values values were obtained by approved EPA methods of analysis, using the ToxCalc statistical program.

BAL
ADEQ #88-0630
Project X5229

3.0 Results and Discussion

The results of the tests can be found in Table 1. Significant differences in survival were noted in the 100 percent critical dilution after 48 hours of exposure (p=.05). The NOEC value for both the *Daphnia pulex* test and the fathead minnow test was 75.0 percent effluent (p=.05). The 48-hour LC_{50} value for the *Daphnia pulex* test and the fathead minnow test was 85.46 and 86.10 percent effluent, respectively (p=.05).

The sample's pH drifted during testing and dropped to 4.5 in the 100.0 percent dilution.

Table 1: Results of the 48-hour Acute Definitive Toxicity Tests

Percent Effluent	Percent Survival	
Test Organism	*Pimephales promelas* (Fathead Minnow)	*Daphnia pulex*
Control	100.0	97.5
32.0	100.0	92.5
42.0	100.0	97.5
50.0	100.0	97.5
56.0	100.0	97.5
75.0	97.5	92.5
100.0	0.0	0.0

The 48-hour reference toxicant test results indicate that the test organisms were within the respective sensitivity range. The graphs of the acute reference toxicant tests can be found in Appendix D.

BAL
ADEQ #88-0630
Project X5229

4.0 Conclusions

The sample of Outfall 007 collected from El Dorado Chemical Company, El Dorado, Arkansas, on October 1, 2013, was found to be lethally toxic to the *Daphnia pulex* test organisms and the fathead minnow test organisms in the 100.0 percent critical dilution after 48 hours of exposure (p=.05). The pH of the sample drifted during testing and dropped to as low as 4.6 in the 100.0 percent critical dilution.

BAL
ADEQ #88-0630
Project X5229

5.0 References

EPA, 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. EPA-821-R-02-012, Office of Water.

EPA, 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System. EPA-833-R-00-003, Office of Wastewater Management.

EPA, 2000. Method Guidance and Recommendations for Whole Effluent (WET) Testing. EPA-821-B-00-04, Office of Water

APHA, 1998. Standard Methods for The Examination of Water and Wastewater. 20th Edition.

APPENDIX A
CHAIN-OF-CUSTODY DOCUMENTS

Bio-Analytical Laboratories

3240 Spurgin Road
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(318) 746-2772
1-800-256-1246
Fax: (318) 746-2775

NELAP/LELAP 01975, ADEQ 88-0630, TCEQ T104704278

Laboratory Use Only:

Company: El Dorado Chemical Company				**Phone:** (870) 863-1484	**Analysis:**								**Project Number:** X5229	
Address: 4500 Norwest Ave., El Dorado, AR 71731				**Fax:** (870) 863-7499										
Permit #: AR0000752/AFIN 70-00040				**Purchase Order:**									Temp. upon arrival:	
Sampler's Signature/Printed Name/Affiliation: Larken Pennington / Larken Pennington / EDCC													Temperature upon arrival: 0.9°C Thermometer #: 89 Tech: LC Date: 10/2/13	
Date Start / Date End	**Time Start / Time End**	**C**	**G**	**# and type of container**	**Sample Identification**	Chronic Ceriodaphnia	Chronic minnow	Acute minnow(fresh/marine)	Acute Daphnia species	Acute Mysid	Acute Ceriodaphnia	Fecal Coliform	**Lab Control Number:**	**Preservative: (below)**
10-1-13 / 10-1-13	7:40pm - 9:40pm	X		6 half gallon	007			X	X				C8027	ICE

Relinquished by/Affiliation: Larken Pennington / EDCC	**Date:** 10/2/13	**Time:** 0930	**Received by/Affiliation:**	**Date:** 10/2/13	**Time:** 0930
Relinquished by/Affiliation:	**Date:**	**Time:**	**Received by/Affiliation:**	**Date:**	**Time:**
Relinquished by/Affiliation:	**Date:** 10/3/13	**Time:** 1125	**Received by/Affiliation:**	**Date:** 10/3/13	**Time:** 1125

Method of Shipment: ____ Lab ____ Bus ____ Fed Ex ____ DHL ____ UPS ____ Client ____ Other **Tracking #**_____

Comments:

COC Rev. 3.0

APPENDIX B
RAW DATA SHEETS

BIO-ANALYTICAL LABORATORIES
ACUTE TOXICITY TEST WATER QUALITY DATA

Project# X5229

Client: EDCC/El Dorado Chemical Company

Address: 4500 Northwest Ave El Dorado AR 71731

NPDES#AR0000752 Outfall 007

Technicians: EGB/AH/LC/GW

Test initiated: Date 10/2/13 Time 1400

Test terminated: Date 10/4/13 Time 1230

Dissolved Oxygen Meter: Model # YSI 55D Serial #06E2089 AU
pH Meter: Model #Orion 230A+ Serial #105253
Conductivity Meter: Model # Control Co. Serial #80277924
Amperometric Titrator: Model #Fischer-Porter Serial #92W445766

Sample Information

Sample ID#	Initial D.O. (mg/L and %)	Aerate? Minutes/ Final D.O(mg/L & %)	Total Residual Chlorine (mg/L)	Dechlorinated? Amount?	Ammonia (NH3) mg/L	Salinity	Hardness	Alkalinity	Tech
C8027	9.2/103.5%	Y/20 8.5/98.5%	<0.01	NO	6.0	N/A	228.0	4.0	LC
↓	8.8/104.1%	Y/10 8.3/97.7%	↓	↓	↓	↓			LC
				↓		↓			

Dilution Water Information

Dilution Water	ID#	Initial D.O (mg/L & %)	Aerate? Minutes/D.O (mg/L & %)	Total Residual Chlorine (mg/L)	Ammonia (NH3) mg/L	pH	Hardness	Alkalinity	Tech
		NA	NA	NA	NA				
Soft H20	3543	↓			↓	7.5	36.0	44.0	EGB
↓									

Test Species Information

Test Species Info.	Species: ID#: D.pulex Batch12	Species: ID#: P.promelas Batch9283	Species: ID#:	Species: ID#:
Age	<24h	4days		
Test Container Size	30ml	250ml		
Test volume	25ml	200ml		
Feeding: Type	YCT: Algae	Artemia		
Amount	Fed 2hrs phor to test initiation			
Aeration?	NA	NA		
Amount				
Condition of survivors	Good			

Comments:

10/4/13

Acutel Rev. 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5229

Client El Dorado Chemical

Sample Description 007

Test started: Date 10/2/13 Time 1435

Test ended: Date 10/4/13 Time 1230

Test Species D. pulex ID# BRA/M12

		24hour	48hour	72hour	96hour
Technician:	AH	AH	AH		
Time:	1435	1330	1230		
Temperature (°C):	21.6	21.4	21.6		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
0	A		8	8	7			8.3	8.2/8.4	8.1			7.4	7.7/7.6	7.2			180.1	221/180.1	210		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
32	A		8	8	8			8.3	8.2/8.3	8.1			7.1	7.4/6.5	7.3			453	480/426	429		
	B		8	8	7																	
	C		8	8	8																	
	D		8	7	7																	
	E		8	8	7																	
Chemistry Tech prerenewal/postrenewal								LC	AH/LC	AH			LC	AH/LC	AH			LC	AH/LC	AH		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5229

Client El Dorado Chemical

Test started: Date 10/2/13 Time 1435

Test ended: Date 10/4/13 Time 1230

Test Species D. pulex ID# BAL/m12

Sample Description 007

Technician:	Ohour AH	24hour AH	48hour AH	72hour	96hour	
Time:	Ohour 1435	24hour 1320	48hour 1230	72hour	96hour	
Temperature (°C):	Ohour 24.6	24hour 24.4	48hour 24.6	72hour	96hour	

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		NA	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
42	A		8	8	7			8.3	8.3/8.3	8.1			7.1	7.3/7.1	7.1			533	588/592	752		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
50	A		8	8	8			8.3	8.3/8.3	8.2			7.0	7.3/7.6	7.1			594	605/601	824		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	7																	
Chemistry Tech prerenewal/postrenewal								LC	AH/LC	AH			LC	AH/LC	AH			LC	AH/LC	AH		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5229

Client El Dorado Chemical

Sample Description 007

Test started: Date 10/2/13 Time 1435

Test ended: Date 10/4/13 Time 1230

Test Species D. pulex ID# BAL/M12

Technician:	Ohour AH	24hour AH	48hour DH	72hour	96hour
Time:	Ohour 1435	24hour 1320	48hour 1230	72hour	96hour
Temperature (°C):	Ohour 24.6	24hour 24.4	48hour 24.6	72hour	96hour

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		NA	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
56	A		8	7	7			8.4	8.3 / 8.3	8.2			7.0	7.3 / 7.9	7.1			648	719 / 881	887		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
75	A		8	8	8			8.4	8.3 / 8.3	8.2			6.8	7.1 / 7.4	7.3			788	909 / 1108	1124		
	B		8	8	8																	
	C		8	8	6																	
	D		8	8	8																	
	E		8	8	7																	
Chemistry Tech prerenewal/postrenewal								LC	AH / LC	AH			LC	AH / LC	AH			LC	AH / LC	AH		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5229

Client El Dorado Chemical

Sample Description 007

Test started: Date 10/2/13 Time 1435

Test ended: Date 10/4/13 Time 1230

Test Species D. pulex ID# BAL/m12

Technician:	Ohour AH	24hour AH	48hour AH	72hour	96hour	
Time:	Ohour 1435	24hour 1320	48hour 1230	72hour	96hour	
Temperature (°C):	Ohour 24.6	24hour 24.4	48hour 24.6	72hour	96hour	

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
100	A		8	8	0			8.4	8.3	8.3			6.4	5.5/4.5	5.2			986	1182/1511	1599		
	B		8	8	0																	
	C		8	8	0																	
	D		8	8	0																	
	E		8	8	0																	
	A		8						/					/					/			
	B		8																			
	C		8																			
	D		8																			
	E		8																			
Chemistry Tech prerenewal/postrenewal								JC	AH/JC	AH			JC	AH/JC	AH			JC	AH/JC	AH		

Omit AH 10/2/13 8

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5229

Client El Dorado Chemical

Test started: Date 10/2/13 Time 1420

Test ended: Date 10/4/13 Time 1230

Test Species P. promelas ID# Batch 92813

Sample Description 007

Technician: Ohour LC 24hour LC 48hour LC 72hour ____ 96hour ____

Time: Ohour 1450 24hour 1315 48hour 1230 72hour ____ 96hour ____

Temperature (°C): Ohour 24.4 24hour 24.4 48hour 24.6 72hour ____ 96hour ____

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		NA	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0	A		8	8	8			8.3	8.1/8.4	8.1			7.4	7.7/7.4	7.5			180.1	197.2/180.1	195.0		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
32	A		8	8	8			8.3	8.1/8.3	7.9			7.1	7.3/7.5	7.2			453	510/600	600		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AH	LC/LC	LC			AH	LC/LC	LC			AH	LC/LC	LC		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5229

Client El Dorado Chemical

Test started: Date 10/2/13 Time 1420

Test ended: Date 10/4/13 Time 1230

Test Species P. promelas ID# Eral 92813

Sample Description OD7

Technician: Ohour JC 24hour JC 48hour JC 72hour ___ 96hour ___

Time: Ohour 1430 24hour 1315 48hour 1230 72hour ___ 96hour ___

Temperature (°C): Ohour 24.4 24hour 24.4 48hour 24.6 72hour ___ 96hour ___

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
42	A		8	8	8			8.3	8.1/8.3	7.9			7.1	7.1/5.1	6.9			533	598/762	740		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
50	A		8	8	8			8.3	8.1/8.3	7.9			7.0	7.1/5.6	7.0			594	659/881	807		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								PH	JC/JC	JC			PH	JC/JC	JC			PH	JC/JC	JC		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5229

Client El Dorado Chemical

Test started: Date 10/2/13 Time 1420

Test ended: Date 10/4/13 Time 1030

Test Species P. promelas ID# Bac/92813

Sample Description 007

Technician:	0hour LC	24hour LC	48hour LC	72hour	96hour
Time:	0hour 1400	24hour 1315	48hour 1030	72hour	96hour
Temperature (°C):	0hour 24.4	24hour 24.4	48hour 24.6	72hour	96hour

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
56	A		8	8	8			8.4	8.1/8.3	7.9			7.0	7.1/5.9	7.0			648	710/881	868		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
75	A		8	8	8			8.4	8.0/8.3	7.9			6.8	7.0/5.4	6.7			788	866/1108	1091		
	B		8	8	7																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AH	LC/LC	LC			AH	LC/LC	LC			AH	LC/LC	LC		

ACUTE2 Rev 1.0

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA

Project# X5229

Client El Dorado Chemical

Test started: Date 10/2/13 Time 1420

Test ended: Date 10/4/13 Time 1230

Test Species P. promelas ID# Batch 92813

Sample Description 007

Technician:	Ohour LC	24hour LC	48hour LC	72hour	96hour
Time:	Ohour 1420	24hour 1315	48hour 1230	72hour	96hour
Temperature (°C):	Ohour 24.4	24hour 24.9	48hour 24.6	72hour	96hour

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		AA																				
100	A		8	8	0			8.4	8.0/8.2	7.8			6.4	5.1/4.5	4.9			978	1138/1511	1452		
	B		8	8	0																	
	C		8	8	0																	
	D		8	8	0																	
	E		8	8	0																	
	A		8						/					/					/			
	B		8																			
	C		8																			
	D		8																			
	E		8																			
Chemistry Tech prerenewal/postrenewal								AH	LC/JC	LC			AH	LC/JC	LC			AH	LC/JC	LC		

ACUTE2 Rev 1.0

APPENDIX C
STATISTICAL ANALYSIS

Daphnid Acute Test-48 Hr Survival

Start Date:	10/2/2013	Test ID:	X5229DP	Sample ID:	7
End Date:	10/4/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/2/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-%	1	2	3	4	5
D-Control	0.8750	1.0000	1.0000	1.0000	1.0000
32	1.0000	0.8750	1.0000	0.8750	0.8750
42	0.8750	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	0.8750
56	0.8750	1.0000	1.0000	1.0000	1.0000
75	1.0000	1.0000	0.7500	1.0000	0.8750
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5		
32	0.9250	0.9487	1.2829	1.2094	1.3931	7.841	5	22.50	16.00
42	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	27.50	16.00
50	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	27.50	16.00
56	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	27.50	16.00
75	0.9250	0.9487	1.2872	1.0472	1.3931	12.116	5	24.50	16.00
100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5		

Auxiliary Tests					Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)					0.81772	0.927	-1.0012	0.21204
Bartlett's Test indicates equal variances (p = 0.70)					2.9701	15.0863		
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**				
Steel's Many-One Rank Test	75	100	86.6025	1.33333				
Treatments vs D-Control								

Reviewed by: EBB 10/8/13

Daphnid Acute Test-48 Hr Survival

Start Date:	10/2/2013	Test ID:	X5229DP	Sample ID:	7
End Date:	10/4/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/2/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	CD-Ceriodaphnia dubia
Comments:					

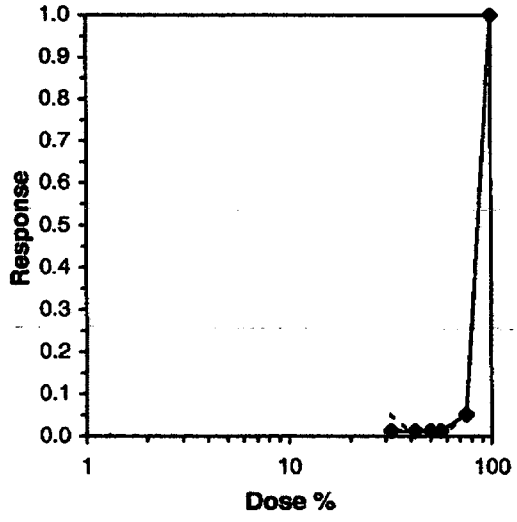
Conc-%	1	2	3	4	5
D-Control	0.8750	1.0000	1.0000	1.0000	1.0000
32	1.0000	0.8750	1.0000	0.8750	0.8750
42	0.8750	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	0.8750
56	0.8750	1.0000	1.0000	1.0000	1.0000
75	1.0000	1.0000	0.7500	1.0000	0.8750
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Number	Total
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
D-Control	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	1	40
32	0.9250	0.9487	1.2829	1.2094	1.3931	7.841	5	3	40
42	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	1	40
50	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	1	40
56	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	1	40
75	0.9250	0.9487	1.2872	1.0472	1.3931	12.116	5	3	40
100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	40	40

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.81772	0.927	-1.0012	0.21204
Bartlett's Test indicates equal variances (p = 0.70)	2.9701	15.0863		

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%			
5.0%	85.931	83.140	88.816
10.0%	85.932	84.979	86.895
20.0%	85.932	84.979	86.895
Auto-1.3%	85.457	83.646	87.308



ToxCalc v5.0.23

Reviewed by: EGP 10/8/13

Acute Fish Test-48 Hr Survival

Start Date:	10/2/2013	Test ID:	X5229PP	Sample ID:	7
End Date:	10/4/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/2/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas
Comments:					

Conc-%	1	2	3	4	5
D-Control	0.8750	1.0000	1.0000	1.0000	1.0000
32	1.0000	1.0000	1.0000	1.0000	1.0000
42	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
56	1.0000	1.0000	1.0000	1.0000	1.0000
75	1.0000	0.8750	1.0000	1.0000	1.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5		
32	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
42	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
50	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
56	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
75	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	27.50	16.00
100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5		

Auxiliary Tests					Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)					0.5466	0.927	-2.7369	8.25694
Equality of variance cannot be confirmed								
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**				
Steel's Many-One Rank Test	75	100	86.6025	1.33333				
Treatments vs D-Control								

ToxCalc v5.0.23

Reviewed by: EOB 8/13

Acute Fish Test-48 Hr Survival

Start Date:	10/2/2013	Test ID:	X5229PP	Sample ID:	7
End Date:	10/4/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	10/2/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas
Comments:					

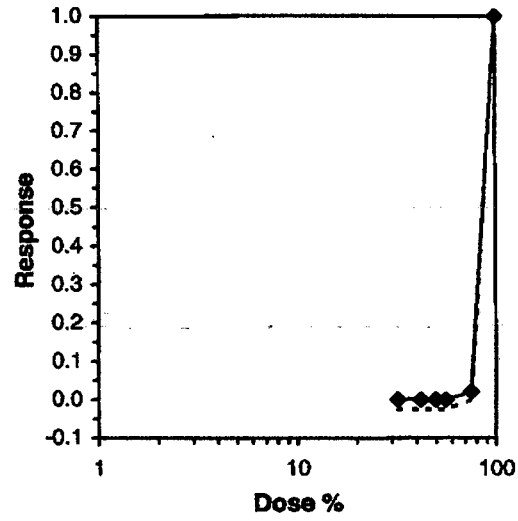
Conc-%	1	2	3	4	5
D-Control	0.8750	1.0000	1.0000	1.0000	1.0000
32	1.0000	1.0000	1.0000	1.0000	1.0000
42	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
56	1.0000	1.0000	1.0000	1.0000	1.0000
75	1.0000	0.8750	1.0000	1.0000	1.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Number	Total
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
D-Control	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	1	40
32	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	0	40
42	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	0	40
50	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	0	40
56	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	0	40
75	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	1	40
100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	40	40

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.5466	0.927	-2.7369	8.25694
Equality of variance cannot be confirmed				

Trimmed Spearman-Karber

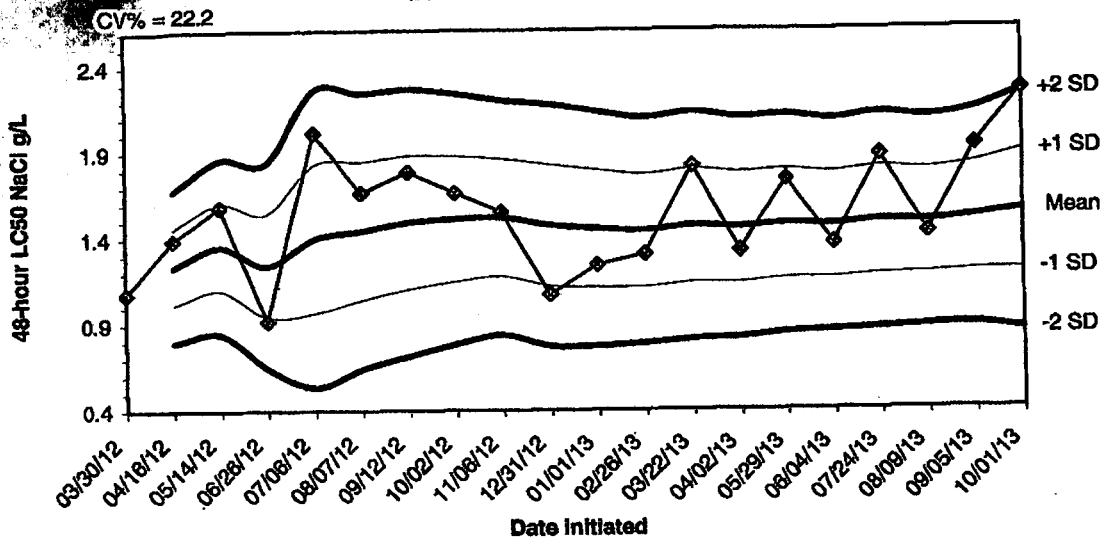
Trim Level	EC50	95% CL	
0.0%	86.099	84.999	87.214
5.0%	86.347	85.775	86.923
10.0%	86.347	85.775	86.923
20.0%	86.347	85.775	86.923
Auto-0.0%	86.099	84.999	87.214



Reviewed by: EOP 10/8/13

APPENDIX D
QUALITY ASSURANCE CHARTS

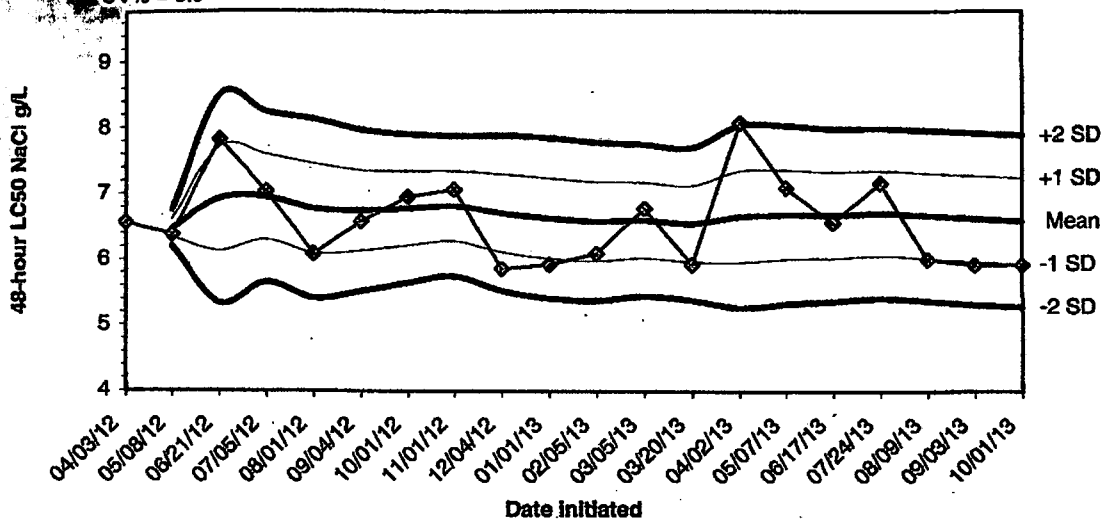
2013 48-HOUR ACUTE REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/30/12	1.0800					
04/16/12	1.3900	1.2350	1.0158	0.7966	1.4542	1.6734
05/14/12	1.5800	1.3500	1.0976	0.8452	1.6024	1.8548
06/26/12	0.9200	1.2425	0.9447	0.6469	1.5403	1.8381
07/06/12	2.0100	1.3960	0.9667	0.5373	1.8253	2.2547
08/07/12	1.8600	1.4400	1.0412	0.6423	1.8388	2.2377
09/12/12	1.7800	1.4886	1.1025	0.7164	1.8747	2.2608
10/02/12	1.6600	1.5100	1.1474	0.7849	1.8726	2.2351
11/06/12	1.5500	1.5144	1.1750	0.8356	1.8539	2.1933
12/31/12	1.0700	1.4700	1.1205	0.7710	1.8195	2.1690
01/01/13	1.2400	1.4491	1.1103	0.7716	1.7878	2.1266
02/26/13	1.3000	1.4367	1.1108	0.7850	1.7625	2.0883
03/22/13	1.8100	1.4654	1.1367	0.8080	1.7941	2.1228
04/02/13	1.3200	1.4550	1.1368	0.8186	1.7732	2.0914
05/29/13	1.7300	1.4733	1.1586	0.8439	1.7881	2.1028
06/04/13	1.3600	1.4663	1.1609	0.8555	1.7716	2.0770
07/24/13	1.8700	1.4900	1.1785	0.8671	1.8015	2.1129
08/09/13	1.4200	1.4861	1.1835	0.8809	1.7887	2.0913
09/05/13	1.9200	1.5089	1.1985	0.8880	1.8194	2.1299
10/01/13	2.2400	1.5455	1.2019	0.8583	1.8891	2.2327

