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

EL DORADO
CHEMICAL COMPANY

February 20, 2014

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 January 31, 2014.

Enclosed you will find the Discharge Monitoring Reports ending January 31, 2014. 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: Jan-14

Type of Violation	Permit Limit	Date of Violation	Cause of Violation	Corrective Action or Other Narrative
Outfall 010 / Zinc Monthly Average Loading (20.9 lb/day)	7.35 lb/day Monthly Average	1/8/14, 1/15/14	Unknown	Special sampling has taken place, and EDCC continues to monitor and evaluate potential sources of the Zinc excursions. We believe the potential source is a new construction area near the sampling point. More investigation of the issue is taking place.
Outfall 010 / Zinc Daily Max Loading (22.2 lb/day)	14.75 lb/day Daily Max	1/8/14, 1/15/14	Unknown	Special sampling has taken place, and EDCC continues to monitor and evaluate potential sources of the Zinc excursions. We believe the potential source is a new construction area near the sampling point. More investigation of the issue is taking place.
Outfall 003 / NH3-N Monthly Average Loading (2.4 lb/day)	1.4 lb/day Monthly Average	1/15/14, 1/23/14, 1/27/14, 1/28/14	Routine bacteria charged did not reach the system.	Bacteria normally added in to two main point sources could not flow to the main system due to collapsed lines. After determining the Ammonia results had increased, the investigation determined the bacterial would be added downstream of the collapsed lines. The lines were repaired.
Outfall 003 / NH3-N Daily Max Loading (3.1 lb/day)	2.1 lb/day Daily Max	1/23/14, 1/27/14, 1/28/14	Routine bacteria charged did not reach the system.	Bacteria normally added in to two main point sources could not flow to the main system due to collapsed lines. After determining the Ammonia results had increased, the investigation determined the bacterial would be added downstream of the collapsed lines. The lines were repaired.
Outfall 006 / Zinc Monthly Average (443 ug/L)	115.62 ug/L Monthly Average	1/9/2014	Unknown	EDCC continues to monitor and evaluate potential sources of the Zinc excursion.
Outfall 006 / Zinc Daily Max (443 ug/L)	231.99 ug/L Daily Max	1/9/2014	Unknown	EDCC continues to monitor and evaluate potential sources of the Zinc excursion.
Outfall 006 / Lead Monthly Average (155 ug/L)	3.8 ug/L Monthly Average	1/9/2014	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 006 / Lead Daily Max (155 ug/L)	7.62 ug/L Daily Max	1/9/2014	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 006 / TDS Monthly Average (650 mg/L)	291 mg/L Monthly Average	1/9/2014	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 (650 mg/L)	436.5 mg/L Daily Max	1/9/2014	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 (271 ug/L)	115.62 ug/L Monthly Average	1/9/2014	Unknown	EDCC continues to monitor and evaluate potential sources of the Zinc excursion.
Outfall 007 / Zinc Daily Max (271 ug/L)	231.99 ug/L Daily Max	1/9/2014	Unknown	EDCC continues to monitor and evaluate potential sources of the Zinc excursion.
Outfall 007 / Lead Monthly Average (5.26 ug/L)	3.8 ug/L Monthly Average	1/9/2014	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 007 / TDS Monthly Average (550 mg/L)	291 mg/L Monthly Average	1/9/2014	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 (550 mg/L)	436.5 mg/L Daily Max	1/9/2014	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.)

Greg Withrow 2/10/14

Signature / Date

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 January 1, 2014. 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 January 1, 2014
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
174021-1	010 01-01-14 0930	01-Jan-2014 0930	
174021-2	010 01-01-14 0930	01-Jan-2014 0930	

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. 174021-1
Sample Identification: 010 01-01-14 0930

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**13**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 02-Jan-2014 1051 by 93	Analyzed: 02-Jan-2014 1656 by 302		Batch: W46160	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 02-Jan-2014 1145 by 285	Analyzed: 07-Jan-2014 0847 by 285		Batch: W46153	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 03-Jan-2014 1045 by 308	Analyzed: 03-Jan-2014 1623 by 308		Batch: W46174	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 02-Jan-2014 0944 by 271	Analyzed: 02-Jan-2014 1651 by 305		Batch: S36036	
Nitrate as N		**23**	0.5	**mg/l**	D
EPA 300.0	Prep: 02-Jan-2014 0937 by 07	Analyzed: 02-Jan-2014 1249 by 07		Batch: C16342	Dil: 10