2013 48-HOUR ACUTE REFERENCE TOXICANT TEST RESULTS FOR PIMEPHALES PROMELAS

[redacted] CV% = 9.9



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
04/03/12	6.5600					
05/08/12	6.3700	6.4650	6.3306	6.1963	6.5994	6.7337
06/21/12	7.8200	6.9167	6.1286	5.3406	7.7047	8.4928
07/05/12	7.0300	6.9450	6.2991	5.6531	7.5909	8.2369
08/01/12	6.0900	6.7740	6.0964	5.4188	7.4516	8.1292
09/04/12	6.5700	6.7400	6.1282	5.5165	7.3518	7.9635
10/01/12	6.9500	6.7700	6.2059	5.6419	7.3341	7.8981
11/01/12	7.0600	6.8063	6.2741	5.7419	7.3384	7.8706
12/04/12	5.8600	6.7011	6.1118	5.5224	7.2904	7.8798
01/01/13	5.9200	6.6230	6.0149	5.4069	7.2311	7.8391
02/05/13	6.0900	6.5745	5.9757	5.3769	7.1734	7.7722
03/05/13	6.7700	6.5908	6.0171	5.4434	7.1646	7.7383
03/20/13	5.9200	6.5392	5.9593	5.3793	7.1192	7.6992
04/02/13	8.0700	6.6486	5.9573	5.2660	7.3398	8.0311
05/07/13	7.0900	6.6780	6.0022	5.3264	7.3538	8.0296
06/17/13	6.5600	6.6706	6.0171	5.3635	7.3242	7.9777
07/24/13	7.1600	6.6994	6.0556	5.4117	7.3433	7.9871
08/09/13	6.0000	6.6606	6.0145	5.3685	7.3066	7.9526
09/03/13	5.9200	6.6216	5.9712	5.3208	7.2720	7.9224
10/01/13	5.9200	6.5865	5.9343	5.2821	7.2387	7.8909

APPENDIX E
AGENCY FORMS

Acute Forms
Daphnia pulex Survival

Permittee: El Dorado Chemical - Outfall 007
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 10/1/13** **To: 10/1/13**
From: **To:**
Test Initiated: 10/2/13
Dilution Water Used: **Receiving Water** **Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	32	42	50	56	75	100
24-hour	A	100.0	100.0	100.0	100.0	87.5	100.0	100.0
	B	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	C	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	D	100.0	87.5	100.0	100.0	100.0	100.0	100.0
	E	100.0	100.0	100.0	100.0	100.0	100.0	100.0
48-hour	A	87.5	100.0	87.5	100.0	87.5	100.0	0.0
	B	100.0	87.5	100.0	100.0	100.0	100.0	0.0
	C	100.0	100.0	100.0	100.0	100.0	75.0	0.0
	D	100.0	87.5	100.0	100.0	100.0	100.0	0.0
	E	100.0	87.5	100.0	87.5	100.0	87.5	0.0
	Mean	97.5	92.5	97.5	97.5	97.5	92.5	0.0

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
a.) LOW FLOW OR CRITICAL DILUTION (100%) **X YES** **NO**
b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%) **YES** **NO**
2. Enter percent effluent corresponding to the LC_{50} below:
LC_{50} = 85.46% effluent
95 % confidence limits: 87.31 - 83.65%
Method of LC_{50} calculation: Spearman Karber
3. If you answered NO to 1.a) enter (P) otherwise enter (F): F
4. Enter response to item 3 on DMR Form, parameter TEM3D
5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
6. Enter response to item 5 on DMR Form, parameter TFM3D

Biomonitoring
Daphnia 48 hour Acute Static Renewal
Chemical Parameters Chart*

Permittee: El Dorado Chemical - Outfall 007
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Cotty, Haughton
Sample Collected **From:** **Date 10/1/13** **Time 1940**
To: **Date 10/1/13** **Time 2140**
Test Begin **Date 10/2/13** **Time 1435**
Test End **Date 10/4/13** **Time 1230**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut./Time	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.3	8.4	8.1	24.6	24.4	24.6	44.0			36.0			7.4	7.6	7.2
32	8.3	8.3	8.1	24.6	24.4	24.6							7.1	6.5	7.3
42	8.3	8.3	8.1	24.6	24.4	24.6							7.1	5.7	7.1
50	8.3	8.3	8.2	24.6	24.4	24.6							7.0	5.6	7.1
56	8.4	8.3	8.2	24.6	24.4	24.6							7.0	5.9	7.1
75	8.4	8.3	8.2	24.6	24.4	24.6							6.8	5.4	6.3
100	8.4	8.2	8.3	24.6	24.4	24.6	4.0			228.0			6.4	4.5	5.2

*This Form is to be submitted with each DMR.6.6
Alkalinity and hardness to be reported as mg/l $CaCO_3$

Acute Forms
Fathead Minnow Survival

Permittee: El Dorado Chemical - Outfall 007
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 10/1/13** **To: 10/1/13**
From: **To:**
Test Initiated: 10/2/13
Dilution Water Used: **Receiving Water** **Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	32	42	50	56	75	100
24-hour	A	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	B	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	C	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	D	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	E	100.0	100.0	100.0	100.0	100.0	100.0	100.0
48-hour	A	100.0	100.0	100.0	100.0	100.0	100.0	0.0
	B	100.0	100.0	100.0	100.0	100.0	87.5	0.0
	C	100.0	100.0	100.0	100.0	100.0	100.0	0.0
	D	100.0	100.0	100.0	100.0	100.0	100.0	0.0
	E	100.0	100.0	100.0	100.0	100.0	100.0	0.0
	Mean	100.0	100.0	100.0	100.0	100.0	97.5	0.0

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
a.) LOW FLOW OR CRITICAL DILUTION (100%) **X YES** **NO**
b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%) **YES** **NO**
2. Enter percent effluent corresponding to the LC_{50} below:
LC_{50} = 86.10% effluent
95 % confidence limits: 87.21 - 85.00%
Method of LC_{50} calculation: Spearman Karber
3. If you answered NO to 1.a) enter (P) otherwise enter (F): F
4. Enter response to item 3 on DMR Form, parameter TEM3D
5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
6. Enter response to item 5 on DMR Form, parameter TFM3D

Biomonitoring
Fathead Minnow 48 hour Acute Static Renewal
Chemical Parameters Chart*

Permittee: El Dorado Chemical - Outfall 007
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Cotty, Haughton
Sample Collected **From:** **Date 10/1/13** **Time 1940**
To: **Date 10/1/13** **Time 2140**
Test Begin **Date 10/2/13** **Time 1420**
Test End **Date 10/4/13** **Time 1230**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut/Time	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.3	8.4	8.1	24.4	24.4	24.6	44.0			36.0			7.4	7.6	7.5
32	8.3	8.3	7.9	24.4	24.4	24.6							7.1	6.5	7.2
42	8.3	8.3	7.9	24.4	24.4	24.6							7.1	5.7	6.9
50	8.3	8.3	7.9	24.4	24.4	24.6							7.0	5.6	7.0
56	8.4	8.3	7.9	24.4	24.4	24.6							7.0	5.9	7.0
75	8.4	8.3	7.9	24.4	24.4	24.6							6.8	5.4	6.7
100	8.4	8.2	7.8	24.4	24.4	24.6	4.0			228.0			6.4	4.5	4.9

*This Form is to be submitted with each DMR.6.6
Alkalinity and hardness to be reported as mg/l $CaCO_3$

APPENDIX F
REPORT QUALITY ASSURANCE FORM

Bio-Analytical Laboratories

3240 Spurgin Road
Post Office Box 527
Doyline, LA 71023

(318) 745-2772
1-800-259-1246
Fax: (318) 745-2773

REPORT QUALITY ASSURANCE FORM

Client: EDCC 007

Project#: X5229

Chain of Custody Documents Checked by: AH 10/7/13
Technician/Date

Raw Data Documents Checked by: AH 10/7/13
Technician/Date

Statistical Analysis Package Checked by: EGB 10/8/13
Quality Manager/Date

Quality Control Data Checked by: EGB 10/8/13
Quality Manager/Date

Report Checked by: EGB 10/14/13
Quality Manager/Date

I certify that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained in this document, to the best of my knowledge, is true, accurate and complete.

Erin G. Briggs BS
Quality Manager

10/14/13
Date

Report Rev. 3.0

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 7, 2013
Control No. 171113

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 1, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 1, 2013
Daily,Weekly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171113-1	010 9/30/13 9:55am 10/1/13 9:55am	01-Oct-2013 0955	
171113-2	010 10/1/13 9:55am	01-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171113-1
Sample Identification: 010 9/30/13 9:55am 10/1/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.0**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 02-Oct-2013 0937 by 93	Analyzed: 03-Oct-2013 1223 by 93		Batch: W45118	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 02-Oct-2013 0808 by 285	Analyzed: 07-Oct-2013 1138 by 285		Batch: W45114	
Total Suspended Solids		**14**	4	**mg/l**	
USGS 3765	Prep: 02-Oct-2013 0836 by 285	Analyzed: 02-Oct-2013 1502 by 285		Batch: W45117	
Phosphorus		**0.095**	0.02	**mg/l**	
EPA 200.7	Prep: 01-Oct-2013 1439 by 271	Analyzed: 02-Oct-2013 1737 by 305		Batch: S35503	

AIC No. 171113-2
Sample Identification: 010 10/1/13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**220**	10	**mg/l**	
SM 2540 C	Prep: 03-Oct-2013 1007 by 285	Analyzed: 04-Oct-2013 1407 by 285		Batch: W45140	
Chloride		**17**	0.2	**mg/l**	
EPA 300.0	Prep: 01-Oct-2013 1428 by 07	Analyzed: 01-Oct-2013 1552 by 07		Batch: C16081	
Sulfate		**28**	0.2	**mg/l**	
EPA 300.0	Prep: 01-Oct-2013 1428 by 07	Analyzed: 01-Oct-2013 1552 by 07		Batch: C16081	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 02-Oct-2013 0847 by 295	Analyzed: 03-Oct-2013 0828 by 295		Batch: B8579	
Fecal Coliform		**66**	1	**/100ml**	
SM 9222 D		Analyzed: 01-Oct-2013 1435 by 304		Batch: M4002	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171073-1	< 2 mg/l			02Oct13 0808 by 285	07Oct13 1124 by 285		
	Batch: W45114	Duplicate	< 2 mg/l	0.00	20.0	02Oct13 0808 by 285	07Oct13 1126 by 285		
Total Suspended Solids		171077-1	< 4 mg/l			02Oct13 0836 by 285	02Oct13 1502 by 285		
	Batch: W45117	Duplicate	< 4 mg/l	0.00	20.0	02Oct13 0837 by 285	02Oct13 1502 by 285		
Total Suspended Solids		171078-1	6.4 mg/l			02Oct13 0836 by 285	02Oct13 1502 by 285		
	Batch: W45117	Duplicate	6.8 mg/l	6.06	20.0	02Oct13 0837 by 285	02Oct13 1502 by 285		
Total Dissolved Solids		171086-1	1300 mg/l			03Oct13 1007 by 285	04Oct13 1407 by 285		
	Batch: W45140	Duplicate	1300 mg/l	1.66	10.0	03Oct13 1007 by 285	04Oct13 1407 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	112	80.0-120			W45118	02Oct13 0938 by 93	03Oct13 1221 by 93		
Carbonaceous BOD 5-day	200 mg/l	104	84.5-115			W45114	02Oct13 0808 by 285	07Oct13 1123 by 285		
Phosphorus	5 mg/l	102	85.0-115			S35503	01Oct13 1337 by 271	02Oct13 1517 by 305		
Chloride	20 mg/l	92.0	90.0-110			C16081	01Oct13 1108 by 07	01Oct13 1142 by 07		
Sulfate	20 mg/l	92.0	90.0-110			C16081	01Oct13 1108 by 07	01Oct13 1142 by 07		
Oil and Grease	40 mg/l	97.0	78.0-114			B8579	02Oct13 0848 by 295	03Oct13 0828 by 295		
	40 mg/l	88.0	78.0-114	9.73	20.0	B8579	02Oct13 0848 by 295	03Oct13 0828 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171113-1	1 mg/l	85.4	80.0-120	W45118	02Oct13 0938 by 93	03Oct13 1307 by 93	5	D
	171113-1	1 mg/l	85.6	80.0-120	W45118	02Oct13 0938 by 93	03Oct13 1309 by 93	5	D
	Relative Percent Difference:		0.0496	25.0	W45118				D
Phosphorus	171073-1	5 mg/l	104	75.0-125	S35503	01Oct13 1337 by 271	02Oct13 1521 by 305		
	171073-1	5 mg/l	106	75.0-125	S35503	01Oct13 1337 by 271	02Oct13 1539 by 305		
	Relative Percent Difference:		1.62	20.0	S35503				
Chloride	171089-3	20 mg/l	93.4	80.0-120	C16081	01Oct13 1108 by 07	01Oct13 1329 by 07		
	171089-3	20 mg/l	96.3	80.0-120	C16081	01Oct13 1108 by 07	01Oct13 1356 by 07		
	Relative Percent Difference:		2.57	10.0	C16081				
Sulfate	171089-3	20 mg/l	92.1	80.0-120	C16081	01Oct13 1108 by 07	01Oct13 1329 by 07		
	171089-3	20 mg/l	94.4	80.0-120	C16081	01Oct13 1108 by 07	01Oct13 1356 by 07		
	Relative Percent Difference:		2.40	10.0	C16081				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45140-1	03Oct13 1007 by 285	04Oct13 1407 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45118-1	02Oct13 0938 by 93	03Oct13 1219 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45114-1	02Oct13 0808 by 285	07Oct13 1122 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45117-1	02Oct13 0837 by 285	02Oct13 1502 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35503-1	01Oct13 1337 by 271	02Oct13 1513 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16081-1	01Oct13 1108 by 07	01Oct13 1115 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16081-1	01Oct13 1108 by 07	01Oct13 1115 by 07	
Oil and Grease	< 2 mg/l	2	5	B8579-1	02Oct13 0848 by 295	03Oct13 0828 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4002-1		01Oct13 1435 by 295	

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:
PO No.:

AIC CONTROL NO: 171113
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 3.7°C

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS, ~~NO3N~~	Coli. F	NH3N, Total Phosphoru	Remarks
1		010	9/30/13-10/1/13 9:55am-9:55am		X	X			1	X			
2		010	10/1/13 9:55am	X		X			1		X		ID AS OUTFALL 010
1		010	9/30/13-10/1/13 9:55am-9:55am		X	X			1			X	TO AS OUTFALL 010
			Container Type							P	P	P	Field pH calibration on ____ @ ____
			Preservative							NO	T	S	Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: ____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/1/13 9:55am		
Relinquished By:	**Date/Time**	**Received in Lab By:**	**Date/Time**
		Jimmy Day	10/1/13 1330

Comments:

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:

PO No.

AIC CONTROL NO: 171113
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 3.7°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	ANALYSES REQUESTED: OG (2 / Week)	ANALYSES REQUESTED: TDS,Cl,SO4 (2 / Week)	Remarks
(1)	010	10/1/13 9:55am	X		X		1	X		ID AS Outfall 010
(2)	010	10/1/13 9:55am	X		X		1		X	
		Container Type						P	P	Field pH calibration
		Preservative						S	NO	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/1/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By: Tommy Day	Date/Time 10/1/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 8, 2013
Control No. 171143

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 2, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 2, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed with shipping documentation.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171143-1	010 10/1/13 9:55am 10/2/13 9:55am	02-Oct-2013 0955	
171143-2	010 10/2/13 9:55am	02-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor
H Analytical holding time exceeded regulatory requirements

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171143-1
Sample Identification: 010 10/1/13 9:55am 10/2/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 02-Oct-2013 1507 by 93	Analyzed: 03-Oct-2013 1310 by 93		Batch: W45118	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 03-Oct-2013 0810 by 285	Analyzed: 08-Oct-2013 0852 by 285		Batch: W45132	
Total Suspended Solids		**13**	4	**mg/l**	
USGS 3765	Prep: 02-Oct-2013 1548 by 285	Analyzed: 03-Oct-2013 1340 by 285		Batch: W45123	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 02-Oct-2013 1504 by 311	Analyzed: 03-Oct-2013 1413 by 305		Batch: S35513	

AIC No. 171143-2
Sample Identification: 010 10/2/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**84**	1	**/100ml**	
SM 9222 D	Analyzed: 02-Oct-2013 1414 by 295		Batch: M4008	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Suspended Solids		171043-1	660 mg/l			02Oct13 1548 by 285	03Oct13 1340 by 285		H
	Batch: W45123	Duplicate	670 mg/l	0.900	20.0	02Oct13 1548 by 285	03Oct13 1340 by 285		H
Total Suspended Solids		171043-2	81 mg/l			02Oct13 1548 by 285	03Oct13 1340 by 285		H
	Batch: W45123	Duplicate	82 mg/l	0.980	20.0	02Oct13 1548 by 285	03Oct13 1340 by 285		H
Carbonaceous BOD 5-day		171154-1	< 2 mg/l			03Oct13 0810 by 285	08Oct13 0846 by 285		
	Batch: W45132	Duplicate	< 2 mg/l	0.00	20.0	03Oct13 0810 by 285	08Oct13 0848 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	112	80.0-120			W45118	02Oct13 0938 by 93	03Oct13 1221 by 93		
Carbonaceous BOD 5-day	200 mg/l	107	84.5-115			W45132	03Oct13 0810 by 285	08Oct13 0844 by 285		
Phosphorus	5 mg/l	101	85.0-115			S35513	02Oct13 1505 by 311	03Oct13 1310 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171113-1	1 mg/l	85.4	80.0-120	W45118	02Oct13 0938 by 93	03Oct13 1307 by 93	5	D
	171113-1	1 mg/l	85.6	80.0-120	W45118	02Oct13 0938 by 93	03Oct13 1309 by 93	5	D
	Relative Percent Difference:		0.0496	25.0	W45118				D
Phosphorus	171122-1	5 mg/l	105	75.0-125	S35513	02Oct13 1505 by 311	03Oct13 1313 by 305		
	171122-1	5 mg/l	106	75.0-125	S35513	02Oct13 1505 by 311	03Oct13 1317 by 305		
	Relative Percent Difference:		0.820	20.0	S35513				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45118-1	02Oct13 0938 by 93	03Oct13 1219 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45132-1	03Oct13 0810 by 285	08Oct13 0843 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45123-1	02Oct13 1548 by 285	03Oct13 1340 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35513-1	02Oct13 1505 by 311	03Oct13 1307 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4008-1		02Oct13 1156 by 295	

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F	NH3N, Total Phosphorus
(1)	010	10/1/13-10/2/13 9:55am-9:55am		X	X			1	X		
(2)	010	10/2/13 9:15am	X		X			1		X	
(1)	010	10/1/13-10/2/13 9:55am-9:15am		X	X			1			X
		-									
		Container Type							P	P	P
		Preservative							NO	T	S

AIC CONTROL NO: 171143
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 3.2°C
Remarks
Field pH calibration on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/2/13 10:00 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/2/13 1315

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 9, 2013
Control No. 171188

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 3, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water samlple(s) received on October 3, 2013
Daily-Permit AR0000752
Weekly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed with shipping documentation.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171188-1	010 10/3/13 945AM	03-Oct-2013 0945	
171188-2	010 10-3/-3 9:45AM	03-Oct-2013 0945	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171188-1
Sample Identification: 010 10/3/13 945AM

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.3**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 03-Oct-2013 1502 by 93	Analyzed: 03-Oct-2013 1846 by 93		Batch: W45144	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 03-Oct-2013 1530 by 285	Analyzed: 08-Oct-2013 0914 by 285		Batch: W45132	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 03-Oct-2013 1607 by 285	Analyzed: 04-Oct-2013 1151 by 285		Batch: W45147	
Phosphorus		**0.094**	0.02	**mg/l**	
EPA 200.7	Prep: 03-Oct-2013 1542 by 311	Analyzed: 04-Oct-2013 1351 by 305		Batch: S35521	

AIC No. 171188-2
Sample Identification: 010 10-3/-3 9:45AM

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**160**	10	**mg/l**	
SM 2540 C	Prep: 07-Oct-2013 1421 by 285	Analyzed: 08-Oct-2013 1520 by 285		Batch: W45173	
Chloride		**17**	0.2	**mg/l**	
EPA 300.0	Prep: 03-Oct-2013 1548 by 07	Analyzed: 03-Oct-2013 2344 by 07		Batch: C16095	
Sulfate		**29**	0.2	**mg/l**	
EPA 300.0	Prep: 03-Oct-2013 1548 by 07	Analyzed: 03-Oct-2013 2344 by 07		Batch: C16095	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 04-Oct-2013 0820 by 295	Analyzed: 04-Oct-2013 1227 by 295		Batch: B8586	
Fecal Coliform		**11**	1	**/100ml**	
SM 9222 D		Analyzed: 03-Oct-2013 1426 by 304		Batch: M4012	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171154-1	< 2 mg/l			03Oct13 0810 by 285	08Oct13 0846 by 285		
	Batch: W45132	Duplicate	< 2 mg/l	0.00	20.0	03Oct13 0810 by 285	08Oct13 0848 by 285		
Total Suspended Solids		171106-1	< 4 mg/l			03Oct13 1607 by 285	04Oct13 1151 by 285		
	Batch: W45147	Duplicate	< 4 mg/l	0.00	20.0	03Oct13 1607 by 285	04Oct13 1151 by 285		
Total Suspended Solids		171106-2	< 4 mg/l			03Oct13 1607 by 285	04Oct13 1151 by 285		
	Batch: W45147	Duplicate	< 4 mg/l	0.00	20.0	03Oct13 1607 by 285	04Oct13 1151 by 285		
Total Dissolved Solids		171120-1	54 mg/l			07Oct13 1421 by 285	08Oct13 1520 by 285		
	Batch: W45173	Duplicate	52 mg/l	3.77	10.0	07Oct13 1421 by 285	08Oct13 1520 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	97.9	80.0-120			W45144	03Oct13 1503 by 93	03Oct13 1804 by 93		
Carbonaceous BOD 5-day	200 mg/l	107	84.5-115			W45132	03Oct13 0810 by 285	08Oct13 0844 by 285		
Phosphorus	5 mg/l	101	85.0-115			S35521	03Oct13 1542 by 311	04Oct13 1327 by 305		
Chloride	20 mg/l	95.0	90.0-110			C16095	03Oct13 1548 by 07	03Oct13 1625 by 07		
Sulfate	20 mg/l	93.2	90.0-110			C16095	03Oct13 1548 by 07	03Oct13 1625 by 07		
Oil and Grease	40 mg/l	97.0	78.0-114			B8586	04Oct13 0821 by 295	04Oct13 1227 by 295		
	40 mg/l	92.0	78.0-114	5.29	20.0	B8586	04Oct13 0821 by 295	04Oct13 1227 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171158-2	1 mg/l	90.2	80.0-120	W45144	03Oct13 1503 by 93	03Oct13 1808 by 93		
	171158-2	1 mg/l	89.9	80.0-120	W45144	03Oct13 1503 by 93	03Oct13 1809 by 93		
	Relative Percent Difference:		0.209	25.0	W45144				
Phosphorus	171158-2	5 mg/l	98.7	75.0-125	S35521	03Oct13 1542 by 311	04Oct13 1330 by 305		
	171158-2	5 mg/l	99.1	75.0-125	S35521	03Oct13 1542 by 311	04Oct13 1333 by 305		
	Relative Percent Difference:		0.204	20.0	S35521				
Chloride	171179-1	20 mg/l	99.6	80.0-120	C16095	03Oct13 1548 by 07	03Oct13 1808 by 07		
	171179-1	20 mg/l	103	80.0-120	C16095	03Oct13 1548 by 07	03Oct13 1834 by 07		
	Relative Percent Difference:		2.67	10.0	C16095				
Sulfate	171179-1	20 mg/l	96.8	80.0-120	C16095	03Oct13 1548 by 07	03Oct13 1808 by 07		
	171179-1	20 mg/l	100	80.0-120	C16095	03Oct13 1548 by 07	03Oct13 1834 by 07		
	Relative Percent Difference:		3.37	10.0	C16095				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45173-1	07Oct13 1421 by 285	08Oct13 1520 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45144-1	03Oct13 1503 by 93	03Oct13 1802 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45132-1	03Oct13 0810 by 285	08Oct13 0843 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45147-1	03Oct13 1607 by 285	04Oct13 1151 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35521-1	03Oct13 1542 by 311	04Oct13 1324 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16095-1	03Oct13 1548 by 07	03Oct13 1559 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16095-1	03Oct13 1548 by 07	03Oct13 1559 by 07	
Oil and Grease	< 2 mg/l	2	5	B8586-1	04Oct13 0821 by 295	04Oct13 1227 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4012-1		03Oct13 1250 by 295	

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:

PO No.

AIC CONTROL NO: 171188
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 3.2°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
(1)	010	10/3/13/945A		X	X		1	X			
(2)	010	10/3/13/945A	X		X		1		X		
(1)	010	10/3/13/945A		X	X		1			X	
		Container Type						P	P	P	Field pH calibration
		Preservative						NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Mark Young	10/3/13		
Relinquished By:	Date/Time	Received in Lab By: Jimmy Day	Date/Time 10/3/13 1325

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:

PO No.

AIC CONTROL NO: 171188
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C 3.2°C.

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	~~AS(III,V) (1 / Week)~~									Remarks
(2)	010	10/3/13/945A	X		X		1	X											
(2)	010	10/3/13/945A	X		X		1		X										
	~~010~~			~~X~~			~~1~~			~~X~~									
																			Field pH calibration
		Container Type						P	P	P	P								on _____ @ _____
		Preservative						S	NO	NO	NO								Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Mark Young	10/3/13		
Relinquished By:	Date/Time	Received in Lab By: Jimmy Day	Date/Time 10/3/13 1325

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 9, 2013
Control No. 171253

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 4, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 4, 2013
Daily - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171253-1	010 10/4/13 930am	04-Oct-2013 0930	
171253-2	010 10/4/13 925am	04-Oct-2013 0925	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171253-1
Sample Identification: 010 10/4/13 930am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.1**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 04-Oct-2013 1514 by 93	Analyzed: 07-Oct-2013 1439 by 308		Batch: W45161	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 04-Oct-2013 1602 by 285	Analyzed: 09-Oct-2013 1033 by 285		Batch: W45153	
Total Suspended Solids		**11**	4	**mg/l**	
USGS 3765	Prep: 08-Oct-2013 0942 by 285	Analyzed: 08-Oct-2013 1549 by 285		Batch: W45184	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 07-Oct-2013 1133 by 271	Analyzed: 07-Oct-2013 2109 by 305		Batch: S35539	
Nitrate as N		**9.2**	0.05	**mg/l**	
EPA 300.0	Prep: 04-Oct-2013 1414 by 07	Analyzed: 04-Oct-2013 2126 by 07		Batch: C16098	

AIC No. 171253-2
Sample Identification: 010 10/4/13 925am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**380**	3	**/100ml**	D
SM 9222 D	Analyzed: 04-Oct-2013 1503 by 304		Batch: M4014	Dil: 2.5

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171195-1	< 2 mg/l			04Oct13 0805 by 285	09Oct13 0947 by 93		
	Batch: W45153	Duplicate	< 2 mg/l	0.00	20.0	04Oct13 0805 by 285	09Oct13 0949 by 285		
Total Suspended Solids		171263-1	< 4 mg/l			08Oct13 0942 by 285	08Oct13 1549 by 285		
	Batch: W45184	Duplicate	< 4 mg/l	0.00	20.0	08Oct13 0942 by 285	08Oct13 1549 by 285		
Total Suspended Solids		171268-1	64 mg/l			08Oct13 0942 by 285	08Oct13 1549 by 285		
	Batch: W45184	Duplicate	66 mg/l	1.54	20.0	08Oct13 0942 by 285	08Oct13 1549 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	90.8	80.0-120			W45161	04Oct13 1515 by 93	07Oct13 1403 by 308		
Carbonaceous BOD 5-day	200 mg/l	101	84.5-115			W45153	04Oct13 0805 by 285	09Oct13 0945 by 285		
Phosphorus	5 mg/l	104	85.0-115			S35539	07Oct13 1131 by 271	08Oct13 1520 by 305		
Nitrate as N	4 mg/l	95.9	90.0-110			C16098	04Oct13 1414 by 07	04Oct13 1510 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171252-1	1 mg/l	89.3	80.0-120	W45161	04Oct13 1515 by 93	07Oct13 1406 by 308		
	171252-1	1 mg/l	102	80.0-120	W45161	04Oct13 1515 by 93	07Oct13 1408 by 308		
	Relative Percent Difference:		12.1	25.0	W45161				
Phosphorus	171222-1	5 mg/l	103	75.0-125	S35539	07Oct13 1131 by 271	08Oct13 1523 by 305		
	171222-1	5 mg/l	104	75.0-125	S35539	07Oct13 1131 by 271	08Oct13 1526 by 305		
	Relative Percent Difference:		0.231	20.0	S35539				
Nitrate as N	171215-1	4 mg/l	97.3	80.0-120	C16098	04Oct13 1414 by 07	04Oct13 1537 by 07		
	171215-1	4 mg/l	97.8	80.0-120	C16098	04Oct13 1414 by 07	04Oct13 1604 by 07		
	Relative Percent Difference:		0.564	10.0	C16098				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45161-1	04Oct13 1515 by 93	07Oct13 1401 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45153-1	04Oct13 0805 by 285	09Oct13 0945 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45184-1	08Oct13 0942 by 285	08Oct13 1549 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35539-1	07Oct13 1131 by 271	08Oct13 1517 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16098-1	04Oct13 1414 by 07	04Oct13 1443 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4014-1		04Oct13 1238 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	CBOD, TSS, NO3-N	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	10/4/13 0930		X	X		1	X			
2	010	10/4/13 0930	X		X		1		X		Time 0925
3	010	10/4/13 0930		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

AIC CONTROL NO: 171253
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.2
Field pH calibration on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Mark Young	10/4/13		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Tonya Hopson	10-4-13 1340

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 11, 2013
Control No. 171280

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 5, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

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ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 5, 2013
Daily - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171280-1	010 10/4/13 9:55am - 10/5/13 9:55am	05-Oct-2013 0955	
171280-2	010 10/5/13 9:55am	05-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171280-1
Sample Identification: 010 10/4/13 9:55am - 10/5/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.4**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 07-Oct-2013 1027 by 302	Analyzed: 08-Oct-2013 2259 by 302		Batch: W45172	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 06-Oct-2013 1800 by 302	Analyzed: 11-Oct-2013 1002 by 302		Batch: W45168	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 08-Oct-2013 1128 by 285	Analyzed: 09-Oct-2013 1325 by 285		Batch: W45189	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 07-Oct-2013 1135 by 271	Analyzed: 07-Oct-2013 2103 by 305		Batch: S35540	

AIC No. 171280-2
Sample Identification: 010 10/5/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**140**	1	**/100ml**	
SM 9222 D	Analyzed: 05-Oct-2013 1400 by 304		Batch: M4018	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171281-1	< 2 mg/l			06Oct13 1800 by 302	11Oct13 0948 by 93		
	Batch: W45168	Duplicate	< 2 mg/l	0.00	20.0	06Oct13 1800 by 302	11Oct13 0958 by 302		
Total Suspended Solids		171273-1	10 mg/l			08Oct13 1128 by 285	09Oct13 1325 by 285		
	Batch: W45189	Duplicate	9.6 mg/l	4.08	20.0	08Oct13 1128 by 285	09Oct13 1325 by 285		
Total Suspended Solids		171273-2	< 4 mg/l			08Oct13 1128 by 285	09Oct13 1325 by 285		
	Batch: W45189	Duplicate	< 4 mg/l	0.00	20.0	08Oct13 1128 by 285	09Oct13 1325 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	100	80.0-120			W45172	07Oct13 1028 by 302	08Oct13 2042 by 302		
Carbonaceous BOD 5-day	200 mg/l	87.7	84.5-115			W45168	06Oct13 1800 by 302	11Oct13 0946 by 302		
Phosphorus	5 mg/l	109	85.0-115			S35540	07Oct13 1134 by 271	07Oct13 1922 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171279-1	1 mg/l	89.7	80.0-120	W45172	07Oct13 1028 by 302	08Oct13 2045 by 302		
	171279-1	1 mg/l	81.7	80.0-120	W45172	07Oct13 1028 by 302	08Oct13 2047 by 302		
	Relative Percent Difference:		8.02	25.0	W45172				
Phosphorus	171254-1	5 mg/l	106	75.0-125	S35540	07Oct13 1134 by 271	07Oct13 1925 by 305		
	171254-1	5 mg/l	106	75.0-125	S35540	07Oct13 1134 by 271	07Oct13 1928 by 305		
	Relative Percent Difference:		0.216	20.0	S35540				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45172-1	07Oct13 1028 by 302	08Oct13 2040 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45168-1	06Oct13 1800 by 302	11Oct13 0945 by 302	
Total Suspended Solids	< 4 mg/l	4	4	W45189-1	08Oct13 1128 by 285	09Oct13 1325 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35540-1	07Oct13 1134 by 271	07Oct13 1919 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4018-1		05Oct13 1400 by 310	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:

PO No.

AIC CONTROL NO: 171280
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.6

AIC No.	Sample Identification	Date/Time Collected	MATRIX: GRAB	COMP	WATER	SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	10/4/13-10/5/13 9:55am-9:55am		X	X		1	X			
2	010	10/5/13 9:55am	X		X		1		X		
1	010	10/4/13-10/5/13 9:55am-9:55am		X	X		1			X	
		Container Type						P	P	P	Field pH calibration
		Preservative						NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/5/13 10:00am		10/5/13 1240
Gold Star	10-5-13 1246		

Received in Lab 96310 By:
Date/Time 10-5-13 1240

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 14, 2013
Control No. 171288

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 7, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

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El Dorado Chemical Company
ATTN: Mr. David Sartain
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ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 7, 2013
Daily - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171288-1	010 10/5/13 9:55am - 10/6/13 9:55am	06-Oct-2013 0955	
171288-2	010 10/6/13 9:55am	06-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
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"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171288-1
Sample Identification: 010 10/5/13 9:55am - 10/6/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.7**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 07-Oct-2013 1027 by 302	Analyzed: 08-Oct-2013 2301 by 302		Batch: W45172	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 07-Oct-2013 1425 by 285	Analyzed: 12-Oct-2013 1309 by 285		Batch: W45178	
Total Suspended Solids		**11**	4	**mg/l**	
USGS 3765	Prep: 08-Oct-2013 1128 by 285	Analyzed: 09-Oct-2013 1325 by 285		Batch: W45189	
Phosphorus		**0.097**	0.02	**mg/l**	
EPA 200.7	Prep: 08-Oct-2013 0946 by 271	Analyzed: 09-Oct-2013 1406 by 235		Batch: S35543	

AIC No. 171288-2
Sample Identification: 010 10/6/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**27**	1	**/100ml**	
SM 9222 D	Analyzed: 06-Oct-2013 1400 by 304		Batch: M4019	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171284-1	< 2 mg/l			07Oct13 1425 by 285	12Oct13 1259 by 285		
	Batch: W45178	Duplicate	< 2 mg/l	0.00	20.0	07Oct13 1425 by 285	12Oct13 1315 by 285		
Total Suspended Solids		171273-1	10 mg/l			08Oct13 1128 by 285	09Oct13 1325 by 285		
	Batch: W45189	Duplicate	9.6 mg/l	4.08	20.0	08Oct13 1128 by 285	09Oct13 1325 by 285		
Total Suspended Solids		171273-2	< 4 mg/l			08Oct13 1128 by 285	09Oct13 1325 by 285		
	Batch: W45189	Duplicate	< 4 mg/l	0.00	20.0	08Oct13 1128 by 285	09Oct13 1325 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	100	80.0-120			W45172	07Oct13 1028 by 302	08Oct13 2042 by 302		
Carbonaceous BOD 5-day	200 mg/l	115	84.5-115			W45178	07Oct13 1425 by 285	12Oct13 1258 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35543	08Oct13 0946 by 271	09Oct13 1344 by 235		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171279-1	1 mg/l	89.7	80.0-120	W45172	07Oct13 1028 by 302	08Oct13 2045 by 302		
	171279-1	1 mg/l	81.7	80.0-120	W45172	07Oct13 1028 by 302	08Oct13 2047 by 302		
	Relative Percent Difference:		8.02	25.0	W45172				
Phosphorus	171284-1	5 mg/l	102	75.0-125	S35543	08Oct13 0946 by 271	09Oct13 1348 by 235		
	171284-1	5 mg/l	100	75.0-125	S35543	08Oct13 0946 by 271	09Oct13 1352 by 235		
	Relative Percent Difference:		1.73	20.0	S35543				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45172-1	07Oct13 1028 by 302	08Oct13 2040 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45178-1	07Oct13 1425 by 285	12Oct13 1257 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45189-1	08Oct13 1128 by 285	09Oct13 1325 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35543-1	08Oct13 0946 by 271	09Oct13 1340 by 235	
Fecal Coliform	< 1 /100ml	1	1	M4019-1		06Oct13 1400 by 310	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS, [illegible]	Coli. F	NH3N, Total Phosphorus	AIC CONTROL NO: 171288 / AIC PROPOSAL NO: / Carrier: Gold Star / Received Temperature C 2.0 / Remarks
1	010	10/5/13-10/6/13 9:55am-9:55am		X	X			1	X			
2	010	10/6/13 9:55am	X		X			1		X		
1	010	10/5/13-10/6/13 9:55am-9:55am		X	X			1			X	
		Container Type							P	P	P	Field pH calibration
		Preservative							NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/6/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	10-6-13 12:30

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 7, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 7, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171297-1	010 10/6/13-10/7/13 9:55am-9:55am	07-Oct-2013 0955	
171297-2	010 10/6/13-10/7/13 9:55am-9:55am	07-Oct-2013 0955	

Case Narrative:
There were no qualifiers for this data and all samples met quality control criteria.

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171297-1
Sample Identification: 010 10/6/13-10/7/13 9:55am-9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.0**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 08-Oct-2013 1043 by 302	Analyzed: 08-Oct-2013 2122 by 302		Batch: W45188	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 09-Oct-2013 0810 by 285	Analyzed: 14-Oct-2013 1036 by 93		Batch: W45203	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 09-Oct-2013 1023 by 285	Analyzed: 10-Oct-2013 1436 by 285		Batch: W45209	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 08-Oct-2013 0946 by 271	Analyzed: 09-Oct-2013 1457 by 235		Batch: S35543	
Nitrate as N		**9.6**	0.05	**mg/l**	
EPA 300.0	Prep: 07-Oct-2013 1619 by 07	Analyzed: 07-Oct-2013 2018 by 07		Batch: C16102	

AIC No. 171297-2
Sample Identification: 010 10/6/13-10/7/13 9:55am-9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**6.0**	1	**/100ml**	
SM 9222 D	Analyzed: 07-Oct-2013 1503 by 304		Batch: M4021	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171295-1	< 2 mg/l			09Oct13 0810 by 285	14Oct13 1006 by 93		
	Batch: W45203	Duplicate	< 2 mg/l	0.00	20.0	09Oct13 0810 by 285	14Oct13 1032 by 93		
Total Suspended Solids		171298-1	< 4 mg/l			09Oct13 1023 by 285	10Oct13 1436 by 285		
	Batch: W45209	Duplicate	< 4 mg/l	0.00	20.0	09Oct13 1025 by 285	10Oct13 1436 by 285		
Total Suspended Solids		171354-1	< 4 mg/l			09Oct13 1023 by 285	10Oct13 1436 by 285		
	Batch: W45209	Duplicate	< 4 mg/l	0.00	20.0	09Oct13 1025 by 285	10Oct13 1436 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	95.7	80.0-120			W45188	08Oct13 1043 by 302	08Oct13 2110 by 302		
Carbonaceous BOD 5-day	200 mg/l	97.8	84.5-115			W45203	09Oct13 0810 by 285	14Oct13 1004 by 93		
Phosphorus	5 mg/l	105	85.0-115			S35543	08Oct13 0946 by 271	09Oct13 1344 by 235		
Nitrate as N	4 mg/l	95.7	90.0-110			C16102	07Oct13 1619 by 07	07Oct13 1835 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171295-1	1 mg/l	87.6	80.0-120	W45188	08Oct13 1043 by 302	08Oct13 2113 by 302		
	171295-1	1 mg/l	87.4	80.0-120	W45188	08Oct13 1043 by 302	08Oct13 2115 by 302		
	Relative Percent Difference:		0.223	25.0	W45188				
Phosphorus	171284-1	5 mg/l	102	75.0-125	S35543	08Oct13 0946 by 271	09Oct13 1348 by 235		
	171284-1	5 mg/l	100	75.0-125	S35543	08Oct13 0946 by 271	09Oct13 1352 by 235		
	Relative Percent Difference:		1.73	20.0	S35543				
Nitrate as N	171297-1	4 mg/l	96.8	80.0-120	C16102	07Oct13 1619 by 07	07Oct13 1901 by 07		
	171297-1	4 mg/l	95.0	80.0-120	C16102	07Oct13 1619 by 07	07Oct13 1926 by 07		
	Relative Percent Difference:		1.48	10.0	C16102				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45188-1	08Oct13 1043 by 302	08Oct13 2108 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45203-1	09Oct13 0810 by 285	14Oct13 1003 by 93	
Total Suspended Solids	< 4 mg/l	4	4	W45209-1	09Oct13 1025 by 285	10Oct13 1436 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35543-1	08Oct13 0946 by 271	09Oct13 1340 by 235	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16102-1	07Oct13 1619 by 07	07Oct13 1809 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4021-1		07Oct13 1504 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171297
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.6°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS, NO_3-N	Coli. F	NH_3N, Total Phosphorus	Remarks
1	010	10/6/13-10/7/13 9:55am-9:55am		X	X		1	X			
2	010	10/7/13 9:55am	X		X		1		X		
3	010	10/6/13-10/7/13 9:55am-9:55am		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

Field pH calibration on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/7/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	10-7-13 10:30am

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 8, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 8, 2013
Daily,Weekly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171344-1	010 10/7/13 9:55am 10/8/13 9:55am	08-Oct-2013 0955	
171344-2	010 10/8/13 9:55am	08-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171344-1
Sample Identification: 010 10/7/13 9:55am 10/8/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 09-Oct-2013 0927 by 302	Analyzed: 09-Oct-2013 1203 by 302		Batch: W45208	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 09-Oct-2013 0810 by 285	Analyzed: 14-Oct-2013 1042 by 93		Batch: W45203	
Total Suspended Solids		**9.2**	4	**mg/l**	
USGS 3765	Prep: 09-Oct-2013 1023 by 285	Analyzed: 10-Oct-2013 1436 by 285		Batch: W45209	
Phosphorus		**0.091**	0.02	**mg/l**	
EPA 200.7	Prep: 09-Oct-2013 1103 by 311	Analyzed: 10-Oct-2013 1048 by 235		Batch: S35552	

AIC No. 171344-2
Sample Identification: 010 10/8/13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**250**	10	**mg/l**	
SM 2540 C	Prep: 09-Oct-2013 1638 by 285	Analyzed: 11-Oct-2013 0835 by 285		Batch: W45216	
Chloride		**18**	0.2	**mg/l**	
EPA 300.0	Prep: 08-Oct-2013 1652 by 07	Analyzed: 08-Oct-2013 1930 by 07		Batch: C16108	
Sulfate		**29**	0.2	**mg/l**	
EPA 300.0	Prep: 08-Oct-2013 1652 by 07	Analyzed: 08-Oct-2013 1930 by 07		Batch: C16108	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 09-Oct-2013 0814 by 295	Analyzed: 09-Oct-2013 0958 by 295		Batch: B8592	
Fecal Coliform		**73**	1	**/100ml**	
SM 9222 D		Analyzed: 08-Oct-2013 1528 by 295		Batch: M4030	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Oil and Grease		171369-2	< 5 mg/l			09Oct13 1327 by 295	09Oct13 1614 by 295		
	Batch: B8592	Duplicate	< 5 mg/l	0.00	20.0	09Oct13 1507 by 295	09Oct13 1614 by 295		
Carbonaceous BOD 5-day		171295-1	< 2 mg/l			09Oct13 0810 by 285	14Oct13 1006 by 93		
	Batch: W45203	Duplicate	< 2 mg/l	0.00	20.0	09Oct13 0810 by 285	14Oct13 1032 by 93		
Total Suspended Solids		171298-1	< 4 mg/l			09Oct13 1023 by 285	10Oct13 1436 by 285		
	Batch: W45209	Duplicate	< 4 mg/l	0.00	20.0	09Oct13 1025 by 285	10Oct13 1436 by 285		
Total Suspended Solids		171354-1	< 4 mg/l			09Oct13 1023 by 285	10Oct13 1436 by 285		
	Batch: W45209	Duplicate	< 4 mg/l	0.00	20.0	09Oct13 1025 by 285	10Oct13 1436 by 285		
Total Dissolved Solids		171344-2	250 mg/l			09Oct13 1638 by 285	11Oct13 0835 by 285		
	Batch: W45216	Duplicate	260 mg/l	5.03	10.0	09Oct13 1638 by 285	11Oct13 0835 by 285		
Total Dissolved Solids		171345-2	450 mg/l			09Oct13 1638 by 285	11Oct13 0835 by 285		
	Batch: W45216	Duplicate	460 mg/l	3.31	10.0	09Oct13 1638 by 285	11Oct13 0835 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	99.1	80.0-120			W45208	09Oct13 0928 by 302	09Oct13 1128 by 302		
Carbonaceous BOD 5-day	200 mg/l	97.8	84.5-115			W45203	09Oct13 0810 by 285	14Oct13 1004 by 93		
Phosphorus	5 mg/l	104	85.0-115			S35552	09Oct13 1104 by 311	10Oct13 0953 by 235		
Chloride	20 mg/l	94.1	90.0-110			C16108	08Oct13 1653 by 07	08Oct13 1746 by 07		
Sulfate	20 mg/l	93.2	90.0-110			C16108	08Oct13 1653 by 07	08Oct13 1746 by 07		
Oil and Grease	40 mg/l	95.5	78.0-114			B8592	09Oct13 0815 by 295	09Oct13 0958 by 295		
	40 mg/l	98.0	78.0-114	2.58	20.0	B8592	09Oct13 0815 by 295	09Oct13 0958 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171344-1	1 mg/l	85.7	80.0-120	W45208	09Oct13 0928 by 302	09Oct13 1229 by 302	5	D
	171344-1	1 mg/l	91.5	80.0-120	W45208	09Oct13 0928 by 302	09Oct13 1207 by 302	5	D
	Relative Percent Difference:		1.88	25.0	W45208				D
Phosphorus	171346-1	5 mg/l	105	75.0-125	S35552	09Oct13 1104 by 311	10Oct13 0956 by 235		
	171346-1	5 mg/l	105	75.0-125	S35552	09Oct13 1104 by 311	10Oct13 1000 by 235		
	Relative Percent Difference:		0.0151	20.0	S35552				
Chloride	171351-1	20 mg/l	100	80.0-120	C16108	08Oct13 1653 by 07	08Oct13 1812 by 07		
	171351-1	20 mg/l	100	80.0-120	C16108	08Oct13 1653 by 07	08Oct13 1838 by 07		
	Relative Percent Difference:		0.130	10.0	C16108				
Sulfate	171351-1	20 mg/l	99.3	80.0-120	C16108	08Oct13 1653 by 07	08Oct13 1812 by 07		
	171351-1	20 mg/l	99.3	80.0-120	C16108	08Oct13 1653 by 07	08Oct13 1838 by 07		
	Relative Percent Difference:		0.0353	10.0	C16108				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45216-1	09Oct13 1638 by 285	11Oct13 0835 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45208-1	09Oct13 0928 by 302	09Oct13 1126 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45203-1	09Oct13 0810 by 285	14Oct13 1003 by 93	
Total Suspended Solids	< 4 mg/l	4	4	W45209-1	09Oct13 1025 by 285	10Oct13 1436 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35552-1	09Oct13 1104 by 311	10Oct13 0950 by 235	
Chloride	< 0.2 mg/l	0.2	0.2	C16108-1	08Oct13 1653 by 07	08Oct13 1720 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16108-1	08Oct13 1653 by 07	08Oct13 1720 by 07	
Oil and Grease	< 2 mg/l	2	5	B8592-1	09Oct13 0815 by 295	09Oct13 0958 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4030-1		08Oct13 1528 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By:

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 171344
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.9

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	10/8/13 9:55am - 9:55am		X	X			1	X			
2	010	10/8/13 9:55am	X		X			1		X		
1	010	10/8/13 9:55am - 9:55am		X	X			1			X	
		Container Type							P	P	P	Field pH calibration
		Preservative							NO	T	S	on ____ @ ____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/8/13 9:55am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10-8-13 13:30

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company

Project Reference: Weekly - Permit AR0000752

Project Manager: Ms. Larken Pennington

Sampled By:

PO No.

AIC CONTROL NO: 17134 Y

AIC PROPOSAL NO:

Carrier: Gold Star

Received Temperature C: 2.9

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL		NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	~~NO3N (3 / Week)~~		Remarks
2	010	10/8/13 9:55am	X		X			1	X				
2	010	10/8/13 9:55am	X		X			1		X			
	~~010~~			x	X			1			~~X~~		
	Container Type								P	P	P	P	
	Preservative								S	NO	NO	NO	

Field pH calibration on ________ @ ______

Buffer:

G = Glass; NO = none; P = Plastic; S = Sulfuric acid pH2; V = VOA vials; N = Nitric acid pH2; H = HCl to pH2; B = NaOH to pH12; T = Sodium Thiosulfate; Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: ____________________
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/8/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	10-8-13 13:30pm

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 9, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
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AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 9, 2013
Daily-Permit AR0000752
Monthly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171378-1	010 10/8/13 9:55am 10/9/13 9:55am	09-Oct-2013 0955	
171378-2	010 10/9/13 9:55am	09-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171378-1
Sample Identification: 010 10/8/13 9:55am 10/9/13 9:55am

Analyte		Result	RL	Units	Qualifier
Chromium, Hexavalent		**< 0.007**	0.007	**mg/l**	
SM 3500-Cr B	Prep: 11-Oct-2013 1340 by 308	Analyzed: 11-Oct-2013 1500 by 308		Batch: W45239	
Ammonia as N with Distillation		**2.1**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 09-Oct-2013 1520 by 302	Analyzed: 09-Oct-2013 1840 by 93		Batch: W45208	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 10-Oct-2013 0859 by 285	Analyzed: 15-Oct-2013 1000 by 285		Batch: W45221	
Total Suspended Solids		**9.6**	4	**mg/l**	
USGS 3765	Prep: 10-Oct-2013 1522 by 308	Analyzed: 11-Oct-2013 0945 by 308		Batch: W45227	
Phosphorus		**0.085**	0.02	**mg/l**	
EPA 200.7	Prep: 09-Oct-2013 1632 by 271	Analyzed: 10-Oct-2013 1508 by 235		Batch: S35564	
Mercury, low level		**< 0.0050**	0.0050	**ug/l**	
EPA 245.7	Prep: 10-Oct-2013 0840 by 311	Analyzed: 10-Oct-2013 0935 by 311		Batch: S35565	
Nitrate as N		**9.7**	0.05	**mg/l**	
EPA 300.0	Prep: 09-Oct-2013 1551 by 07	Analyzed: 09-Oct-2013 2110 by 07		Batch: C16110	
Total Recoverable Trivalent Chromium		**< 0.007**	0.007	**mg/l**	
Calculation	Prep: 10-Oct-2013 1112 by 271	Analyzed: 11-Oct-2013 1255 by 305		Batch: S35569	
Total Recoverable Cadmium		**< 0.0001**	0.0001	**mg/l**	
EPA 200.8	Prep: 10-Oct-2013 1112 by 271	Analyzed: 11-Oct-2013 1255 by 305		Batch: S35569	
Total Recoverable Copper		**0.0065**	0.001	**mg/l**	
EPA 200.8	Prep: 10-Oct-2013 1112 by 271	Analyzed: 11-Oct-2013 1255 by 305		Batch: S35569	
Total Recoverable Lead		**0.0031**	0.001	**mg/l**	
EPA 200.8	Prep: 10-Oct-2013 1112 by 271	Analyzed: 11-Oct-2013 1255 by 305		Batch: S35569	
Total Recoverable Nickel		**< 0.01**	0.01	**mg/l**	
EPA 200.8	Prep: 10-Oct-2013 1112 by 271	Analyzed: 11-Oct-2013 1255 by 305		Batch: S35569	
Total Recoverable Selenium		**< 0.002**	0.002	**mg/l**	
EPA 200.8	Prep: 10-Oct-2013 1112 by 271	Analyzed: 11-Oct-2013 1255 by 305		Batch: S35569	
Total Recoverable Silver		**0.00023**	0.0002	**mg/l**	
EPA 200.8	Prep: 10-Oct-2013 1112 by 271	Analyzed: 11-Oct-2013 1255 by 305		Batch: S35569	
Total Recoverable Zinc		**0.47**	0.002	**mg/l**	
EPA 200.8	Prep: 10-Oct-2013 1112 by 271	Analyzed: 11-Oct-2013 1255 by 305		Batch: S35569	

AIC No. 171378-2
Sample Identification: 010 10/9/13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Cyanide		**< 0.01**	0.01	**mg/l**	
SM 4500-CN C,E	Prep: 10-Oct-2013 0854 by 308	Analyzed: 10-Oct-2013 1619 by 308		Batch: W45219	
Fecal Coliform		**54**	1	**/100ml**	
SM 9222 D		Analyzed: 09-Oct-2013 1517 by 295		Batch: M4032	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171369-1	< 2 mg/l			10Oct13 0859 by 285	15Oct13 0948 by 285		
	Batch: W45221	Duplicate	< 2 mg/l	0.00	20.0	10Oct13 0859 by 285	15Oct13 0950 by 285		
Total Suspended Solids		171355-1	< 4 mg/l			10Oct13 1522 by 308	11Oct13 0945 by 308		
	Batch: W45227	Duplicate	< 4 mg/l	0.00	20.0	10Oct13 1522 by 308	11Oct13 0945 by 308		
Total Suspended Solids		171366-1	< 4 mg/l			10Oct13 1522 by 308	11Oct13 0945 by 308		
	Batch: W45227	Duplicate	< 4 mg/l	0.00	20.0	10Oct13 1612 by 308	11Oct13 0945 by 308		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Chromium, Hexavalent	0.05 mg/l	111	80.0-120			W45239	11Oct13 1341 by 308	11Oct13 1500 by 308		
Total Cyanide	0.1 mg/l	95.7	85.0-115			W45219	10Oct13 0854 by 308	10Oct13 1648 by 308		
Ammonia as N with Distillation	1 mg/l	99.1	80.0-120			W45208	09Oct13 0928 by 302	09Oct13 1128 by 302		
Carbonaceous BOD 5-day	200 mg/l	92.8	84.5-115			W45221	10Oct13 0859 by 285	15Oct13 0946 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35564	09Oct13 1632 by 271	10Oct13 1448 by 235		
Mercury, low level	0.01 ug/l	85.2	76.0-113			S35565	10Oct13 0840 by 311	10Oct13 0940 by 311		
Nitrate as N	4 mg/l	95.4	90.0-110			C16110	09Oct13 1552 by 07	09Oct13 1626 by 07		
Total Recoverable Cadmium	0.05 mg/l	98.4	85.0-115			S35569	10Oct13 1112 by 271	11Oct13 1239 by 305		
Total Recoverable Copper	0.05 mg/l	99.5	85.0-115			S35569	10Oct13 1112 by 271	11Oct13 1239 by 305		
Total Recoverable Lead	0.05 mg/l	101	85.0-115			S35569	10Oct13 1112 by 271	11Oct13 1239 by 305		
Total Recoverable Nickel	0.05 mg/l	101	85.0-115			S35569	10Oct13 1112 by 271	11Oct13 1239 by 305		
Total Recoverable Selenium	0.05 mg/l	99.9	85.0-115			S35569	10Oct13 1112 by 271	11Oct13 1239 by 305		
Total Recoverable Silver	0.02 mg/l	93.1	85.0-115			S35569	10Oct13 1112 by 271	11Oct13 1239 by 305		
Total Recoverable Zinc	0.05 mg/l	101	85.0-115			S35569	10Oct13 1112 by 271	11Oct13 1239 by 305		

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Chromium, Hexavalent	171378-1	0.05 mg/l	109	76.5-146	W45239	11Oct13 1341 by 308	11Oct13 1500 by 308		
	171378-1	0.05 mg/l	110	76.5-146	W45239	11Oct13 1341 by 308	11Oct13 1500 by 308		
	Relative Percent Difference:		0.915	25.0	W45239				
Total Cyanide	171378-2	0.1 mg/l	83.8	75.0-125	W45219	10Oct13 0854 by 308	10Oct13 1621 by 308		
	171378-2	0.1 mg/l	94.2	75.0-125	W45219	10Oct13 0854 by 308	10Oct13 1623 by 308		
	Relative Percent Difference:		11.7	20.0	W45219				
Ammonia as N with Distillation	171344-1	1 mg/l	85.7	80.0-120	W45208	09Oct13 0928 by 302	09Oct13 1229 by 302	5	D
	171344-1	1 mg/l	91.5	80.0-120	W45208	09Oct13 0928 by 302	09Oct13 1207 by 302	5	D
	Relative Percent Difference:		1.88	25.0	W45208				D
Phosphorus	171374-1	5 mg/l	104	75.0-125	S35564	09Oct13 1632 by 271	10Oct13 1451 by 235		
	171374-1	5 mg/l	106	75.0-125	S35564	09Oct13 1632 by 271	10Oct13 1454 by 235		
	Relative Percent Difference:		1.22	20.0	S35564				
Mercury, low level	171378-1	0.01 ug/l	101	63.0-111	S35565	10Oct13 0840 by 311	10Oct13 0946 by 311		
	171378-1	0.01 ug/l	96.9	63.0-111	S35565	10Oct13 0840 by 311	10Oct13 0951 by 311		
	Relative Percent Difference:		2.92	18.0	S35565				
Nitrate as N	171374-2	4 mg/l	95.7	80.0-120	C16110	09Oct13 1552 by 07	09Oct13 1652 by 07		
	171374-2	4 mg/l	96.1	80.0-120	C16110	09Oct13 1552 by 07	09Oct13 1717 by 07		
	Relative Percent Difference:		0.259	10.0	C16110				
Total Recoverable Cadmium	171378-1	0.05 mg/l	95.2	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1245 by 305		
	171378-1	0.05 mg/l	95.2	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1250 by 305		
	Relative Percent Difference:		0.0196	20.0	S35569				
Total Recoverable Copper	171378-1	0.05 mg/l	96.3	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1245 by 305		
	171378-1	0.05 mg/l	107	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1250 by 305		
	Relative Percent Difference:		9.87	20.0	S35569				
Total Recoverable Lead	171378-1	0.05 mg/l	96.3	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1245 by 305		
	171378-1	0.05 mg/l	96.7	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1250 by 305		
	Relative Percent Difference:		0.404	20.0	S35569				
Total Recoverable Nickel	171378-1	0.05 mg/l	94.0	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1245 by 305		
	171378-1	0.05 mg/l	96.0	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1250 by 305		
	Relative Percent Difference:		2.01	20.0	S35569				
Total Recoverable Selenium	171378-1	0.05 mg/l	96.6	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1245 by 305		
	171378-1	0.05 mg/l	97.2	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1250 by 305		
	Relative Percent Difference:		0.647	20.0	S35569				
Total Recoverable Silver	171378-1	0.02 mg/l	93.8	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1245 by 305		
	171378-1	0.02 mg/l	93.9	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1250 by 305		
	Relative Percent Difference:		0.0904	20.0	S35569				
Total Recoverable Zinc	171378-1	0.05 mg/l	93.6	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1245 by 305		
	171378-1	0.05 mg/l	108	75.0-125	S35569	10Oct13 1112 by 271	11Oct13 1250 by 305		
	Relative Percent Difference:		5.05	20.0	S35569				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Chromium, Hexavalent	< 0.007 mg/l	0.007	0.007	W45239-1	11Oct13 1341 by 308	11Oct13 1500 by 308	
Total Cyanide	< 0.01 mg/l	0.01	0.01	W45219-1	10Oct13 0854 by 308	10Oct13 1615 by 308	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45208-1	09Oct13 0928 by 302	09Oct13 1126 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45221-1	10Oct13 0859 by 285	15Oct13 0945 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45227-1	10Oct13 1522 by 308	11Oct13 0945 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35564-1	09Oct13 1632 by 271	10Oct13 1445 by 235	
Mercury, low level	< 0.0018 ug/l	0.0018	0.0050	S35565-1	10Oct13 0840 by 311	10Oct13 0925 by 311	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16110-1	09Oct13 1552 by 07	09Oct13 1600 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4032-1		09Oct13 1206 by 295	
Total Recoverable Cadmium	< 0.0001 mg/l	0.0001	0.0001	S35569-1	10Oct13 1112 by 271	11Oct13 1234 by 305	
Total Recoverable Copper	< 0.001 mg/l	0.001	0.001	S35569-1	10Oct13 1112 by 271	11Oct13 1234 by 305	
Total Recoverable Lead	< 0.001 mg/l	0.001	0.001	S35569-1	10Oct13 1112 by 271	11Oct13 1234 by 305	
Total Recoverable Nickel	< 0.01 mg/l	0.01	0.01	S35569-1	10Oct13 1112 by 271	11Oct13 1234 by 305	
Total Recoverable Selenium	< 0.002 mg/l	0.002	0.002	S35569-1	10Oct13 1112 by 271	11Oct13 1234 by 305	
Total Recoverable Silver	< 0.0002 mg/l	0.0002	0.0002	S35569-1	10Oct13 1112 by 271	11Oct13 1234 by 305	
Total Recoverable Zinc	< 0.002 mg/l	0.002	0.002	S35569-1	10Oct13 1112 by 271	11Oct13 1234 by 305	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 16 171378
AIC PROPOSAL NO: 10/9/13
Carrier: Gold Star
Received Temperature C: 4.3°C

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS, NO_3-N	Coli. F	NH3N, Total Phosphorus	Remarks
(1)		010	10/8/13-10/9/13 9:55am 9:55am		X	X			1	X			FOR: OUTFALL 010
(2)		010	10/9/13 9:55am	X		X			1		X		
(1)		010	10/8/13-10/9/13 9:55am		X	X			1			X	
		Container Type								P	P	P	Field pH calibration
		Preservative								NO	T	S	on ____ @ ____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/9/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/9/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Monthly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	Hg.LL	Cr^{+6}	CN.T	Metals: See Comments												
(1)	010	10/8/13-10/9/13 9:55am-9:55am		X	X		1	X															
(1)	010	10/8/13-10/9/13 9:55am-9:55am		X	X		1		X														
(2)	010	10/9/13 9:55am	X		X		1			X													
(1)	010	10/8/13-10/9/13 9:55am-9:55am		X	X		1				X												
		Container Type						G	P	P	P	P											
		Preservative						NO	A	B	N	NO											

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate A=$(NH_4)_2SO_4$, NH_4OH

AIC CONTROL NO: 171378
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 4.3°C

Remarks
ID AS:
OUTFALL 010

Field pH calibration on _____ @ _____
Buffer:

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/9/13 1050am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/9/13 1330

Comments: Total Recoverable Metals = Ag.LL, Cd.LL, Cr^{+3}, Cu.LL, Ni, Pb.LL, Se.LL, Zn

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 16, 2013
Control No. 171420

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 10, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 10, 2013
Daily / Weekly - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171420-1	010 10/9/13 9:55am - 10/10/13 9:55am	10-Oct-2013 0955	
171420-2	010 10/10/13 9:55am	10-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171420-1
Sample Identification: 010 10/9/13 9:55am - 10/10/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.9**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 10-Oct-2013 1513 by 93	Analyzed: 11-Oct-2013 1143 by 93		Batch: W45226	
Carbonaceous BOD 5-day		**2.2**	2	**mg/l**	
SM 5210 B	Prep: 10-Oct-2013 1559 by 285	Analyzed: 15-Oct-2013 1048 by 285		Batch: W45221	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 10-Oct-2013 1637 by 308	Analyzed: 11-Oct-2013 0955 by 308		Batch: W45233	
Phosphorus		**0.099**	0.02	**mg/l**	
EPA 200.7	Prep: 11-Oct-2013 0900 by 271	Analyzed: 11-Oct-2013 1557 by 305		Batch: S35573	

AIC No. 171420-2
Sample Identification: 010 10/10/13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**240**	10	**mg/l**	
SM 2540 C	Prep: 14-Oct-2013 1549 by 285	Analyzed: 15-Oct-2013 1629 by 285		Batch: W45257	
Chloride		**18**	0.2	**mg/l**	
EPA 300.0	Prep: 10-Oct-2013 1455 by 07	Analyzed: 11-Oct-2013 1037 by 07		Batch: C16114	
Sulfate		**29**	0.2	**mg/l**	
EPA 300.0	Prep: 10-Oct-2013 1455 by 07	Analyzed: 11-Oct-2013 1037 by 07		Batch: C16114	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 11-Oct-2013 0930 by 295	Analyzed: 11-Oct-2013 1254 by 295		Batch: B8596	
Fecal Coliform		**33**	3	**/100ml**	D
SM 9222 D		Analyzed: 10-Oct-2013 1455 by 295		Batch: M4037	Dil: 3

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Oil and Grease		171415-2	< 5 mg/l			11Oct13 0930 by 295	11Oct13 1254 by 295		
	Batch: B8596	Duplicate	< 5 mg/l	0.00	20.0	11Oct13 1008 by 295	11Oct13 1254 by 295		
Carbonaceous BOD 5-day		171369-1	< 2 mg/l			10Oct13 0859 by 285	15Oct13 0948 by 285		
	Batch: W45221	Duplicate	< 2 mg/l	0.00	20.0	10Oct13 0859 by 285	15Oct13 0950 by 285		
Total Suspended Solids		171383-1	11 mg/l			10Oct13 1637 by 308	11Oct13 0955 by 308		
	Batch: W45233	Duplicate	12 mg/l	3.51	20.0	10Oct13 1638 by 308	11Oct13 0955 by 308		
Total Suspended Solids		171385-7	6700 mg/l			10Oct13 1637 by 308	11Oct13 0955 by 308		
	Batch: W45233	Duplicate	7000 mg/l	3.36	20.0	10Oct13 1638 by 308	11Oct13 0955 by 308		
Total Dissolved Solids		171419-1	790 mg/l			14Oct13 1549 by 285	15Oct13 1629 by 285		
	Batch: W45257	Duplicate	780 mg/l	0.254	10.0	14Oct13 1550 by 285	15Oct13 1629 by 285		
Total Dissolved Solids		171418-2	700 mg/l			14Oct13 1549 by 285	15Oct13 1629 by 285		
	Batch: W45257	Duplicate	720 mg/l	2.25	10.0	14Oct13 1550 by 285	15Oct13 1629 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	86.6	80.0-120			W45226	10Oct13 1514 by 93	11Oct13 1132 by 93		
Carbonaceous BOD 5-day	200 mg/l	92.8	84.5-115			W45221	10Oct13 0859 by 285	15Oct13 0946 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35573	11Oct13 0900 by 271	11Oct13 1514 by 305		
Chloride	20 mg/l	96.5	90.0-110			C16114	10Oct13 1323 by 07	10Oct13 1510 by 07		
Sulfate	20 mg/l	96.6	90.0-110			C16114	10Oct13 1323 by 07	10Oct13 1510 by 07		
Oil and Grease	40 mg/l	107	78.0-114			B8596	11Oct13 0931 by 295	11Oct13 1254 by 295		
	40 mg/l	104	78.0-114	2.84	20.0	B8596	11Oct13 0931 by 295	11Oct13 1254 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171418-1	1 mg/l	91.0	80.0-120	W45226	10Oct13 1514 by 93	11Oct13 1136 by 93		
	171418-1	1 mg/l	96.2	80.0-120	W45226	10Oct13 1514 by 93	11Oct13 1138 by 93		
	Relative Percent Difference:		4.40	25.0	W45226				
Phosphorus	171418-1	5 mg/l	102	75.0-125	S35573	11Oct13 0900 by 271	11Oct13 1517 by 305		
	171418-1	5 mg/l	102	75.0-125	S35573	11Oct13 0900 by 271	11Oct13 1520 by 305		
	Relative Percent Difference:		0.0437	20.0	S35573				
Chloride	171409-1	20 mg/l	95.5	80.0-120	C16114	10Oct13 1323 by 07	10Oct13 1656 by 07		
	171409-1	20 mg/l	96.3	80.0-120	C16114	10Oct13 1323 by 07	10Oct13 1721 by 07		
	Relative Percent Difference:		0.872	10.0	C16114				
Sulfate	171409-1	20 mg/l	96.2	80.0-120	C16114	10Oct13 1323 by 07	10Oct13 1656 by 07		
	171409-1	20 mg/l	97.5	80.0-120	C16114	10Oct13 1323 by 07	10Oct13 1721 by 07		
	Relative Percent Difference:		1.28	10.0	C16114				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45257-1	14Oct13 1550 by 285	15Oct13 1629 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45226-1	10Oct13 1514 by 93	11Oct13 1131 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45221-1	10Oct13 0859 by 285	15Oct13 0945 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45233-1	10Oct13 1638 by 308	11Oct13 0955 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35573-1	11Oct13 0900 by 271	11Oct13 1511 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16114-1	10Oct13 1323 by 07	10Oct13 1443 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16114-1	10Oct13 1323 by 07	10Oct13 1443 by 07	
Oil and Grease	< 2 mg/l	2	5	B8596-1	11Oct13 0931 by 295	11Oct13 1254 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4037-1		10Oct13 1456 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171420
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.4

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS	Coli.F	NH3N, Total Phosphorus	Remarks
1	010	10/9/13-10/10/13 9:55am-9:55am		X	X		1	X			
2	010	10/10/13 9:55am	X		X		1		X		
1	010	10/9/13-10/10/13 9:55am-9:55am		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

Field pH calibration
on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/10/13 10:30am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Inga Hylton	10-10-13 1320

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171420
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.4

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	ANALYSES REQUESTED: OG (2 / Week)	ANALYSES REQUESTED: TDS,Cl,SO4 (2 / Week)	Remarks
2	010	10/10/13 9:55am	X		X		1	X		
2	010	10/10/13 9:55am	X		X		1		X	
		Container Type						P	P	
		Preservative						S	NO	

Remarks

Field pH calibration on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/10/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Lizzie Hyatt	10-10-13 1320

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 16, 2013
Control No. 171469

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 11, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 11, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed with shipping documentation.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171469-1	010 10/10/13 9:55am 10/11/13 9:55am	11-Oct-2013 0955	
171469-2	010 10/11/13 9:55am	11-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171469-1
Sample Identification: 010 10/10/13 9:55am 10/11/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.6**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 11-Oct-2013 1511 by 93	Analyzed: 15-Oct-2013 1225 by 93		Batch: W45240	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 11-Oct-2013 1517 by 285	Analyzed: 16-Oct-2013 0957 by 285		Batch: W45241	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 14-Oct-2013 0950 by 285	Analyzed: 15-Oct-2013 0915 by 285		Batch: W45252	
Phosphorus		**0.096**	0.02	**mg/l**	
EPA 200.7	Prep: 14-Oct-2013 1019 by 271	Analyzed: 15-Oct-2013 1402 by 305		Batch: S35583	
Nitrate as N		**11**	0.5	**mg/l**	D
EPA 300.0	Prep: 11-Oct-2013 1628 by 07	Analyzed: 14-Oct-2013 1640 by 07		Batch: C16118	Dil: 10

AIC No. 171469-2
Sample Identification: 010 10/11/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**42**	3	**/100ml**	D
SM 9222 D	Analyzed: 11-Oct-2013 1500 by 295		Batch: M4040	Dil: 2.5

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171462-1	< 2 mg/l			11Oct13 1517 by 285	16Oct13 0940 by 285		
	Batch: W45241	Duplicate	< 2 mg/l	0.00	20.0	11Oct13 1517 by 285	16Oct13 0942 by 285		
Total Suspended Solids		171427-1	< 4 mg/l			14Oct13 0950 by 285	15Oct13 0915 by 285		
	Batch: W45252	Duplicate	< 4 mg/l	0.00	20.0	14Oct13 0950 by 285	15Oct13 0915 by 285		
Total Suspended Solids		171461-2	29 mg/l			14Oct13 0950 by 285	15Oct13 0915 by 285		
	Batch: W45252	Duplicate	27 mg/l	5.71	20.0	14Oct13 0950 by 285	15Oct13 0915 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	85.2	80.0-120			W45240	11Oct13 1511 by 93	15Oct13 1212 by 93		
Carbonaceous BOD 5-day	200 mg/l	98.9	84.5-115			W45241	11Oct13 1517 by 285	16Oct13 0939 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35583	14Oct13 1020 by 271	15Oct13 1323 by 305		
Nitrate as N	4 mg/l	93.8	90.0-110			C16118	11Oct13 1300 by 07	11Oct13 1534 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171467-1	1 mg/l	92.2	80.0-120	W45240	11Oct13 1511 by 93	15Oct13 1216 by 93		
	171467-1	1 mg/l	96.4	80.0-120	W45240	11Oct13 1511 by 93	15Oct13 1218 by 93		
	Relative Percent Difference:		3.59	25.0	W45240				
Phosphorus	171467-2	5 mg/l	105	75.0-125	S35583	14Oct13 1020 by 271	15Oct13 1326 by 305		
	171467-2	5 mg/l	105	75.0-125	S35583	14Oct13 1020 by 271	15Oct13 1329 by 305		
	Relative Percent Difference:		0.0969	20.0	S35583				
Nitrate as N	171443-3	4 mg/l	100	80.0-120	C16118	11Oct13 1300 by 07	11Oct13 1600 by 07		
	171443-3	4 mg/l	98.2	80.0-120	C16118	11Oct13 1300 by 07	11Oct13 1626 by 07		
	Relative Percent Difference:		2.06	10.0	C16118				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45240-1	11Oct13 1511 by 93	15Oct13 1211 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45241-1	11Oct13 1517 by 285	16Oct13 0938 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45252-1	14Oct13 0950 by 285	15Oct13 0915 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35583-1	14Oct13 1020 by 271	15Oct13 1319 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16118-1	11Oct13 1300 by 07	11Oct13 1509 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4040-1		11Oct13 1500 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli, F	NH3N, Total Phosphorus											Remarks
(1)	010	10/10/13-10/11/13 9:55am-9:55am		X	X			1	X													
(2)	010	10/11/13 9:55am	X		X			1		X												
(1)	010	10/10/13-10/11/13 9:55am-9:55am		X	X			1			X											
		Container Type							P	P	P											Field pH calibration
		Preservative							NO	T	S											on _____ @ _____ Buffer:

AIC CONTROL NO: 171469
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.4°C

ANALYSES REQUESTED

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/11/13 10:00 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/11/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 17, 2013
Control No. 171491

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 12, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 12, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with shipping documentation.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171491-1	010 10-12-13 0955	12-Oct-2013 0955	
171491-2	010 10-12-13 0955	12-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171491-1
Sample Identification: 010 10-12-13 0955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.5**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 14-Oct-2013 1153 by 93	Analyzed: 15-Oct-2013 1253 by 93		Batch: W45254	
Carbonaceous BOD 5-day		**4.0**	2	**mg/l**	
SM 5210 B	Prep: 12-Oct-2013 1400 by 93	Analyzed: 17-Oct-2013 1005 by 93		Batch: W45250	
Total Suspended Solids		**8.8**	4	**mg/l**	
USGS 3765	Prep: 15-Oct-2013 1348 by 285	Analyzed: 16-Oct-2013 0939 by 285		Batch: W45266	
Phosphorus		**0.088**	0.02	**mg/l**	
EPA 200.7	Prep: 14-Oct-2013 1607 by 311	Analyzed: 15-Oct-2013 1721 by 305		Batch: S35584	

AIC No. 171491-2
Sample Identification: 010 10-12-13 0955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**3900**	10	**/100ml**	D
SM 9222 D	Analyzed: 12-Oct-2013 1250 by 295		Batch: M4042	Dil: 10

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171487-1	< 2 mg/l			12Oct13 1400 by 93	17Oct13 1000 by 93		
	Batch: W45250	Duplicate	< 2 mg/l	0.00	20.0	12Oct13 1400 by 93	17Oct13 0942 by 93		
Total Suspended Solids		171484-3	35000 mg/l			15Oct13 1348 by 285	16Oct13 0939 by 285		
	Batch: W45266	Duplicate	35000 mg/l	0.0570	20.0	15Oct13 1348 by 285	16Oct13 0939 by 285		
Total Suspended Solids		171484-4	38000 mg/l			15Oct13 1348 by 285	16Oct13 0939 by 285		
	Batch: W45266	Duplicate	37000 mg/l	1.70	20.0	15Oct13 1348 by 285	16Oct13 0939 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	87.8	80.0-120			W45254	14Oct13 1154 by 93	15Oct13 1235 by 93		
Carbonaceous BOD 5-day	200 mg/l	86.6	84.5-115			W45250	12Oct13 1400 by 93	17Oct13 0939 by 93		
Phosphorus	5 mg/l	104	85.0-115			S35584	14Oct13 1607 by 311	15Oct13 1638 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171486-1	1 mg/l	85.8	80.0-120	W45254	14Oct13 1154 by 93	15Oct13 1239 by 93		
	171486-1	1 mg/l	89.6	80.0-120	W45254	14Oct13 1154 by 93	15Oct13 1241 by 93		
	Relative Percent Difference:		3.22	25.0	W45254				
Phosphorus	171486-1	5 mg/l	103	75.0-125	S35584	14Oct13 1607 by 311	15Oct13 1641 by 305		
	171486-1	5 mg/l	103	75.0-125	S35584	14Oct13 1607 by 311	15Oct13 1646 by 305		
	Relative Percent Difference:		0.328	20.0	S35584				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45254-1	14Oct13 1154 by 93	15Oct13 1233 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45250-1	12Oct13 1400 by 93	17Oct13 0938 by 93	
Total Suspended Solids	< 4 mg/l	4	4	W45266-1	15Oct13 1348 by 285	16Oct13 0939 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35584-1	14Oct13 1607 by 311	15Oct13 1634 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4042-1		12Oct13 1250 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: SARTAIN

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus									AIC CONTROL NO: 171491 / AIC PROPOSAL NO: / Carrier: Gold Star / Received Temperature C 2.0° / Remarks
(1)	010	9-12-13 0955		X	X			1	X											CHANGE DATE AS TO 10/12/13 AS PER
(2)	010	9-12-13 0955	X		X			1		X										Larken Pennington
(1) 9/10 10/14/13	010	9-12-13 0955		X	X			1			X									
																				Field pH calibration
		Container Type							P	P	P									on _____ @ _____
		Preservative							NO	T	S									Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
(NORMAL) or EXPEDITED IN ___ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
	9-12-13		
Relinquished By:	Date/Time	Received in Lab By: Shawn Worm	Date/Time 10-12-13 1255

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 21, 2013
Control No. 171492

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 13, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 13, 2013
Daily - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171492-1	010 10-13-13 950am	13-Oct-2013 0950	
171492-2	010 10-13-13 950am	13-Oct-2013 0950	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171492-1
Sample Identification: 010 10-13-13 950am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.5**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 14-Oct-2013 1528 by 93	Analyzed: 15-Oct-2013 1255 by 93		Batch: W45254	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 14-Oct-2013 1446 by 285	Analyzed: 19-Oct-2013 1249 by 285		Batch: W45255	
Total Suspended Solids		**8.4**	4	**mg/l**	
USGS 3765	Prep: 15-Oct-2013 1348 by 285	Analyzed: 16-Oct-2013 0939 by 285		Batch: W45266	
Phosphorus		**0.077**	0.02	**mg/l**	
EPA 200.7	Prep: 14-Oct-2013 1607 by 311	Analyzed: 15-Oct-2013 1725 by 305		Batch: S35584	

AIC No. 171492-2
Sample Identification: 010 10-13-13 950am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**60**	3	**/100ml**	D
SM 9222 D	Analyzed: 13-Oct-2013 1330 by 295		Batch: M4043	Dil: 2.5

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171486-1	< 2 mg/l			14Oct13 1446 by 285	19Oct13 1242 by 285		
	Batch: W45255	Duplicate	< 2 mg/l	0.00	20.0	14Oct13 1446 by 285	19Oct13 1244 by 285		
Total Suspended Solids		171484-3	35000 mg/l			15Oct13 1348 by 285	16Oct13 0939 by 285		
	Batch: W45266	Duplicate	35000 mg/l	0.0570	20.0	15Oct13 1348 by 285	16Oct13 0939 by 285		
Total Suspended Solids		171484-4	38000 mg/l			15Oct13 1348 by 285	16Oct13 0939 by 285		
	Batch: W45266	Duplicate	37000 mg/l	1.70	20.0	15Oct13 1348 by 285	16Oct13 0939 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	87.8	80.0-120			W45254	14Oct13 1154 by 93	15Oct13 1235 by 93		
Carbonaceous BOD 5-day	200 mg/l	111	84.5-115			W45255	14Oct13 1446 by 285	19Oct13 1241 by 285		
Phosphorus	5 mg/l	104	85.0-115			S35584	14Oct13 1607 by 311	15Oct13 1638 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171486-1	1 mg/l	85.8	80.0-120	W45254	14Oct13 1154 by 93	15Oct13 1239 by 93		
	171486-1	1 mg/l	89.6	80.0-120	W45254	14Oct13 1154 by 93	15Oct13 1241 by 93		
	Relative Percent Difference:		3.22	25.0	W45254				
Phosphorus	171486-1	5 mg/l	103	75.0-125	S35584	14Oct13 1607 by 311	15Oct13 1641 by 305		
	171486-1	5 mg/l	103	75.0-125	S35584	14Oct13 1607 by 311	15Oct13 1646 by 305		
	Relative Percent Difference:		0.328	20.0	S35584				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45254-1	14Oct13 1154 by 93	15Oct13 1233 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45255-1	14Oct13 1446 by 285	19Oct13 1240 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45266-1	15Oct13 1348 by 285	16Oct13 0939 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35584-1	14Oct13 1607 by 311	15Oct13 1634 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4043-1		13Oct13 1330 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: SARTAIN

PO No.

AIC CONTROL NO: 171492
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.0°

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	10-13-13 950AM		X	X		1	X			
2	010	10-13-13 950AM	X		X		1		X		
1	010	10-13-13 950AM		X	X		1			X	
		Container Type						P	P	P	Field pH calibration
		Preservative						NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	10-13-13		
Relinquished By:	Date/Time	Received in Lab By: [signature]	Date/Time 10-13-13 1230

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 14, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 14, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171513-1	010 10-14-13 0950	14-Oct-2013 0950	
171513-2	010 10-14-13 0950	14-Oct-2013 0950	

Case Narrative:
There were no qualifiers for this data and all samples met quality control criteria.

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171513-1
Sample Identification: 010 10-14-13 0950

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.5**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 14-Oct-2013 1805 by 93	Analyzed: 15-Oct-2013 1306 by 93		Batch: W45254	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 14-Oct-2013 1446 by 285	Analyzed: 19-Oct-2013 1304 by 285		Batch: W45255	
Total Suspended Solids		**7.2**	4	**mg/l**	
USGS 3765	Prep: 16-Oct-2013 1020 by 285	Analyzed: 16-Oct-2013 1546 by 285		Batch: W45285	
Phosphorus		**0.078**	0.02	**mg/l**	
EPA 200.7	Prep: 14-Oct-2013 1607 by 311	Analyzed: 15-Oct-2013 1745 by 305		Batch: S35584	
Nitrate as N		**9.5**	0.05	**mg/l**	
EPA 300.0	Prep: 14-Oct-2013 1451 by 302	Analyzed: 14-Oct-2013 1459 by 302		Batch: C16120	

AIC No. 171513-2
Sample Identification: 010 10-14-13 0950

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D	Analyzed: 14-Oct-2013 1425 by 304		Batch: M4044	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171486-1	< 2 mg/l			14Oct13 1446 by 285	19Oct13 1242 by 285		
	Batch: W45255	Duplicate	< 2 mg/l	0.00	20.0	14Oct13 1446 by 285	19Oct13 1244 by 285		
Total Suspended Solids		171507-1	530 mg/l			16Oct13 1020 by 285	16Oct13 1546 by 285		
	Batch: W45285	Duplicate	540 mg/l	0.749	20.0	16Oct13 1020 by 285	16Oct13 1546 by 285		
Total Suspended Solids		171506-2	190 mg/l			16Oct13 1020 by 285	16Oct13 1546 by 285		
	Batch: W45285	Duplicate	190 mg/l	2.62	20.0	16Oct13 1020 by 285	16Oct13 1546 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	87.8	80.0-120			W45254	14Oct13 1154 by 93	15Oct13 1235 by 93		
Carbonaceous BOD 5-day	200 mg/l	111	84.5-115			W45255	14Oct13 1446 by 285	19Oct13 1241 by 285		
Phosphorus	5 mg/l	104	85.0-115			S35584	14Oct13 1607 by 311	15Oct13 1638 by 305		
Nitrate as N	4 mg/l	93.0	90.0-110			C16120	14Oct13 1451 by 302	14Oct13 1551 by 302		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171486-1	1 mg/l	85.8	80.0-120	W45254	14Oct13 1154 by 93	15Oct13 1239 by 93		
	171486-1	1 mg/l	89.6	80.0-120	W45254	14Oct13 1154 by 93	15Oct13 1241 by 93		
	Relative Percent Difference:		3.22	25.0	W45254				
Phosphorus	171486-1	5 mg/l	103	75.0-125	S35584	14Oct13 1607 by 311	15Oct13 1641 by 305		
	171486-1	5 mg/l	103	75.0-125	S35584	14Oct13 1607 by 311	15Oct13 1646 by 305		
	Relative Percent Difference:		0.328	20.0	S35584				
Nitrate as N	171513-1	4 mg/l	95.4	80.0-120	C16120	14Oct13 1451 by 302	14Oct13 1618 by 302		
	171513-1	4 mg/l	95.7	80.0-120	C16120	14Oct13 1451 by 302	14Oct13 1644 by 302		
	Relative Percent Difference:		0.231	10.0	C16120				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45254-1	14Oct13 1154 by 93	15Oct13 1233 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45255-1	14Oct13 1446 by 285	19Oct13 1240 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45285-1	16Oct13 1020 by 285	16Oct13 1546 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35584-1	14Oct13 1607 by 311	15Oct13 1634 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16120-1	14Oct13 1451 by 302	14Oct13 1524 by 302	
Fecal Coliform	< 1 /100ml	1	1	M4044-1		14Oct13 1425 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: SARTAIN

PO No.

AIC CONTROL NO: 171513
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.5°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	NO3	Remarks
(1)	010	10-14-13 0956		X	X		1	X			X	
(2)	010	10-14-13 0850	X		X		1		X			
(1)(3)	010	10-14-13 0950		X	X		1			X		
		Container Type						P	P	P		Field pH calibration
		Preservative						NO	T	S		on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	10-14-13		
Relinquished By:	Date/Time	Received in Lab By: [signature]	Date/Time 10/14/13 1315

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 21, 2013
Control No. 171552

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 15, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 15, 2013
Daily-Weekly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171552-1	010 10/14/13 9:55am 10/15/13 9:55am	15-Oct-2013 0955	
171552-2	010 10/15/13 9:55am	15-Oct-2013 0955	

Case Narrative:
There were no qualifiers for this data and all samples met quality control criteria.

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171552-1
Sample Identification: 010 10/14/13 9:55am 10/15/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.5**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 16-Oct-2013 1307 by 93	Analyzed: 16-Oct-2013 1644 by 93		Batch: W45289	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 16-Oct-2013 0958 by 285	Analyzed: 21-Oct-2013 1044 by 285		Batch: W45282	
Total Suspended Solids		**5.6**	4	**mg/l**	
USGS 3765	Prep: 16-Oct-2013 1431 by 285	Analyzed: 17-Oct-2013 0946 by 285		Batch: W45295	
Phosphorus		**0.076**	0.02	**mg/l**	
EPA 200.7	Prep: 15-Oct-2013 1515 by 271	Analyzed: 17-Oct-2013 1209 by 305		Batch: S35596	

AIC No. 171552-2
Sample Identification: 010 10/15/13 9:55am

Analyte		Result	RL	Units	Qualifier
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 17-Oct-2013 0848 by 295	Analyzed: 17-Oct-2013 1252 by 295		Batch: B8602	
Fecal Coliform		**< 1**	1	**/100ml**	
SM 9222 D		Analyzed: 15-Oct-2013 1503 by 295		Batch: M4048	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171550-1	< 2 mg/l			16Oct13 0958 by 285	21Oct13 1039 by 285		
	Batch: W45282	Duplicate	< 2 mg/l	0.00	20.0	16Oct13 0958 by 285	21Oct13 1041 by 285		
Total Suspended Solids		171565-1	9.2 mg/l			16Oct13 1431 by 285	17Oct13 0946 by 285		
	Batch: W45295	Duplicate	9.2 mg/l	0.00	20.0	16Oct13 1432 by 285	17Oct13 0946 by 285		
Total Suspended Solids		171565-2	5.6 mg/l			16Oct13 1431 by 285	17Oct13 0946 by 285		
	Batch: W45295	Duplicate	5.6 mg/l	0.00	20.0	16Oct13 1432 by 285	17Oct13 0946 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	97.0	80.0-120			W45289	16Oct13 1310 by 93	16Oct13 1636 by 93		
Carbonaceous BOD 5-day	200 mg/l	108	84.5-115			W45282	16Oct13 0958 by 285	21Oct13 1037 by 285		
Phosphorus	5 mg/l	108	85.0-115			S35596	15Oct13 1515 by 271	17Oct13 1116 by 305		
Oil and Grease	40 mg/l	88.5	78.0-114			B8602	17Oct13 0849 by 295	17Oct13 1252 by 295		
	40 mg/l	89.5	78.0-114	1.12	20.0	B8602	17Oct13 0849 by 295	17Oct13 1252 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171550-1	1 mg/l	90.6	80.0-120	W45289	16Oct13 1310 by 93	16Oct13 1639 by 93		
	171550-1	1 mg/l	104	80.0-120	W45289	16Oct13 1310 by 93	16Oct13 1641 by 93		
	Relative Percent Difference:		10.4	25.0	W45289				
Phosphorus	171543-2	5 mg/l	106	75.0-125	S35596	15Oct13 1515 by 271	17Oct13 1120 by 305		
	171543-2	5 mg/l	106	75.0-125	S35596	15Oct13 1515 by 271	17Oct13 1124 by 305		
	Relative Percent Difference:		0.0350	20.0	S35596				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45289-1	16Oct13 1310 by 93	16Oct13 1634 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45282-1	16Oct13 0958 by 285	21Oct13 1033 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45295-1	16Oct13 1432 by 285	17Oct13 0946 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35596-1	15Oct13 1515 by 271	17Oct13 1112 by 305	
Oil and Grease	< 5 mg/l	5	5	B8602-1	17Oct13 0849 by 295	17Oct13 1252 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4048-1		15Oct13 1503 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171552
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.5 °C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F.	NH3N, Total Phosphorus	Remarks
1	010	10/14/13-10/15/13 9:55am 9:55am		X	X		1	X			
2	010	10/15/13 9:55am	X		X		1		X		
1	010	10/14/13-10/15/13 9:55am-9:55am		X	X		1			X	
						=		-	-		
											Field pH calibration
		Container Type						P	P	P	on _____ @ _____
		Preservative						NO	T	S	Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/15/13 10:36 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	10/15/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	Remarks
2	010	10/15/13 9:55am	X		X		1	X		
2	010	10/15/13 9:55am	X		X		1		X	
		Container Type						P	P	
		Preservative						S	NO	

ANALYSES REQUESTED

AIC CONTROL NO: 121552
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.5°C
Remarks
Field pH calibration on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/15/13 1500am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	10/15/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 22, 2013
Control No. 171607

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 16, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
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GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 16, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171607-1	010 10/15/13 9:55 10/16/13 9:55	16-Oct-2013 0955	
171607-2	010 10/16/13 9:55	16-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171607-1
Sample Identification: 010 10/15/13 9:55 10/16/13 9:55

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**< 0.1**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 16-Oct-2013 1447 by 93	Analyzed: 17-Oct-2013 1128 by 93		Batch: W45289	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 17-Oct-2013 0920 by 285	Analyzed: 22-Oct-2013 1147 by 285		Batch: W45305	
Total Suspended Solids		**6.4**	4	**mg/l**	
USGS 3765	Prep: 21-Oct-2013 0939 by 285	Analyzed: 21-Oct-2013 1425 by 285		Batch: W45340	
Phosphorus		**0.077**	0.02	**mg/l**	
EPA 200.7	Prep: 17-Oct-2013 0853 by 271	Analyzed: 18-Oct-2013 1514 by 305		Batch: S35603	
Nitrate as N		**9.9**	0.05	**mg/l**	
EPA 300.0	Prep: 16-Oct-2013 1519 by 07	Analyzed: 16-Oct-2013 1727 by 07		Batch: C16133	

AIC No. 171607-2
Sample Identification: 010 10/16/13 9:55

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**200**	10	**mg/l**	
SM 2540 C	Prep: 16-Oct-2013 1526 by 302	Analyzed: 17-Oct-2013 1620 by 302		Batch: W45300	
Chloride		**17**	0.2	**mg/l**	
EPA 300.0	Prep: 16-Oct-2013 1519 by 07	Analyzed: 16-Oct-2013 1633 by 07		Batch: C16133	
Sulfate		**27**	0.2	**mg/l**	
EPA 300.0	Prep: 16-Oct-2013 1519 by 07	Analyzed: 16-Oct-2013 1633 by 07		Batch: C16133	
Fecal Coliform		**28**	3	**/100ml**	D
SM 9222 D		Analyzed: 16-Oct-2013 1420 by 295		Batch: M4050	Dil: 2.5

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Dissolved Solids		171556-1	< 10 mg/l			16Oct13 1526 by 302	17Oct13 1620 by 302		
	Batch: W45300	Duplicate	< 10 mg/l	0.00	10.0	16Oct13 1527 by 302	17Oct13 1620 by 302		
Total Dissolved Solids		171581-1	710 mg/l			16Oct13 1526 by 302	17Oct13 1620 by 302		
	Batch: W45300	Duplicate	720 mg/l	2.10	10.0	16Oct13 1527 by 302	17Oct13 1620 by 302		
Carbonaceous BOD 5-day		171605-1	< 2 mg/l			17Oct13 0920 by 285	22Oct13 1144 by 285		
	Batch: W45305	Duplicate	< 2 mg/l	0.00	20.0	17Oct13 0920 by 285	22Oct13 1146 by 285		
Total Suspended Solids		171607-1	6.4 mg/l			21Oct13 0939 by 285	21Oct13 1425 by 285		
	Batch: W45340	Duplicate	6.8 mg/l	6.06	20.0	21Oct13 0940 by 285	21Oct13 1425 by 285		
Total Suspended Solids		171641-1	12 mg/l			21Oct13 0940 by 285	21Oct13 1425 by 285		
	Batch: W45340	Duplicate	11 mg/l	3.51	20.0	21Oct13 0940 by 285	21Oct13 1425 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	97.0	80.0-120			W45289	16Oct13 1310 by 93	16Oct13 1636 by 93		
Carbonaceous BOD 5-day	200 mg/l	98.2	84.5-115			W45305	17Oct13 0920 by 285	22Oct13 1141 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35603	17Oct13 0853 by 271	18Oct13 1346 by 305		
Chloride	20 mg/l	98.2	90.0-110			C16133	16Oct13 1249 by 07	16Oct13 1325 by 07		
Nitrate as N	4 mg/l	90.2	90.0-110			C16133	16Oct13 1249 by 07	16Oct13 1325 by 07		
Sulfate	20 mg/l	105	90.0-110			C16133	16Oct13 1249 by 07	16Oct13 1325 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171550-1	1 mg/l	90.6	80.0-120	W45289	16Oct13 1310 by 93	16Oct13 1639 by 93		
	171550-1	1 mg/l	104	80.0-120	W45289	16Oct13 1310 by 93	16Oct13 1641 by 93		
	Relative Percent Difference:		10.4	25.0	W45289				
Phosphorus	171605-2	5 mg/l	103	75.0-125	S35603	17Oct13 0853 by 271	18Oct13 1349 by 305		
	171605-2	5 mg/l	103	75.0-125	S35603	17Oct13 0853 by 271	18Oct13 1352 by 305		
	Relative Percent Difference:		0.207	20.0	S35603				
Chloride	171581-1	20 mg/l	89.2	80.0-120	C16133	16Oct13 1249 by 07	16Oct13 1352 by 07		
	171581-1	20 mg/l	93.8	80.0-120	C16133	16Oct13 1249 by 07	16Oct13 1419 by 07		
	Relative Percent Difference:		4.12	10.0	C16133				
Nitrate as N	171581-1	4 mg/l	88.1	80.0-120	C16133	16Oct13 1249 by 07	16Oct13 1352 by 07		
	171581-1	4 mg/l	92.7	80.0-120	C16133	16Oct13 1249 by 07	16Oct13 1419 by 07		
	Relative Percent Difference:		4.01	10.0	C16133				
Sulfate	171581-1	20 mg/l	87.2	80.0-120	C16133	16Oct13 1249 by 07	16Oct13 1352 by 07		
	171581-1	20 mg/l	94.3	80.0-120	C16133	16Oct13 1249 by 07	16Oct13 1419 by 07		
	Relative Percent Difference:		3.03	10.0	C16133				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45300-1	16Oct13 1527 by 302	17Oct13 1620 by 302	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45289-1	16Oct13 1310 by 93	16Oct13 1634 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45305-1	17Oct13 0920 by 285	22Oct13 1140 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45340-1	21Oct13 0940 by 285	21Oct13 1425 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35603-1	17Oct13 0853 by 271	18Oct13 1343 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16133-1	16Oct13 1249 by 07	16Oct13 1258 by 07	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16133-1	16Oct13 1249 by 07	16Oct13 1258 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16133-1	16Oct13 1249 by 07	16Oct13 1258 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4050-1		16Oct13 1420 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX: GRAB | COMP | WATER | SOIL

NO OF BOTTLES

ANALYSES REQUESTED: CBOD, TSS, NO_3 | Coli. F | NH3N, Total Phosphorus | TDS, SO_4, Cl

AIC CONTROL NO: 171607
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.7°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS, NO_3	Coli. F	NH3N, Total Phosphorus	TDS, SO_4, Cl	Remarks
(1)	010	10/15/13-10/16/13 9:55am-9:55am		X	X			1	X				
(2)	010	10/16/13 9:55am	X		X			1		X			
(1)	010	10/15/13-10/16/13 9:55am-9:55am		X	X			1			X		
(2)	010	10/16/13 9:55am	X		X							X	
		Container Type							P	P	P	P	
		Preservative							NO	T	S	NO	

Field pH calibration: on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/16/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Tammy Day	10/16/13 1320

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 23, 2013
Control No. 171663

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 17, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 17, 2013
Daily-Permit AR0000752
Weekly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171663-1	010 10/16/13 955 10/17/13 955	17-Oct-2013 0955	
171663-2	010 10/17/13 955	17-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171663-1
Sample Identification: 010 10/16/13 955 10/17/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.9**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 18-Oct-2013 1238 by 93	Analyzed: 21-Oct-2013 1914 by 308		Batch: W45323	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 18-Oct-2013 0846 by 285	Analyzed: 23-Oct-2013 1057 by 285		Batch: W45320	
Total Suspended Solids		**6.8**	4	**mg/l**	
USGS 3765	Prep: 21-Oct-2013 1037 by 285	Analyzed: 21-Oct-2013 1631 by 285		Batch: W45342	
Phosphorus		**0.071**	0.02	**mg/l**	
EPA 200.7	Prep: 17-Oct-2013 1523 by 271	Analyzed: 18-Oct-2013 1653 by 305		Batch: S35609	

AIC No. 171663-2
Sample Identification: 010 10/17/13 955

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**120**	10	**mg/l**	
SM 2540 C	Prep: 17-Oct-2013 1634 by 302	Analyzed: 18-Oct-2013 1615 by 308		Batch: W45313	
Chloride		**19**	0.2	**mg/l**	
EPA 300.0	Prep: 17-Oct-2013 1653 by 07	Analyzed: 18-Oct-2013 0427 by 07		Batch: C16137	
Sulfate		**29**	0.2	**mg/l**	
EPA 300.0	Prep: 17-Oct-2013 1653 by 07	Analyzed: 18-Oct-2013 0427 by 07		Batch: C16137	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 21-Oct-2013 0845 by 295	Analyzed: 21-Oct-2013 1643 by 295		Batch: B8610	
Fecal Coliform		**15**	1	**/100ml**	
SM 9222 D		Analyzed: 17-Oct-2013 1418 by 295		Batch: M4051	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Dissolved Solids		171622-1	< 10 mg/l			17Oct13 1634 by 302	18Oct13 1615 by 308		
	Batch: W45313	Duplicate	< 10 mg/l	0.00	10.0	17Oct13 1634 by 302	18Oct13 1615 by 308		
Total Dissolved Solids		171671-1	< 10 mg/l			17Oct13 1634 by 302	18Oct13 1615 by 308		
	Batch: W45313	Duplicate	< 10 mg/l	0.00	10.0	17Oct13 1634 by 302	18Oct13 1615 by 308		
Carbonaceous BOD 5-day		171655-1	< 2 mg/l			18Oct13 0846 by 285	23Oct13 0955 by 285		
	Batch: W45320	Duplicate	< 2 mg/l	0.00	20.0	18Oct13 0846 by 285	23Oct13 0958 by 285		
Total Suspended Solids		171645-2	8.4 mg/l			21Oct13 1037 by 285	21Oct13 1631 by 285		
	Batch: W45342	Duplicate	8.8 mg/l	4.65	20.0	21Oct13 1037 by 285	21Oct13 1631 by 285		
Total Suspended Solids		171641-5	290 mg/l			21Oct13 1037 by 285	21Oct13 1631 by 285		
	Batch: W45342	Duplicate	280 mg/l	2.82	20.0	21Oct13 1037 by 285	21Oct13 1631 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	92.5	80.0-120			W45323	18Oct13 0912 by 93	21Oct13 1853 by 308		
Carbonaceous BOD 5-day	200 mg/l	100	84.5-115			W45320	18Oct13 0846 by 285	23Oct13 0950 by 285		
Phosphorus	5 mg/l	104	85.0-115			S35609	17Oct13 1523 by 271	18Oct13 1644 by 305		
Chloride	20 mg/l	101	90.0-110			C16137	17Oct13 1005 by 302	18Oct13 0936 by 302		
Sulfate	20 mg/l	100	90.0-110			C16137	17Oct13 1005 by 302	18Oct13 0936 by 302		
Oil and Grease	40 mg/l	108	78.0-114			B8610	21Oct13 0845 by 295	21Oct13 1643 by 295		
	40 mg/l	102	78.0-114	5.69	20.0	B8610	21Oct13 0845 by 295	21Oct13 1643 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171658-1	1 mg/l	100	80.0-120	W45323	18Oct13 0912 by 93	22Oct13 0752 by 308	2	D
	171658-1	1 mg/l	113	80.0-120	W45323	18Oct13 0912 by 93	22Oct13 0753 by 308	2	D
	Relative Percent Difference:		5.40	25.0	W45323				D
Phosphorus	171663-1	5 mg/l	103	75.0-125	S35609	17Oct13 1523 by 271	18Oct13 1647 by 305		
	171663-1	5 mg/l	104	75.0-125	S35609	17Oct13 1523 by 271	18Oct13 1650 by 305		
	Relative Percent Difference:		0.302	20.0	S35609				
Chloride	171621-1	20 mg/l	97.2	80.0-120	C16137	17Oct13 1005 by 302	17Oct13 1242 by 302		
	171621-1	20 mg/l	96.6	80.0-120	C16137	17Oct13 1005 by 302	17Oct13 1308 by 302		
	Relative Percent Difference:		0.444	10.0	C16137				
Sulfate	171621-1	20 mg/l	97.7	80.0-120	C16137	17Oct13 1005 by 302	17Oct13 1242 by 302		
	171621-1	20 mg/l	97.4	80.0-120	C16137	17Oct13 1005 by 302	17Oct13 1308 by 302		
	Relative Percent Difference:		0.211	10.0	C16137				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45313-1	17Oct13 1634 by 302	18Oct13 1615 by 308	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45323-1	18Oct13 0912 by 93	21Oct13 1851 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45320-1	18Oct13 0846 by 285	23Oct13 0949 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45342-1	21Oct13 1037 by 285	21Oct13 1631 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35609-1	17Oct13 1523 by 271	18Oct13 1641 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16137-1	17Oct13 1005 by 302	17Oct13 1148 by 302	
Sulfate	< 0.2 mg/l	0.2	0.2	C16137-1	17Oct13 1005 by 302	17Oct13 1148 by 302	
Oil and Grease	< 2 mg/l	2	5	B8610-1	21Oct13 0845 by 295	21Oct13 1643 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4051-1		17Oct13 1418 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171663
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.3°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
(1)	010	10/16/13-10/17/13 955-955		X	X		1	X			
(2)	010	10/17/13 955	X		X		1		X		
(1)	010	10/16/13-10/17/13 955-955		X	X		1			X	
		Container Type						P	P	P	Field pH calibration
		Preservative						NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By	Date/Time	Received By	Date/Time
Larken Pennington	10/17/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time: 10/17/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171663
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.3°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	ANALYSES REQUESTED: OG (2 / Week)	ANALYSES REQUESTED: TDS,Cl,SO4 (2 / Week)	Remarks
(2)	010	10/17/13 955	X		X		1	X		
(2)	010	10/17/13 955	X		X		1		X	
		Container Type						P	P	
		Preservative						S	NO	

Field pH calibration
on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/17/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/17/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 18, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 18, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171724-1	010 10/17/13 955 10/18/13 955	18-Oct-2013 0955	
171724-2	010 10/18/13 955am	18-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171724-1
Sample Identification: 010 10/17/13 955 10/18/13 955

Analyte	Result	RL	Units	Qualifier
Ammonia as N with Distillation	**2.0**	0.5	**mg/l**	D
SM 4500-NH3 B,G — Prep: 21-Oct-2013 0759 by 302	Analyzed: 21-Oct-2013 2030 by 308		Batch: W45336	Dil: 5
Carbonaceous BOD 5-day	**2.0**	2	**mg/l**	
SM 5210 B — Prep: 18-Oct-2013 1628 by 285	Analyzed: 23-Oct-2013 1205 by 285		Batch: W45320	
Total Suspended Solids	**7.6**	4	**mg/l**	
USGS 3765 — Prep: 21-Oct-2013 1551 by 285	Analyzed: 22-Oct-2013 1410 by 285		Batch: W45346	
Phosphorus	**0.081**	0.02	**mg/l**	
EPA 200.7 — Prep: 21-Oct-2013 1114 by 305	Analyzed: 21-Oct-2013 1638 by 305		Batch: S35624	

AIC No. 171724-2
Sample Identification: 010 10/18/13 955am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**180**	3	**/100ml**	D
SM 9222 D	Analyzed: 18-Oct-2013 1429 by 295		Batch: M4052	Dil: 2.5

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171655-1	< 2 mg/l			18Oct13 0846 by 285	23Oct13 0955 by 285		
	Batch: W45320	Duplicate	< 2 mg/l	0.00	20.0	18Oct13 0846 by 285	23Oct13 0958 by 285		
Total Suspended Solids		171712-1	< 4 mg/l			21Oct13 1551 by 285	22Oct13 1410 by 285		
	Batch: W45346	Duplicate	< 4 mg/l	0.00	20.0	21Oct13 1551 by 285	22Oct13 1410 by 285		
Total Suspended Solids		171708-2	8.4 mg/l			21Oct13 1551 by 285	22Oct13 1410 by 285		
	Batch: W45346	Duplicate	8.4 mg/l	0.00	20.0	21Oct13 1551 by 285	22Oct13 1410 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	91.3	80.0-120			W45336	21Oct13 0759 by 302	21Oct13 1925 by 308		
Carbonaceous BOD 5-day	200 mg/l	100	84.5-115			W45320	18Oct13 0846 by 285	23Oct13 0950 by 285		
Phosphorus	5 mg/l	102	85.0-115			S35624	21Oct13 1115 by 305	21Oct13 1622 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171708-2	1 mg/l	92.1	80.0-120	W45336	21Oct13 0759 by 302	21Oct13 1928 by 308		
	171708-2	1 mg/l	94.0	80.0-120	W45336	21Oct13 0759 by 302	21Oct13 1933 by 308		
	Relative Percent Difference:		1.72	25.0	W45336				
Phosphorus	171721-2	5 mg/l	103	75.0-125	S35624	21Oct13 1115 by 305	21Oct13 1625 by 305		
	171721-2	5 mg/l	102	75.0-125	S35624	21Oct13 1115 by 305	21Oct13 1628 by 305		
	Relative Percent Difference:		0.696	20.0	S35624				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45336-1	21Oct13 0759 by 302	21Oct13 1923 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45320-1	18Oct13 0846 by 285	23Oct13 0949 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45346-1	21Oct13 1551 by 285	22Oct13 1410 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35624-1	21Oct13 1115 by 305	21Oct13 1619 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4052-1		18Oct13 1429 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

AIC CONTROL NO: 171724
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.7°C

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
(1)		010	10/17/13-10/18/13 955-955		X	X			1	X			
(2)		010	10/18/13 955am	X		X			1		X		
(1)		010	10/17/13-10/18/13 955-955		X	X			1			X	
		Container Type								P	P	P	Field pH calibration
		Preservative								NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/18/13 1000am		
Relinquished By:	Date/Time	Received in Lab By: Jimmy Day	Date/Time 10/18/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for the sample submitted on October 24, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
One (1) water sample(s) (AIC Control No. 1717381-1) resubmitted October 24, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171843-1	010 10/18/13 955 10/19/13 955	19-Oct-2013 0955	1

Notes:
1. Holding time was expired at time of receipt

Qualifiers:
D Result is from a secondary dilution factor
H Analytical holding time exceeded regulatory requirements

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171843-1
Sample Identification: 010 10/18/13 955 10/19/13 955

Analyte	Result	RL	Units	Qualifier
Nitrate as N	**11**	0.5	**mg/l**	DH
EPA 300.0 Prep: 24-Oct-2013 1231 by 07	Analyzed: 24-Oct-2013 1447 by 07		Batch: C16159	Dil: 10

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Nitrate as N	4 mg/l	103	90.0-110			C16159	24Oct13 1037 by 07	24Oct13 1112 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Nitrate as N	171837-1	4 mg/l	90.4	80.0-120	C16159	24Oct13 1037 by 07	24Oct13 1139 by 07		
	171837-1	4 mg/l	98.5	80.0-120	C16159	24Oct13 1037 by 07	24Oct13 1206 by 07		
	Relative Percent Difference:		8.55	10.0	C16159				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16159-1	24Oct13 1037 by 07	24Oct13 1046 by 07	

AMERICAN INTERPLEX CORPORATION LABORATORIES

171843

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

AIC CONTROL NO: 171738

AIC PROPOSAL NO:

Carrier: Gold Star

Received Temperature C ~

Client: El Dorado Chemical Company

Project Reference: Daily - Permit AR0000752

Project Manager: Ms. Larken Pennington

Sampled By: Larken Pennington

PO No.

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F.	NH3N, Total Phosphorus	Remarks
(1)	010	10/18/13-10/19/13 935-955		X	X		1	X			
(2)	010	10/19/13 935am	X		X		1		X		
(1)	010	10/18/13-10/19/13 935-955		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

Field pH calibration on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate

NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)

NORMAL or EXPEDITED IN ____ DAYS

Expedited results requested by: _____

Who should AIC contact with questions:

Phone 870-312-1752 Fax:

Report Attention to: Ms. Larken Pennington

Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By: Larken Pennington	Date/Time 10/19/13 1300	Received By:	Date/Time
Relinquished By:	Date/Time	Received in Lab By:	Date/Time 10/19/13 1300

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 20, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171742-1	010 10/19/13-10/20/13 955-955	20-Oct-2013 0955	
171742-2	010 10/20/13 955am	20-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171742-1
Sample Identification: 010 10/19/13-10/20/13 955-955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.3**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 21-Oct-2013 1004 by 302	Analyzed: 21-Oct-2013 2033 by 308		Batch: W45336	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 21-Oct-2013 1439 by 285	Analyzed: 26-Oct-2013 1311 by 285		Batch: W45344	
Total Suspended Solids		**6.8**	4	**mg/l**	
USGS 3765	Prep: 23-Oct-2013 1421 by 285	Analyzed: 24-Oct-2013 1054 by 285		Batch: W45371	
Phosphorus		**0.073**	0.02	**mg/l**	
EPA 200.7	Prep: 21-Oct-2013 1114 by 305	Analyzed: 21-Oct-2013 1719 by 305		Batch: S35624	

AIC No. 171742-2
Sample Identification: 010 10/20/13 955am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D	Analyzed: 20-Oct-2013 1300 by 295		Batch: M4054	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171736-1	< 2 mg/l			21Oct13 1439 by 285	26Oct13 1251 by 285		
	Batch: W45344	Duplicate	< 2 mg/l	0.00	20.0	21Oct13 1439 by 285	26Oct13 1253 by 285		
Total Suspended Solids		171732-1	15 mg/l			23Oct13 1421 by 285	24Oct13 1054 by 285		
	Batch: W45371	Duplicate	15 mg/l	2.67	20.0	23Oct13 1422 by 285	24Oct13 1054 by 285		
Total Suspended Solids		171733-1	< 4 mg/l			23Oct13 1421 by 285	24Oct13 1054 by 285		
	Batch: W45371	Duplicate	< 4 mg/l	0.00	20.0	23Oct13 1422 by 285	24Oct13 1054 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	91.3	80.0-120			W45336	21Oct13 0759 by 302	21Oct13 1925 by 308		
Carbonaceous BOD 5-day	200 mg/l	105	84.5-115			W45344	21Oct13 1439 by 285	26Oct13 1249 by 285		
Phosphorus	5 mg/l	102	85.0-115			S35624	21Oct13 1115 by 305	21Oct13 1622 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171708-2	1 mg/l	92.1	80.0-120	W45336	21Oct13 0759 by 302	21Oct13 1928 by 308		
	171708-2	1 mg/l	94.0	80.0-120	W45336	21Oct13 0759 by 302	21Oct13 1933 by 308		
	Relative Percent Difference:		1.72	25.0	W45336				
Phosphorus	171721-2	5 mg/l	103	75.0-125	S35624	21Oct13 1115 by 305	21Oct13 1625 by 305		
	171721-2	5 mg/l	102	75.0-125	S35624	21Oct13 1115 by 305	21Oct13 1628 by 305		
	Relative Percent Difference:		0.696	20.0	S35624				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45336-1	21Oct13 0759 by 302	21Oct13 1923 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45344-1	21Oct13 1439 by 285	26Oct13 1248 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45371-1	23Oct13 1422 by 285	24Oct13 1054 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35624-1	21Oct13 1115 by 305	21Oct13 1619 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4054-1		20Oct13 1300 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

AIC CONTROL NO: 171742
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	10/19/13-10/20/13 955-955		X	X		1	X			
2	010	10/20/13 955am	X		X		1		X		
1	010	10/19/13-10/20/13 955-955		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

Field pH calibration
on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/20/13 10:30 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/20/13 1310

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 28, 2013
Control No. 171742

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 20, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 24, 2013
Control No. 171738

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 19, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 19, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171738-1	010 10/18/13 955 10/19/13 955	19-Oct-2013 0955	
171738-2	010 10/19/13 955	19-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171738-1
Sample Identification: 010 10/18/13 955 10/19/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.1**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 21-Oct-2013 1004 by 302	Analyzed: 21-Oct-2013 2032 by 308		Batch: W45336	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 19-Oct-2013 1400 by 308	Analyzed: 24-Oct-2013 1025 by 285		Batch: W45341	
Total Suspended Solids		**6.4**	4	**mg/l**	
USGS 3765	Prep: 23-Oct-2013 1421 by 285	Analyzed: 24-Oct-2013 1054 by 285		Batch: W45371	
Phosphorus		**0.067**	0.02	**mg/l**	
EPA 200.7	Prep: 21-Oct-2013 1114 by 305	Analyzed: 21-Oct-2013 1711 by 305		Batch: S35624	

AIC No. 171738-2
Sample Identification: 010 10/19/13 955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D	Analyzed: 19-Oct-2013 1300 by 295		Batch: M4053	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171735-1	< 2 mg/l			19Oct13 1400 by 308	24Oct13 1019 by 285		
	Batch: W45341	Duplicate	< 2 mg/l	0.00	20.0	19Oct13 1400 by 308	24Oct13 1021 by 285		
Total Suspended Solids		171732-1	15 mg/l			23Oct13 1421 by 285	24Oct13 1054 by 285		
	Batch: W45371	Duplicate	15 mg/l	2.67	20.0	23Oct13 1422 by 285	24Oct13 1054 by 285		
Total Suspended Solids		171733-1	< 4 mg/l			23Oct13 1421 by 285	24Oct13 1054 by 285		
	Batch: W45371	Duplicate	< 4 mg/l	0.00	20.0	23Oct13 1422 by 285	24Oct13 1054 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	91.3	80.0-120			W45336	21Oct13 0759 by 302	21Oct13 1925 by 308		
Carbonaceous BOD 5-day	200 mg/l	96.5	84.5-115			W45341	19Oct13 1300 by 308	24Oct13 1017 by 285		
Phosphorus	5 mg/l	102	85.0-115			S35624	21Oct13 1115 by 305	21Oct13 1622 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171708-2	1 mg/l	92.1	80.0-120	W45336	21Oct13 0759 by 302	21Oct13 1928 by 308		
	171708-2	1 mg/l	94.0	80.0-120	W45336	21Oct13 0759 by 302	21Oct13 1933 by 308		
	Relative Percent Difference:		1.72	25.0	W45336				
Phosphorus	171721-2	5 mg/l	103	75.0-125	S35624	21Oct13 1115 by 305	21Oct13 1625 by 305		
	171721-2	5 mg/l	102	75.0-125	S35624	21Oct13 1115 by 305	21Oct13 1628 by 305		
	Relative Percent Difference:		0.696	20.0	S35624				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45336-1	21Oct13 0759 by 302	21Oct13 1923 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45341-1	19Oct13 1300 by 308	24Oct13 1016 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45371-1	23Oct13 1422 by 285	24Oct13 1054 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35624-1	21Oct13 1115 by 305	21Oct13 1619 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4053-1		19Oct13 1300 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171738
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: ~2

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
(1)		010	10/18/13-10/19/13 935-955		X	X		1	X			
(2)		010	10/19/13 955am	X		X		1		X		
(1)		010	10/18/13-10/19/13 955-955		X	X		1			X	
												Field pH calibration
		Container Type							P	P	P	on _____ @ _____
		Preservative							NO	T	S	Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/19/13 1100 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/19/13 1300

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 28, 2013
Control No. 171754

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 21, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 21, 2013
Daily - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171754-1	010 10/20/13 955 - 10/21/13 955	21-Oct-2013 0955	
171754-2	010 10/20/13 955 - 10/21/13 955	21-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171754-1
Sample Identification: 010 10/20/13 955 - 10/21/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.3**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 22-Oct-2013 0931 by 308	Analyzed: 22-Oct-2013 1513 by 308		Batch: W45354	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 23-Oct-2013 0812 by 285	Analyzed: 28-Oct-2013 0946 by 285		Batch: W45365	
Total Suspended Solids		**6.4**	4	**mg/l**	
USGS 3765	Prep: 23-Oct-2013 1421 by 285	Analyzed: 24-Oct-2013 1054 by 285		Batch: W45371	
Phosphorus		**0.080**	0.02	**mg/l**	
EPA 200.7	Prep: 22-Oct-2013 1013 by 305	Analyzed: 23-Oct-2013 1848 by 305		Batch: S35634	
Nitrate as N		**12**	0.5	**mg/l**	D
EPA 300.0	Prep: 21-Oct-2013 1604 by 07	Analyzed: 21-Oct-2013 1803 by 07		Batch: C16142	Dil: 10

AIC No. 171754-2
Sample Identification: 010 10/20/13 955 - 10/21/13 955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**16000**	10	**/100ml**	D
SM 9222 D	Analyzed: 21-Oct-2013 1551 by 295		Batch: M4059	Dil: 10

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171750-1	< 2 mg/l			23Oct13 0812 by 285	28Oct13 0941 by 285		
	Batch: W45365	Duplicate	< 2 mg/l	0.00	20.0	23Oct13 0812 by 285	28Oct13 0943 by 285		
Total Suspended Solids		171732-1	15 mg/l			23Oct13 1421 by 285	24Oct13 1054 by 285		
	Batch: W45371	Duplicate	15 mg/l	2.67	20.0	23Oct13 1422 by 285	24Oct13 1054 by 285		
Total Suspended Solids		171733-1	< 4 mg/l			23Oct13 1421 by 285	24Oct13 1054 by 285		
	Batch: W45371	Duplicate	< 4 mg/l	0.00	20.0	23Oct13 1422 by 285	24Oct13 1054 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	86.6	80.0-120			W45354	22Oct13 0931 by 308	22Oct13 1438 by 308		
Carbonaceous BOD 5-day	200 mg/l	104	84.5-115			W45365	23Oct13 0812 by 285	28Oct13 0940 by 285		
Phosphorus	5 mg/l	107	85.0-115			S35634	22Oct13 1013 by 305	23Oct13 1739 by 305		
Nitrate as N	4 mg/l	92.2	90.0-110			C16142	21Oct13 1605 by 07	21Oct13 1642 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171749-1	1 mg/l	93.0	80.0-120	W45354	22Oct13 0931 by 308	22Oct13 1442 by 308		
	171749-1	1 mg/l	94.9	80.0-120	W45354	22Oct13 0931 by 308	22Oct13 1443 by 308		
	Relative Percent Difference:		1.36	25.0	W45354				
Phosphorus	171749-2	5 mg/l	107	75.0-125	S35634	22Oct13 1013 by 305	23Oct13 1742 by 305		
	171749-2	5 mg/l	107	75.0-125	S35634	22Oct13 1013 by 305	23Oct13 1746 by 305		
	Relative Percent Difference:		0.131	20.0	S35634				
Nitrate as N	171754-1	4 mg/l	93.7	80.0-120	C16142	21Oct13 1605 by 07	21Oct13 1709 by 07		
	171754-1	4 mg/l	93.0	80.0-120	C16142	21Oct13 1605 by 07	21Oct13 1736 by 07		
	Relative Percent Difference:		0.588	10.0	C16142				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45354-1	22Oct13 0931 by 308	22Oct13 1436 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45365-1	23Oct13 0812 by 285	28Oct13 0939 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45371-1	23Oct13 1422 by 285	24Oct13 1054 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35634-1	22Oct13 1013 by 305	23Oct13 1736 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16142-1	21Oct13 1605 by 07	21Oct13 2044 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4059-1		21Oct13 1551 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

AIC CONTROL NO: 171754
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.3

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	10/20/13 955 - 10/21/13 955		X	X		1	X			
2	010	10/21/13 955	X		X		1		X		
1	010	10/20/13 - 10/21/13 955		X	X		1			X	
		Container Type						P	P	P	Field pH calibration
		Preservative						NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/21/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Cyndi Hopton	10-21-13 1340

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 28, 2013
Control No. 171786

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 22, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 22, 2013
Daily-Permit AR0000752
Weekly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171786-1	010 10/21/13 955 10/22/13 955	22-Oct-2013 0955	
171786-2	010 10/22/13 955	22-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor
H Analytical holding time exceeded regulatory requirements

Case Narrative:
Elevated reporting limit for Fecal Coliform is due to matrix interference from bacterialogical overgrowth.

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171786-1
Sample Identification: 010 10/21/13 955 10/22/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.9**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 22-Oct-2013 1505 by 302	Analyzed: 22-Oct-2013 1956 by 308		Batch: W45354	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 23-Oct-2013 0812 by 285	Analyzed: 28-Oct-2013 0956 by 285		Batch: W45365	
Total Suspended Solids		**7.2**	4	**mg/l**	
USGS 3765	Prep: 24-Oct-2013 1432 by 285	Analyzed: 25-Oct-2013 1054 by 285		Batch: W45389	
Phosphorus		**0.073**	0.02	**mg/l**	
EPA 200.7	Prep: 23-Oct-2013 0913 by 271	Analyzed: 24-Oct-2013 1700 by 305		Batch: S35639	

AIC No. 171786-2
Sample Identification: 010 10/22/13 955

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**240**	10	**mg/l**	
SM 2540 C	Prep: 24-Oct-2013 1557 by 285	Analyzed: 25-Oct-2013 1523 by 285		Batch: W45395	
Chloride		**20**	0.2	**mg/l**	
EPA 300.0	Prep: 22-Oct-2013 1514 by 07	Analyzed: 23-Oct-2013 0503 by 07		Batch: C16150	
Sulfate		**33**	0.2	**mg/l**	
EPA 300.0	Prep: 22-Oct-2013 1514 by 07	Analyzed: 23-Oct-2013 0503 by 07		Batch: C16150	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 25-Oct-2013 0803 by 295	Analyzed: 25-Oct-2013 1257 by 295		Batch: B8618	
Fecal Coliform		**< 3**	3	**/100ml**	D
SM 9222 D		Analyzed: 22-Oct-2013 1548 by 304		Batch: M4064	Dil: 2.5

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Oil and Grease		171819-2	< 5 mg/l			25Oct13 0803 by 295	25Oct13 1257 by 295		
	Batch: B8618	Duplicate	< 5 mg/l	0.00	20.0	25Oct13 1056 by 295	25Oct13 1257 by 295		
Carbonaceous BOD 5-day		171750-1	< 2 mg/l			23Oct13 0812 by 285	28Oct13 0941 by 285		
	Batch: W45365	Duplicate	< 2 mg/l	0.00	20.0	23Oct13 0812 by 285	28Oct13 0943 by 285		
Total Suspended Solids		171786-1	7.2 mg/l			24Oct13 1432 by 285	25Oct13 1054 by 285		
	Batch: W45389	Duplicate	7.6 mg/l	5.41	20.0	24Oct13 1432 by 285	25Oct13 1054 by 285		
Total Suspended Solids		171787-1	< 4 mg/l			24Oct13 1432 by 285	25Oct13 1054 by 285		
	Batch: W45389	Duplicate	< 4 mg/l	0.00	20.0	24Oct13 1432 by 285	25Oct13 1054 by 285		
Total Dissolved Solids		171755-1	1200 mg/l			24Oct13 1557 by 285	25Oct13 1523 by 285		H
	Batch: W45395	Duplicate	1200 mg/l	0.433	10.0	24Oct13 1557 by 285	25Oct13 1523 by 285		H

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	86.6	80.0-120			W45354	22Oct13 0931 by 308	22Oct13 1438 by 308		
Carbonaceous BOD 5-day	200 mg/l	104	84.5-115			W45365	23Oct13 0812 by 285	28Oct13 0940 by 285		
Phosphorus	5 mg/l	100	85.0-115			S35639	23Oct13 0913 by 271	24Oct13 1649 by 305		
Chloride	20 mg/l	108	90.0-110			C16150	22Oct13 1515 by 07	23Oct13 0315 by 07		
Sulfate	20 mg/l	107	90.0-110			C16150	22Oct13 1515 by 07	23Oct13 0315 by 07		
Oil and Grease	40 mg/l	102	78.0-114			B8618	25Oct13 0804 by 295	25Oct13 1257 by 295		
	40 mg/l	103	78.0-114	0.976	20.0	B8618	25Oct13 0804 by 295	25Oct13 1257 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171749-1	1 mg/l	93.0	80.0-120	W45354	22Oct13 0931 by 308	22Oct13 1442 by 308		
	171749-1	1 mg/l	94.9	80.0-120	W45354	22Oct13 0931 by 308	22Oct13 1443 by 308		
	Relative Percent Difference:		1.36	25.0	W45354				
Phosphorus	171786-1	5 mg/l	103	75.0-125	S35639	23Oct13 0913 by 271	24Oct13 1653 by 305		
	171786-1	5 mg/l	102	75.0-125	S35639	23Oct13 0913 by 271	24Oct13 1657 by 305		
	Relative Percent Difference:		0.376	20.0	S35639				
Chloride	171782-1	20 mg/l	107	80.0-120	C16150	22Oct13 1515 by 07	23Oct13 0342 by 07		
	171782-1	20 mg/l	107	80.0-120	C16150	22Oct13 1515 by 07	23Oct13 0409 by 07		
	Relative Percent Difference:		0.0327	10.0	C16150				
Sulfate	171782-1	20 mg/l	107	80.0-120	C16150	22Oct13 1515 by 07	23Oct13 0342 by 07		
	171782-1	20 mg/l	106	80.0-120	C16150	22Oct13 1515 by 07	23Oct13 0409 by 07		
	Relative Percent Difference:		0.0327	10.0	C16150				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45395-1	24Oct13 1557 by 285	25Oct13 1523 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45354-1	22Oct13 0931 by 308	22Oct13 1436 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45365-1	23Oct13 0812 by 285	28Oct13 0939 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45389-1	24Oct13 1432 by 285	25Oct13 1054 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35639-1	23Oct13 0913 by 271	24Oct13 1646 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16150-1	22Oct13 1515 by 07	23Oct13 0249 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16150-1	22Oct13 1515 by 07	23Oct13 0249 by 07	
Oil and Grease	< 2 mg/l	2	5	B8618-1	25Oct13 0803 by 295	25Oct13 1257 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4064-1		22Oct13 1548 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171786
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9°C

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
(1)		010	10/21/13-10/22/13 955-955		X	X		1	X			
(2)		010	10/22/13 955	X		X		1		X		
(1)		010	10/21/13-10/22/13 955-955		X	X		1			X	
		Container Type							P	P	P	Field pH calibration
		Preservative							NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/22/13 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jeremy Day	10/22/13 1325

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	Remarks
(2)	010	10/22/13 955	X		X			1	X		
(2)	010	10/22/13 955	X		X			1		X	
		Container Type							P	P	
		Preservative							S	NO	

AIC CONTROL NO: 171786
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9°C
Field pH calibration on _____ @ _____
Buffer:

ANALYSES REQUESTED

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/22/13 10:00 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	10/22/13 1325

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 23, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 23, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171828-1	010 10/22/13 955 10/23/13 955	23-Oct-2013 0955	
171828-2	010 10/23/13 955	23-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171828-1
Sample Identification: 010 10/22/13 955 10/23/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.5**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 23-Oct-2013 1518 by 308	Analyzed: 24-Oct-2013 0938 by 308		Batch: W45373	Dil: 5
Carbonaceous BOD 5-day		**< 2.0**	2.0	**mg/l**	
SM 5210 B	Prep: 24-Oct-2013 0908 by 285	Analyzed: 29-Oct-2013 1018 by 285		Batch: W45385	
Total Suspended Solids		**9.2**	4	**mg/l**	
USGS 3765	Prep: 25-Oct-2013 1318 by 285	Analyzed: 28-Oct-2013 1000 by 285		Batch: W45402	
Phosphorus		**0.080**	0.02	**mg/l**	
EPA 200.7	Prep: 24-Oct-2013 0854 by 271	Analyzed: 25-Oct-2013 0959 by 305		Batch: S35648	
Nitrate as N		**12**	0.5	**mg/l**	D
EPA 300.0	Prep: 23-Oct-2013 1510 by 07	Analyzed: 23-Oct-2013 1702 by 07		Batch: C16154	Dil: 10

AIC No. 171828-2
Sample Identification: 010 10/23/13 955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**26**	1	**/100ml**	
SM 9222 D	Analyzed: 23-Oct-2013 1550 by 304		Batch: M4065	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171819-1	< 2.0 mg/l			24Oct13 0908 by 285	29Oct13 1007 by 285		
	Batch: W45385	Duplicate	< 2.0 mg/l	0.00	20.0	24Oct13 0908 by 285	29Oct13 1009 by 285		
Total Suspended Solids		171828-1	9.2 mg/l			25Oct13 1318 by 285	28Oct13 1000 by 285		
	Batch: W45402	Duplicate	9.6 mg/l	4.26	20.0	25Oct13 1318 by 285	28Oct13 1000 by 285		
Total Suspended Solids		171830-3	2300 mg/l			25Oct13 1318 by 285	28Oct13 1000 by 285		
	Batch: W45402	Duplicate	2200 mg/l	2.23	20.0	25Oct13 1318 by 285	28Oct13 1000 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	102	80.0-120			W45373	23Oct13 1518 by 308	24Oct13 0853 by 308		
Carbonaceous BOD 5-day	200 mg/l	103	84.5-115			W45385	24Oct13 0908 by 285	29Oct13 1005 by 285		
Phosphorus	5 mg/l	107	85.0-115			S35648	24Oct13 0855 by 271	25Oct13 0935 by 305		
Nitrate as N	4 mg/l	96.4	90.0-110			C16154	23Oct13 1510 by 07	23Oct13 1545 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171824-1	1 mg/l	111	80.0-120	W45373	23Oct13 1518 by 308	24Oct13 0857 by 308		
	171824-1	1 mg/l	98.5	80.0-120	W45373	23Oct13 1518 by 308	24Oct13 0859 by 308		
	Relative Percent Difference:		8.99	25.0	W45373				
Phosphorus	171824-2	5 mg/l	106	75.0-125	S35648	24Oct13 0855 by 271	25Oct13 0938 by 305		
	171824-2	5 mg/l	108	75.0-125	S35648	24Oct13 0855 by 271	25Oct13 0941 by 305		
	Relative Percent Difference:		1.52	20.0	S35648				
Nitrate as N	171828-1	4 mg/l	92.3	80.0-120	C16154	23Oct13 1510 by 07	23Oct13 1611 by 07		
	171828-1	4 mg/l	93.3	80.0-120	C16154	23Oct13 1510 by 07	23Oct13 1636 by 07		
	Relative Percent Difference:		0.821	10.0	C16154				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45373-1	23Oct13 1518 by 308	24Oct13 0852 by 308	
Carbonaceous BOD 5-day	< 2.0 mg/l	2.0	2.0	W45385-1	24Oct13 0908 by 285	29Oct13 1004 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45402-1	25Oct13 1318 by 285	28Oct13 1000 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35648-1	24Oct13 0855 by 271	25Oct13 0932 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16154-1	23Oct13 1510 by 07	23Oct13 1519 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4065-1		23Oct13 1236 by 304	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171828
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.1°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
(1)	010	10/22/13-10/23/13 955-955		X	X		1	X			
(2)	010	10/23/13 955	X		X		1		X		
(1)	010	10/22/13-10/23/13 955-955		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

Field pH calibration on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/23/13 10:00 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Logan Hayden	10-23-13 1320

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 29, 2013
Control No. 171860

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 24, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 24, 2013
Daily / Weekly - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171860-1	010 10/23/13 955 10/24/13 955	24-Oct-2013 0955	
171860-2	010 10/24/13 955	24-Oct-2013 0955	

Case Narrative:
There were no qualifiers for this data and all samples met quality control criteria.

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171860-1
Sample Identification: 010 10/23/13 955 10/24/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**< 0.1**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 24-Oct-2013 1450 by 302	Analyzed: 24-Oct-2013 1748 by 308		Batch: W45391	
Carbonaceous BOD 5-day		**< 2.0**	2.0	**mg/l**	
SM 5210 B	Prep: 24-Oct-2013 1528 by 285	Analyzed: 29-Oct-2013 1029 by 285		Batch: W45385	
Total Suspended Solids		**10**	4	**mg/l**	
USGS 3765	Prep: 25-Oct-2013 1318 by 285	Analyzed: 28-Oct-2013 1000 by 285		Batch: W45402	
Phosphorus		**0.080**	0.02	**mg/l**	
EPA 200.7	Prep: 24-Oct-2013 1600 by 311	Analyzed: 28-Oct-2013 1235 by 305		Batch: S35652	

AIC No. 171860-2
Sample Identification: 010 10/24/13 955

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**220**	10	**mg/l**	
SM 2540 C	Prep: 25-Oct-2013 1401 by 302	Analyzed: 28-Oct-2013 1555 by 285		Batch: W45403	
Chloride		**19**	0.2	**mg/l**	
EPA 300.0	Prep: 24-Oct-2013 1505 by 07	Analyzed: 24-Oct-2013 1634 by 07		Batch: C16159	
Sulfate		**32**	0.2	**mg/l**	
EPA 300.0	Prep: 24-Oct-2013 1505 by 07	Analyzed: 24-Oct-2013 1634 by 07		Batch: C16159	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 28-Oct-2013 0911 by 295	Analyzed: 28-Oct-2013 1637 by 295		Batch: B8622	
Fecal Coliform		**< 1**	1	**/100ml**	
SM 9222 D		Analyzed: 24-Oct-2013 1532 by 304		Batch: M4066	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171819-1	< 2.0 mg/l			24Oct13 0908 by 285	29Oct13 1007 by 285		
	Batch: W45385	Duplicate	< 2.0 mg/l	0.00	20.0	24Oct13 0908 by 285	29Oct13 1009 by 285		
Total Suspended Solids		171828-1	9.2 mg/l			25Oct13 1318 by 285	28Oct13 1000 by 285		
	Batch: W45402	Duplicate	9.6 mg/l	4.26	20.0	25Oct13 1318 by 285	28Oct13 1000 by 285		
Total Suspended Solids		171830-3	2300 mg/l			25Oct13 1318 by 285	28Oct13 1000 by 285		
	Batch: W45402	Duplicate	2200 mg/l	2.23	20.0	25Oct13 1318 by 285	28Oct13 1000 by 285		
Total Dissolved Solids		171836-1	< 10 mg/l			25Oct13 1401 by 302	28Oct13 1555 by 285		
	Batch: W45403	Duplicate	< 10 mg/l	0.00	10.0	25Oct13 1401 by 302	28Oct13 1555 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	113	80.0-120			W45391	24Oct13 1451 by 302	24Oct13 1741 by 308		
Carbonaceous BOD 5-day	200 mg/l	103	84.5-115			W45385	24Oct13 0908 by 285	29Oct13 1005 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35652	24Oct13 1600 by 311	28Oct13 1225 by 305		
Chloride	20 mg/l	107	90.0-110			C16159	24Oct13 1037 by 07	24Oct13 1112 by 07		
Sulfate	20 mg/l	104	90.0-110			C16159	24Oct13 1037 by 07	24Oct13 1112 by 07		
Oil and Grease	40 mg/l	84.0	78.0-114			B8622	28Oct13 0911 by 295	28Oct13 1637 by 295		
	40 mg/l	86.0	78.0-114	2.35	20.0	B8622	28Oct13 0911 by 295	28Oct13 1637 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171849-2	1 mg/l	107	80.0-120	W45391	24Oct13 1451 by 302	24Oct13 1745 by 308		
	171849-2	1 mg/l	107	80.0-120	W45391	24Oct13 1451 by 302	24Oct13 1747 by 308		
	Relative Percent Difference:		0.452	25.0	W45391				
Phosphorus	171860-1	5 mg/l	105	75.0-125	S35652	24Oct13 1600 by 311	28Oct13 1229 by 305		
	171860-1	5 mg/l	105	75.0-125	S35652	24Oct13 1600 by 311	28Oct13 1232 by 305		
	Relative Percent Difference:		0.0828	20.0	S35652				
Chloride	171837-1	20 mg/l	94.4	80.0-120	C16159	24Oct13 1037 by 07	24Oct13 1139 by 07		
	171837-1	20 mg/l	101	80.0-120	C16159	24Oct13 1037 by 07	24Oct13 1206 by 07		
	Relative Percent Difference:		5.45	10.0	C16159				
Sulfate	171837-1	20 mg/l	94.5	80.0-120	C16159	24Oct13 1037 by 07	24Oct13 1139 by 07		
	171837-1	20 mg/l	103	80.0-120	C16159	24Oct13 1037 by 07	24Oct13 1206 by 07		
	Relative Percent Difference:		8.91	10.0	C16159				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45403-1	25Oct13 1401 by 302	28Oct13 1555 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45391-1	24Oct13 1451 by 302	24Oct13 1739 by 308	
Carbonaceous BOD 5-day	< 2.0 mg/l	2.0	2.0	W45385-1	24Oct13 0908 by 285	29Oct13 1004 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45402-1	25Oct13 1318 by 285	28Oct13 1000 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35652-1	24Oct13 1600 by 311	28Oct13 1222 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16159-1	24Oct13 1037 by 07	24Oct13 1046 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16159-1	24Oct13 1037 by 07	24Oct13 1046 by 07	
Oil and Grease	< 2 mg/l	2	5	B8622-1	28Oct13 0911 by 295	28Oct13 1637 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4066-1		24Oct13 1532 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 171860
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.7

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus										Remarks
1	010	10/23/13-10/24/13 955-955		X	X			1	X												
2	010	10/24/13 955	X		X			1		X											
1	010	10/23/13-10/24/13 955		X	X			1			X										
		Container Type							P	P	P										Field pH calibration
		Preservative							NO	T	S										on _____ @ _____
																					Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/24/13 1210am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Gayle Hayes	10-24-13 1320

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: larken Pennington

PO No.

MATRIX

AIC CONTROL NO: 171860
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 6.7

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	Remarks
2	010	10/24/13 955am	X		X		1	X		
2	010	10/24/13 955am	X		X		1		X	
		Container Type						P	P	
		Preservative						S	NO	

Field pH calibration on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/24/13 1020 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Cyndi Hyatt	10-24-13 1320

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION LABORATORIES

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 25, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 25, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171908-1	010 10/24/13 955 10/25/13 955	25-Oct-2013 0955	
171908-2	010 10/25/13 955	25-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171908-1
Sample Identification: 010 10/24/13 955 10/25/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 25-Oct-2013 1441 by 308	Analyzed: 28-Oct-2013 0942 by 308		Batch: W45401	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 25-Oct-2013 1501 by 285	Analyzed: 30-Oct-2013 1106 by 285		Batch: W45398	
Total Suspended Solids		**10**	4	**mg/l**	
USGS 3765	Prep: 28-Oct-2013 1427 by 285	Analyzed: 29-Oct-2013 1053 by 285		Batch: W45417	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 28-Oct-2013 0925 by 271	Analyzed: 28-Oct-2013 1816 by 305		Batch: S35664	
Nitrate as N		**11**	0.5	**mg/l**	D
EPA 300.0	Prep: 25-Oct-2013 1503 by 07	Analyzed: 25-Oct-2013 1659 by 07		Batch: C16164	Dil: 10

AIC No. 171908-2
Sample Identification: 010 10/25/13 955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D	Analyzed: 25-Oct-2013 1512 by 304		Batch: M4071	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171851-1	< 2.0 mg/l			25Oct13 0810 by 285	30Oct13 0949 by 285		
	Batch: W45398	Duplicate	< 2.0 mg/l	0.00	20.0	25Oct13 0810 by 285	30Oct13 0951 by 285		
Total Suspended Solids		171897-1	< 4 mg/l			28Oct13 1427 by 285	29Oct13 1053 by 285		
	Batch: W45417	Duplicate	< 4 mg/l	0.00	20.0	28Oct13 1428 by 285	29Oct13 1053 by 285		
Total Suspended Solids		171898-1	< 4 mg/l			28Oct13 1427 by 285	29Oct13 1053 by 285		
	Batch: W45417	Duplicate	< 4 mg/l	0.00	20.0	28Oct13 1428 by 285	29Oct13 1053 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	95.0	80.0-120			W45401	25Oct13 1037 by 308	25Oct13 1601 by 308		
Carbonaceous BOD 5-day	200 mg/l	100	84.5-115			W45398	25Oct13 0810 by 285	30Oct13 0947 by 285		
Phosphorus	5 mg/l	104	85.0-115			S35664	28Oct13 0926 by 271	28Oct13 1743 by 305		
Nitrate as N	4 mg/l	91.8	90.0-110			C16164	25Oct13 1504 by 07	25Oct13 1539 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171861-1	1 mg/l	98.7	80.0-120	W45401	25Oct13 1037 by 308	25Oct13 1605 by 308		
	171861-1	1 mg/l	113	80.0-120	W45401	25Oct13 1037 by 308	25Oct13 1607 by 308		
	Relative Percent Difference:		12.9	25.0	W45401				
Phosphorus	171894-1	5 mg/l	106	75.0-125	S35664	28Oct13 0926 by 271	28Oct13 1746 by 305		
	171894-1	5 mg/l	106	75.0-125	S35664	28Oct13 0926 by 271	28Oct13 1749 by 305		
	Relative Percent Difference:		0.149	20.0	S35664				
Nitrate as N	171908-1	4 mg/l	90.5	80.0-120	C16164	25Oct13 1504 by 07	25Oct13 1606 by 07		
	171908-1	4 mg/l	91.2	80.0-120	C16164	25Oct13 1504 by 07	25Oct13 1633 by 07		
	Relative Percent Difference:		0.568	10.0	C16164				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45401-1	25Oct13 1037 by 308	25Oct13 1559 by 308	
Carbonaceous BOD 5-day	< 2.0 mg/l	2.0	2.0	W45398-1	25Oct13 0810 by 285	30Oct13 0946 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45417-1	28Oct13 1428 by 285	29Oct13 1053 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35664-1	28Oct13 0926 by 271	28Oct13 1740 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16164-1	25Oct13 1504 by 07	25Oct13 1513 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4071-1		25Oct13 1512 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171908
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.1 C
Remarks

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS, NO3-N	Coli. F	NH3-N, TP, Phosphorus, Total Kjeldahl Nitrogen	Oil & Grease	Sulfates, Sulfides
1	010	10/24/13-10/25/13 955-955		X	X		1	X				
2	010	10/25/13 955	X		X		1		X			
1	010	10/24/13-10/25/13 955-955		X	X		1			X		
		Container Type						P	P	P		
		Preservative						NO	T	S		

Field pH calibration on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By	Date/Time	Received By	Date/Time
Larken Pennington	10/25/13 10:00 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time 10/25/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

October 31, 2013
Control No. 171927

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 26, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 26, 2013
Daily - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171927-1	010 10-26-13 0945	26-Oct-2013 0945	
171927-2	010 10-26-13 0945	26-Oct-2013 0945	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171927-1
Sample Identification: 010 10-26-13 0945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.1**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 28-Oct-2013 1302 by 93	Analyzed: 28-Oct-2013 1724 by 302		Batch: W45411	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 26-Oct-2013 1338 by 285	Analyzed: 31-Oct-2013 1109 by 271		Batch: W45406	
Total Suspended Solids		**9.2**	4	**mg/l**	
USGS 3765	Prep: 29-Oct-2013 1417 by 285	Analyzed: 31-Oct-2013 1450 by 285		Batch: W45433	
Phosphorus		**0.099**	0.02	**mg/l**	
EPA 200.7	Prep: 28-Oct-2013 1646 by 271	Analyzed: 29-Oct-2013 1226 by 305		Batch: S35669	

AIC No. 171927-2
Sample Identification: 010 10-26-13 0945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**32**	3	**/100ml**	D
SM 9222 D	Analyzed: 26-Oct-2013 1400 by 304		Batch: M4072	Dil: 2.5

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171926-1	< 2 mg/l			26Oct13 1338 by 285	31Oct13 1104 by 271		
	Batch: W45406	Duplicate	< 2 mg/l	0.00	20.0	26Oct13 1338 by 285	31Oct13 1106 by 271		
Total Suspended Solids		171926-1	11 mg/l			29Oct13 1417 by 285	31Oct13 1450 by 285		
	Batch: W45433	Duplicate	11 mg/l	3.64	20.0	29Oct13 1417 by 285	31Oct13 1450 by 285		
Total Suspended Solids		171927-1	9.2 mg/l			29Oct13 1417 by 285	31Oct13 1450 by 285		
	Batch: W45433	Duplicate	10 mg/l	8.33	20.0	29Oct13 1417 by 285	31Oct13 1450 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	116	80.0-120			W45411	28Oct13 1040 by 93	28Oct13 1637 by 302		
Carbonaceous BOD 5-day	200 mg/l	86.4	84.5-115			W45406	26Oct13 1338 by 285	31Oct13 1102 by 271		
Phosphorus	5 mg/l	104	85.0-115			S35669	28Oct13 1646 by 271	29Oct13 1207 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171923-1	1 mg/l	94.1	80.0-120	W45411	28Oct13 1040 by 93	28Oct13 1640 by 302		
	171923-1	1 mg/l	97.0	80.0-120	W45411	28Oct13 1040 by 93	28Oct13 1642 by 302		
	Relative Percent Difference:		2.24	25.0	W45411				
Phosphorus	171923-2	5 mg/l	103	75.0-125	S35669	28Oct13 1646 by 271	29Oct13 1210 by 305		
	171923-2	5 mg/l	103	75.0-125	S35669	28Oct13 1646 by 271	29Oct13 1213 by 305		
	Relative Percent Difference:		0.192	20.0	S35669				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45411-1	28Oct13 1040 by 93	28Oct13 1635 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45406-1	26Oct13 1338 by 285	31Oct13 1101 by 271	
Total Suspended Solids	< 4 mg/l	4	4	W45433-1	29Oct13 1417 by 285	31Oct13 1450 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35669-1	28Oct13 1646 by 271	29Oct13 1204 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4072-1		26Oct13 1400 by 310	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: SARTAIN

PO No.

AIC CONTROL NO: 171927
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 3.0
Remarks

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F	NH3N, Total Phosphorus
1	010	10.26.13 0945		X	X		1	X		
2	010	10.26.13 0945	X		X		1		X	
1	010	10.26.13 0945		X	X		1			X
		Container Type						P	P	P
		Preservative						NO	T	S

Field pH calibration on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
(NORMAL) or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	10.26.13		
Relinquished By:	Date/Time	Received in Lab By: SLI310 [signature]	Date/Time 10.26.13 1240

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

November 4, 2013
Control No. 171931

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 27, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 27, 2013
Daily - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171931-1	010 10-27-13 0940	27-Oct-2013 0940	
171931-2	010 10-27-13 0940	27-Oct-2013 0940	

Case Narrative:
There were no qualifiers for this data and all samples met quality control criteria.

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171931-1
Sample Identification: 010 10-27-13 0940

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.8**	0.1	**mg/l**	
SM 4500-NH3 B,G 1997	Prep: 28-Oct-2013 1302 by 93	Analyzed: 28-Oct-2013 1659 by 302		Batch: W45411	
Carbonaceous BOD 5-day		**3.0**	2	**mg/l**	
SM 5210 B 2001	Prep: 28-Oct-2013 1421 by 285	Analyzed: 02-Nov-2013 1458 by 285		Batch: W45416	
Total Suspended Solids		**8.8**	4	**mg/l**	
USGS 3765	Prep: 29-Oct-2013 1417 by 285	Analyzed: 31-Oct-2013 1450 by 285		Batch: W45433	
Phosphorus		**0.13**	0.02	**mg/l**	
EPA 200.7	Prep: 28-Oct-2013 1646 by 271	Analyzed: 29-Oct-2013 1242 by 305		Batch: S35669	

AIC No. 171931-2
Sample Identification: 010 10-27-13 0940

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**32**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 27-Oct-2013 1315 by 304		Batch: M4073	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171928-1	< 2 mg/l			28Oct13 1421 by 285	02Nov13 1452 by 285		
	Batch: W45416	Duplicate	< 2 mg/l	0.00	20.0	28Oct13 1421 by 285	02Nov13 1453 by 285		
Total Suspended Solids		171926-1	11 mg/l			29Oct13 1417 by 285	31Oct13 1450 by 285		
	Batch: W45433	Duplicate	11 mg/l	3.64	20.0	29Oct13 1417 by 285	31Oct13 1450 by 285		
Total Suspended Solids		171927-1	9.2 mg/l			29Oct13 1417 by 285	31Oct13 1450 by 285		
	Batch: W45433	Duplicate	10 mg/l	8.33	20.0	29Oct13 1417 by 285	31Oct13 1450 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	116	80.0-120			W45411	28Oct13 1040 by 93	28Oct13 1637 by 302		
Carbonaceous BOD 5-day	200 mg/l	109	84.5-115			W45416	28Oct13 1421 by 285	02Nov13 1450 by 285		
Phosphorus	5 mg/l	104	85.0-115			S35669	28Oct13 1646 by 271	29Oct13 1207 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171923-1	1 mg/l	94.1	80.0-120	W45411	28Oct13 1040 by 93	28Oct13 1640 by 302		
	171923-1	1 mg/l	97.0	80.0-120	W45411	28Oct13 1040 by 93	28Oct13 1642 by 302		
	Relative Percent Difference:		2.24	25.0	W45411				
Phosphorus	171923-2	5 mg/l	103	75.0-125	S35669	28Oct13 1646 by 271	29Oct13 1210 by 305		
	171923-2	5 mg/l	103	75.0-125	S35669	28Oct13 1646 by 271	29Oct13 1213 by 305		
	Relative Percent Difference:		0.192	20.0	S35669				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45411-1	28Oct13 1040 by 93	28Oct13 1635 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45416-1	28Oct13 1421 by 285	02Nov13 1449 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45433-1	29Oct13 1417 by 285	31Oct13 1450 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35669-1	28Oct13 1646 by 271	29Oct13 1204 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4073-1		27Oct13 1315 by 310	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: SARTAIN

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus											
1	010	10-27-13 0940		X	X			1	X													
2	010	10-27-13 0940	X		X			1		X												
1	010	10-27-13 0940		X	X			1			X											
		Container Type							P	P	P											
		Preservative							NO	T	S											

ANALYSES REQUESTED

AIC CONTROL NO: 171931
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.5
Remarks

Field pH calibration on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
	10-27-13		—
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10-27-13 1230

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

November 4, 2013
Control No. 171949

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 28, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 28, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171949-1	010 10/27/13 955 10/28/13 955	28-Oct-2013 0955	
171949-2	010 10/28/13 955	28-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171949-1
Sample Identification: 010 10/27/13 955 10/28/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.6**	0.1	**mg/l**	
SM 4500-NH3 B,G 1997	Prep: 30-Oct-2013 1314 by 93	Analyzed: 31-Oct-2013 1530 by 93		Batch: W45446	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 30-Oct-2013 0834 by 285	Analyzed: 04-Nov-2013 1024 by 285		Batch: W45440	
Total Suspended Solids		**11**	4	**mg/l**	
USGS 3765	Prep: 29-Oct-2013 1417 by 285	Analyzed: 31-Oct-2013 1450 by 285		Batch: W45433	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 29-Oct-2013 0850 by 311	Analyzed: 29-Oct-2013 1817 by 305		Batch: S35670	
Nitrate as N		**12**	0.5	**mg/l**	D
EPA 300.0	Prep: 28-Oct-2013 1555 by 07	Analyzed: 28-Oct-2013 1952 by 07		Batch: C16165	Dil: 10

AIC No. 171949-2
Sample Identification: 010 10/28/13 955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 28-Oct-2013 1443 by 304		Batch: M4076	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Suspended Solids		171926-1	11 mg/l			29Oct13 1417 by 285	31Oct13 1450 by 285		
	Batch: W45433	Duplicate	11 mg/l	3.64	20.0	29Oct13 1417 by 285	31Oct13 1450 by 285		
Total Suspended Solids		171927-1	9.2 mg/l			29Oct13 1417 by 285	31Oct13 1450 by 285		
	Batch: W45433	Duplicate	10 mg/l	8.33	20.0	29Oct13 1417 by 285	31Oct13 1450 by 285		
Carbonaceous BOD 5-day		171944-1	< 2 mg/l			30Oct13 0834 by 285	04Nov13 1019 by 285		
	Batch: W45440	Duplicate	< 2 mg/l	0.00	20.0	30Oct13 0834 by 285	04Nov13 1021 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	108	80.0-120			W45446	30Oct13 1314 by 93	31Oct13 1519 by 93		
Carbonaceous BOD 5-day	200 mg/l	92.4	84.5-115			W45440	30Oct13 0834 by 285	04Nov13 1018 by 285		
Phosphorus	5 mg/l	106	85.0-115			S35670	29Oct13 0850 by 311	29Oct13 1647 by 305		
Nitrate as N	4 mg/l	98.2	90.0-110			C16165	28Oct13 1555 by 07	28Oct13 1831 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171990-1	1 mg/l	97.9	80.0-120	W45446	30Oct13 1314 by 93	31Oct13 1652 by 93	2	D
	171990-1	1 mg/l	101	80.0-120	W45446	30Oct13 1314 by 93	31Oct13 1654 by 93	2	D
	Relative Percent Difference:		1.38	25.0	W45446				D
Phosphorus	171945-2	5 mg/l	103	75.0-125	S35670	29Oct13 0850 by 311	29Oct13 1651 by 305		
	171945-2	5 mg/l	103	75.0-125	S35670	29Oct13 0850 by 311	29Oct13 1654 by 305		
	Relative Percent Difference:		0.0781	20.0	S35670				
Nitrate as N	171949-1	4 mg/l	99.0	80.0-120	C16165	28Oct13 1555 by 07	28Oct13 1858 by 07		
	171949-1	4 mg/l	98.6	80.0-120	C16165	28Oct13 1555 by 07	28Oct13 1925 by 07		
	Relative Percent Difference:		0.251	10.0	C16165				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45446-1	30Oct13 1314 by 93	31Oct13 1518 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45440-1	30Oct13 0834 by 285	04Nov13 1017 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45433-1	29Oct13 1417 by 285	31Oct13 1450 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35670-1	29Oct13 0850 by 311	29Oct13 1644 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16165-1	28Oct13 1555 by 07	28Oct13 1644 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4076-1		28Oct13 1443 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171949
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9 °C

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS, NO3-T	Coli. F	NH3N, Total Phosphorus	Remarks
(1)		010	10/27/13-10/28/13 955-955		X	X		1	X			
(2)		010	10/28/13 955	X		X		1		X		
(1)		010	10/27/13-10/28/13 955-955		X	X		1			X	
			Container Type						P	P	P	Field pH calibration
			Preservative						NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/28/13 10:40 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	10/28/13 1415

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

November 4, 2013
Control No. 171993

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 29, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 29, 2013
Daily-Permir AR0000752
Weekly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171993-1	010 10/28/13 955 10/29/13 955	29-Oct-2013 0955	
171993-2	010 10/29/13 955	29-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 171993-1
Sample Identification: 010 10/28/13 955 10/29/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.6**	0.1	**mg/l**	
SM 4500-NH3 B,G 1997	Prep: 30-Oct-2013 1314 by 93	Analyzed: 31-Oct-2013 1542 by 93		Batch: W45446	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 30-Oct-2013 0834 by 285	Analyzed: 04-Nov-2013 1037 by 285		Batch: W45440	
Total Suspended Solids		**11**	4	**mg/l**	
USGS 3765	Prep: 01-Nov-2013 1351 by 285	Analyzed: 04-Nov-2013 0936 by 285		Batch: W45479	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 30-Oct-2013 0953 by 311	Analyzed: 31-Oct-2013 1536 by 305		Batch: S35680	

AIC No. 171993-2
Sample Identification: 010 10/29/13 955

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**260**	10	**mg/l**	
SM 2540 C 1997	Prep: 30-Oct-2013 1613 by 285	Analyzed: 31-Oct-2013 1438 by 285		Batch: W45452	
Chloride		**21**	0.2	**mg/l**	
EPA 300.0	Prep: 29-Oct-2013 1613 by 07	Analyzed: 29-Oct-2013 2353 by 07		Batch: C16168	
Sulfate		**35**	0.2	**mg/l**	
EPA 300.0	Prep: 29-Oct-2013 1613 by 07	Analyzed: 29-Oct-2013 2353 by 07		Batch: C16168	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 30-Oct-2013 0844 by 295	Analyzed: 30-Oct-2013 1119 by 295		Batch: B8627	
Fecal Coliform		**< 1**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 29-Oct-2013 1510 by 21		Batch: M4080	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171944-1	< 2 mg/l			30Oct13 0834 by 285	04Nov13 1019 by 285		
	Batch: W45440	Duplicate	< 2 mg/l	0.00	20.0	30Oct13 0834 by 285	04Nov13 1021 by 285		
Total Dissolved Solids		171989-1	870 mg/l			30Oct13 1613 by 285	31Oct13 1438 by 285		
	Batch: W45452	Duplicate	840 mg/l	3.52	10.0	30Oct13 1614 by 285	31Oct13 1438 by 285		
Total Dissolved Solids		171990-2	620 mg/l			30Oct13 1613 by 285	31Oct13 1438 by 285		
	Batch: W45452	Duplicate	650 mg/l	5.99	10.0	30Oct13 1614 by 285	31Oct13 1438 by 285		
Total Suspended Solids		171985-1	26 mg/l			01Nov13 1351 by 285	04Nov13 0936 by 285		
	Batch: W45479	Duplicate	25 mg/l	1.57	20.0	01Nov13 1352 by 285	04Nov13 0936 by 285		
Total Suspended Solids		171989-1	45 mg/l			01Nov13 1351 by 285	04Nov13 0936 by 285		
	Batch: W45479	Duplicate	45 mg/l	0.889	20.0	01Nov13 1352 by 285	04Nov13 0936 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	108	80.0-120			W45446	30Oct13 1314 by 93	31Oct13 1519 by 93		
Carbonaceous BOD 5-day	200 mg/l	92.4	84.5-115			W45440	30Oct13 0834 by 285	04Nov13 1018 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35680	30Oct13 0954 by 311	31Oct13 1508 by 305		
Chloride	20 mg/l	98.6	90.0-110			C16168	29Oct13 1614 by 07	29Oct13 1804 by 07		
Sulfate	20 mg/l	101	90.0-110			C16168	29Oct13 1614 by 07	29Oct13 1804 by 07		
Oil and Grease	40 mg/l	90.5	78.0-114			B8627	30Oct13 0844 by 295	30Oct13 1119 by 295		
	40 mg/l	82.5	78.0-114	9.25	20.0	B8627	30Oct13 0844 by 295	30Oct13 1119 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171990-1	1 mg/l	97.9	80.0-120	W45446	30Oct13 1314 by 93	31Oct13 1652 by 93	2	D
	171990-1	1 mg/l	101	80.0-120	W45446	30Oct13 1314 by 93	31Oct13 1654 by 93	2	D
	Relative Percent Difference:		1.38	25.0	W45446				D
Phosphorus	171989-1	5 mg/l	105	75.0-125	S35680	30Oct13 0954 by 311	31Oct13 1512 by 305		
	171989-1	5 mg/l	104	75.0-125	S35680	30Oct13 0954 by 311	31Oct13 1516 by 305		
	Relative Percent Difference:		0.744	20.0	S35680				
Chloride	171989-1	20 mg/l	96.7	80.0-120	C16168	29Oct13 1614 by 07	29Oct13 1831 by 07		
	171989-1	20 mg/l	99.9	80.0-120	C16168	29Oct13 1614 by 07	29Oct13 1858 by 07		
	Relative Percent Difference:		1.59	10.0	C16168				
Sulfate	171989-1	20 mg/l	100	80.0-120	C16168	29Oct13 1614 by 07	29Oct13 1831 by 07		
	171989-1	20 mg/l	105	80.0-120	C16168	29Oct13 1614 by 07	29Oct13 1858 by 07		
	Relative Percent Difference:		2.09	10.0	C16168				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45452-1	30Oct13 1614 by 285	31Oct13 1438 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45446-1	30Oct13 1314 by 93	31Oct13 1518 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45440-1	30Oct13 0834 by 285	04Nov13 1017 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45479-1	01Nov13 1352 by 285	04Nov13 0936 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35680-1	30Oct13 0954 by 311	31Oct13 1505 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16168-1	29Oct13 1614 by 07	29Oct13 1737 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16168-1	29Oct13 1614 by 07	29Oct13 1737 by 07	
Oil and Grease	< 2 mg/l	2	5	B8627-1	30Oct13 0844 by 295	30Oct13 1119 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4080-1		29Oct13 1302 by 295	

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 171993
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9 °C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus									Remarks
(1)	010	10/28/13-10/29/13 955-955		X	X		1	X											
(2)	010	10/29/13 955	X		X		1		X										
(1)	010	10/28/13-10/29/13 955-955		X	X		1			X									
	0										2								
		Container Type						P	P	P									Field pH calibration
		Preservative						NO	T	S									on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/29/13 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/29/13 1330 10/30/13 1325 10/29/13

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

AIC CONTROL NO: 17199.3
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	Remarks
(2)	010	10/29/13 955	X		X		1	X		
(2)	010	10/29/13 955	X		X		1		X	
		Container Type						P	P	
		Preservative						S	NO	

ANALYSES REQUESTED

Field pH calibration
on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/29/13 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			10/29/13 1330

Comments: 10/29/13 1325

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

November 5, 2013
Control No. 172029

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 30, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 30, 2013
Daily - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with a custody seal intact and signed

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
172029-1	010 10/29/13 955 - 10/30/13 955	30-Oct-2013 0955	
172029-2	010 10/30/13 955	30-Oct-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 172029-1
Sample Identification: 010 10/29/13 955 - 10/30/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.3**	0.1	**mg/l**	
SM 4500-NH3 B,G 1997	Prep: 01-Nov-2013 0938 by 93	Analyzed: 04-Nov-2013 1559 by 302		Batch: W45476	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 31-Oct-2013 0822 by 285	Analyzed: 05-Nov-2013 1023 by 285		Batch: W45457	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 04-Nov-2013 1035 by 285	Analyzed: 04-Nov-2013 1425 by 285		Batch: W45494	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 30-Oct-2013 1624 by 311	Analyzed: 31-Oct-2013 1625 by 305		Batch: S35686	
Nitrate as N		**12**	0.5	**mg/l**	D
EPA 300.0	Prep: 30-Oct-2013 1445 by 07	Analyzed: 30-Oct-2013 1539 by 07		Batch: C16169	Dil: 10

AIC No. 172029-2
Sample Identification: 010 10/30/13 955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 30-Oct-2013 1507 by 21		Batch: M4084	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		172015-1	< 2 mg/l			31Oct13 0822 by 285	05Nov13 1012 by 285		
	Batch: W45457	Duplicate	< 2 mg/l	0.00	20.0	31Oct13 0823 by 285	05Nov13 1014 by 285		
Total Suspended Solids		172027-1	6.4 mg/l			04Nov13 1035 by 285	04Nov13 1425 by 285		
	Batch: W45494	Duplicate	6.8 mg/l	6.06	20.0	04Nov13 1036 by 285	04Nov13 1425 by 285		
Total Suspended Solids		172028-1	< 4 mg/l			04Nov13 1035 by 285	04Nov13 1425 by 285		
	Batch: W45494	Duplicate	< 4 mg/l	0.00	20.0	04Nov13 1036 by 285	04Nov13 1425 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	103	80.0-120			W45476	01Nov13 0940 by 93	04Nov13 1439 by 302		
Carbonaceous BOD 5-day	200 mg/l	102	84.5-115			W45457	31Oct13 0823 by 285	05Nov13 1010 by 285		
Phosphorus	5 mg/l	107	85.0-115			S35686	30Oct13 1625 by 311	31Oct13 1602 by 305		
Nitrate as N	4 mg/l	103	90.0-110			C16169	30Oct13 1024 by 07	30Oct13 1232 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	172028-1	1 mg/l	91.1	80.0-120	W45476	01Nov13 0940 by 93	04Nov13 1442 by 302		
	172028-1	1 mg/l	99.5	80.0-120	W45476	01Nov13 0940 by 93	04Nov13 1444 by 302		
	Relative Percent Difference:		6.01	25.0	W45476				
Phosphorus	172026-1	5 mg/l	109	75.0-125	S35686	30Oct13 1625 by 311	31Oct13 1606 by 305		
	172026-1	5 mg/l	110	75.0-125	S35686	30Oct13 1625 by 311	31Oct13 1610 by 305		
	Relative Percent Difference:		0.640	20.0	S35686				
Nitrate as N	172011-1	4 mg/l	97.3	80.0-120	C16169	30Oct13 1024 by 07	30Oct13 1258 by 07		
	172011-1	4 mg/l	99.1	80.0-120	C16169	30Oct13 1024 by 07	30Oct13 1325 by 07		
	Relative Percent Difference:		1.83	10.0	C16169				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45476-1	01Nov13 0940 by 93	04Nov13 1437 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45457-1	31Oct13 0823 by 285	05Nov13 1009 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45494-1	04Nov13 1036 by 285	04Nov13 1425 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35686-1	30Oct13 1625 by 311	31Oct13 1559 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16169-1	30Oct13 1024 by 07	30Oct13 1205 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4084-1		30Oct13 1346 by 21	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 17229
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	CBOD, TSS,NO3N	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	10/29/13-10/30/13 955-955		X	X		1	X			
2	010	10/30/13 955	X		X		1		X		
1	010	10/29/13-10/30/13 955-955		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

Field pH calibration on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/30/13 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Sugar Hampton	10-30-13 1340

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

November 5, 2013
Control No. 172072

El Dorado Chemical Company
ATTN: Ms. Larken Pennington
4500 North West Avenue
El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on October 31, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company
ATTN: Ms. Larken Pennington
lpennington@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. David Sartain
dsartain@edc-ark.com

El Dorado Chemical Company
ATTN: Mr. Kyle Wimsett
kwimsett@edc-ark.com

GBMc & Associates, Inc.
ATTN: Mr. Russell McLaren
rmclaren@gbmcassoc.com

GBMc & Associates, Inc.
ATTN: Ms. Amanda Gallagher
agallagher@gbmcassoc.com

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on October 31, 2013
Daily / Weekly - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
172072-1	010 10/30/13 955 10/31/13 955	31-Oct-2013 0955	
172072-2	010 10/31/13 955	31-Oct-2013 0955	

Case Narrative:
There were no qualifiers for this data and all samples met quality control criteria.

References:
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", 21st edition.
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

ANALYTICAL RESULTS

AIC No. 172072-1
Sample Identification: 010 10/30/13 955 10/31/13 955

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.4**	0.1	**mg/l**	
SM 4500-NH3 B,G 1997	Prep: 01-Nov-2013 0938 by 93	Analyzed: 04-Nov-2013 1620 by 302		Batch: W45476	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 31-Oct-2013 1548 by 285	Analyzed: 05-Nov-2013 1044 by 285		Batch: W45457	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 04-Nov-2013 1035 by 285	Analyzed: 04-Nov-2013 1425 by 285		Batch: W45494	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 31-Oct-2013 1647 by 271	Analyzed: 01-Nov-2013 1720 by 235		Batch: S35691	

AIC No. 172072-2
Sample Identification: 010 10/31/13 955

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**220**	10	**mg/l**	
SM 2540 C 1997	Prep: 31-Oct-2013 1614 by 302	Analyzed: 01-Nov-2013 1528 by 302		Batch: W45464	
Chloride		**20**	0.2	**mg/l**	
EPA 300.0	Prep: 31-Oct-2013 1534 by 07	Analyzed: 31-Oct-2013 1644 by 07		Batch: C16171	
Sulfate		**31**	0.2	**mg/l**	
EPA 300.0	Prep: 31-Oct-2013 1534 by 07	Analyzed: 31-Oct-2013 1644 by 07		Batch: C16171	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 01-Nov-2013 0821 by 295	Analyzed: 01-Nov-2013 1622 by 295		Batch: B8629	
Fecal Coliform		**20**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 31-Oct-2013 1605 by 21		Batch: M4086	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Oil and Grease		172016-2	< 5 mg/l			01Nov13 0821 by 295	01Nov13 1622 by 295		
	Batch: B8629	Duplicate	< 5 mg/l	0.00	20.0	01Nov13 1454 by 295	01Nov13 1622 by 295		
Carbonaceous BOD 5-day		172015-1	< 2 mg/l			31Oct13 0822 by 285	05Nov13 1012 by 285		
	Batch: W45457	Duplicate	< 2 mg/l	0.00	20.0	31Oct13 0823 by 285	05Nov13 1014 by 285		
Total Dissolved Solids		172051-1	< 10 mg/l			31Oct13 1614 by 302	01Nov13 1528 by 302		
	Batch: W45464	Duplicate	< 10 mg/l	0.00	10.0	31Oct13 1616 by 302	01Nov13 1528 by 302		
Total Dissolved Solids		172065-2	890 mg/l			31Oct13 1614 by 302	01Nov13 1528 by 302		
	Batch: W45464	Duplicate	890 mg/l	0.112	10.0	31Oct13 1616 by 302	01Nov13 1528 by 302		
Total Suspended Solids		172027-1	6.4 mg/l			04Nov13 1035 by 285	04Nov13 1425 by 285		
	Batch: W45494	Duplicate	6.8 mg/l	6.06	20.0	04Nov13 1036 by 285	04Nov13 1425 by 285		
Total Suspended Solids		172028-1	< 4 mg/l			04Nov13 1035 by 285	04Nov13 1425 by 285		
	Batch: W45494	Duplicate	< 4 mg/l	0.00	20.0	04Nov13 1036 by 285	04Nov13 1425 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	1 mg/l	103	80.0-120			W45476	01Nov13 0940 by 93	04Nov13 1439 by 302		
Carbonaceous BOD 5-day	200 mg/l	102	84.5-115			W45457	31Oct13 0823 by 285	05Nov13 1010 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35691	31Oct13 1648 by 271	01Nov13 1606 by 235		
Chloride	20 mg/l	104	90.0-110			C16171	31Oct13 1121 by 07	31Oct13 1258 by 07		
Sulfate	20 mg/l	106	90.0-110			C16171	31Oct13 1121 by 07	31Oct13 1258 by 07		
Oil and Grease	40 mg/l	98.0	78.0-114			B8629	01Nov13 0821 by 295	01Nov13 1622 by 295		
	40 mg/l	98.0	78.0-114	0.00	20.0	B8629	01Nov13 0821 by 295	01Nov13 1622 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	172028-1	1 mg/l	91.1	80.0-120	W45476	01Nov13 0940 by 93	04Nov13 1442 by 302		
	172028-1	1 mg/l	99.5	80.0-120	W45476	01Nov13 0940 by 93	04Nov13 1444 by 302		
	Relative Percent Difference:		6.01	25.0	W45476				
Phosphorus	172073-1	5 mg/l	106	75.0-125	S35691	31Oct13 1648 by 271	01Nov13 1609 by 235		
	172073-1	5 mg/l	106	75.0-125	S35691	31Oct13 1648 by 271	01Nov13 1612 by 235		
	Relative Percent Difference:		0.719	20.0	S35691				
Chloride	172046-1	20 mg/l	102	80.0-120	C16171	31Oct13 1121 by 07	31Oct13 1325 by 07		
	172046-1	20 mg/l	104	80.0-120	C16171	31Oct13 1121 by 07	31Oct13 1352 by 07		
	Relative Percent Difference:		0.948	10.0	C16171				
Sulfate	172046-1	20 mg/l	111	80.0-120	C16171	31Oct13 1121 by 07	31Oct13 1325 by 07		
	172046-1	20 mg/l	106	80.0-120	C16171	31Oct13 1121 by 07	31Oct13 1352 by 07		
	Relative Percent Difference:		2.49	10.0	C16171				

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Dissolved Solids	< 10 mg/l	10	10	W45464-1	31Oct13 1616 by 302	01Nov13 1528 by 302	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45476-1	01Nov13 0940 by 93	04Nov13 1437 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45457-1	31Oct13 0823 by 285	05Nov13 1009 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45494-1	04Nov13 1036 by 285	04Nov13 1425 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35691-1	31Oct13 1648 by 271	01Nov13 1603 by 235	
Chloride	< 0.2 mg/l	0.2	0.2	C16171-1	31Oct13 1121 by 07	31Oct13 1418 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16171-1	31Oct13 1121 by 07	31Oct13 1418 by 07	
Oil and Grease	< 2 mg/l	2	5	B8629-1	01Nov13 0821 by 295	01Nov13 1622 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4086-1		31Oct13 1427 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 172072
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	10/30/13-10/31/13 955-955		X	X			1	X			
2	010	10/31/13 955	X		X			1		X		
1	010	10/30/13-10/31/13 955-955		X	X			1			X	
		Container Type							P	P	P	Field pH calibration
		Preservative							NO	T	S	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/31/13 10:00		
Relinquished By:	**Date/Time**	**Received in Lab By:**	**Date/Time**

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Weekly - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: Larken Pennington

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 172072
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	Remarks
2	010	10/31/13 955	X		X			1	X		
2	010	10/31/13 955	X		X			1		X	
		Container Type							P	P	Field pH calibration
		Preservative							S	NO	on _____ @ _____ Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions:
Phone 870-312-1752 Fax:
Report Attention to: Ms. Larken Pennington
Report Address to: Post Office Box 231
El Dorado, AR 71731
Lpennington@edc-ark.com

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	10/31/13 12:00		
Relinquished By:	**Date/Time**	**Received in Lab By:**	**Date/Time**
		Lynn Hopton	10-31-13 1330

Comments:

FORM 0060

From: (870) 863-1125 Origin ID: ELDA
Larken Pennington
EL DORADO CHEMICAL COMPANY
4500 Northwest Ave.

El Dorado, AR 71730

J13201306280326

Ship Date: 20NOV13
ActWgt: 1.0 LB
CAD: 5887030/INET3430

Delivery Address Bar Code

Ref #
Invoice #
PO #
Dept #

SHIP TO: (870) 863-1484 BILL SENDER
ADEQ - Water Division Enforcement
ADEQ - Water Division Enforcement
5301 NORTHSHORE DR

NORTH LITTLE ROCK, AR 72118

THU - 21 NOV 10:30A
PRIORITY OVERNIGHT

TRK# 7972 1105 7313
0201

X2 LITA

72118
AR-US
LIT

51AG1/D5E6/1A9E

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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