AIC No. 174021-2
Sample Identification: 010 01-01-14 0930

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**2.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 01-Jan-2014 1320 by 295		Batch: M4201	

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		174009-1	< 2 mg/l			02Jan14 0751 by 302	07Jan14 0825 by 285		
	Batch: W46153	Duplicate	< 2 mg/l	0.00	20.0	02Jan14 0751 by 285	07Jan14 0826 by 285		
Total Suspended Solids		174010-1	6.0 mg/l			03Jan14 1045 by 308	03Jan14 1623 by 308		
	Batch: W46174	Duplicate	5.2 mg/l	14.3	20.0	03Jan14 1046 by 308	03Jan14 1623 by 308		
Total Suspended Solids		174011-1	< 4 mg/l			03Jan14 1045 by 308	03Jan14 1623 by 308		
	Batch: W46174	Duplicate	< 4 mg/l	0.00	20.0	03Jan14 1046 by 308	03Jan14 1623 by 308		

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	96.1	80.0-120			W46160	02Jan14 0908 by 93	02Jan14 1531 by 302		
Carbonaceous BOD 5-day	200 mg/l	95.3	84.5-115			W46153	02Jan14 0751 by 285	07Jan14 0953 by 285		
Phosphorus	5 mg/l	106	85.0-115			S36036	02Jan14 0854 by 271	02Jan14 1543 by 305		
Nitrate as N	4 mg/l	97.0	90.0-110			C16342	02Jan14 0938 by 07	02Jan14 1129 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174012-1	1 mg/l	93.7	80.0-120	W46160	02Jan14 0908 by 93	02Jan14 1624 by 302	5	D
	174012-1	1 mg/l	91.5	80.0-120	W46160	02Jan14 0908 by 93	02Jan14 1626 by 302	5	D
	Relative Percent Difference:		1.09	25.0	W46160				D
Phosphorus	174009-1	5 mg/l	109	75.0-125	S36036	02Jan14 0854 by 271	02Jan14 1547 by 305		
	174009-1	5 mg/l	109	75.0-125	S36036	02Jan14 0854 by 271	02Jan14 1550 by 305		
	Relative Percent Difference:		0.151	20.0	S36036				
Nitrate as N	174021-1	4 mg/l	98.3	80.0-120	C16342	02Jan14 0938 by 07	02Jan14 1156 by 07		
	174021-1	4 mg/l	94.7	80.0-120	C16342	02Jan14 0938 by 07	02Jan14 1222 by 07		
	Relative Percent Difference:		2.37	10.0	C16342				

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	W46160-1	02Jan14 0908 by 93	02Jan14 1529 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46153-1	02Jan14 0751 by 285	07Jan14 0822 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46174-1	03Jan14 1046 by 308	03Jan14 1623 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36036-1	02Jan14 0854 by 271	02Jan14 1540 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16342-1	02Jan14 0938 by 07	02Jan14 1102 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4201-1		01Jan14 1320 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: D. SARTAIN

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS, NO3	Coli. F	NH3N, Total Phosphoru										
(1)	010	01-01-14 0930		X	X			1	X												
(2)	010	01-01-14 0930	X		X			1		X											
(1)	010	01-01-14 0930		X	X			1			X										
		Container Type							P	P	P										
		Preservative							NO	T	S										

ANALYSES REQUESTED

AIC CONTROL NO: 174021
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: -1.3°
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
	01-01-14 0915		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1-1-14 (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 January 2, 2014. 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.

Steve Bradford
Deputy Laboratory Director

This document has been distributed to the following:

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ATTN: Ms. Larken Pennington
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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 January 2, 2014
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
174048-1	Outfall 010 1/1/14 945 1/2/14 945	02-Jan-2014 0945	
174048-2	Outfall 010 1/2/14 945	02-Jan-2014 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. 174048-1
Sample Identification: Outfall 010 1/1/14 945 1/2/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**12**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 02-Jan-2014 1455 by 93	Analyzed: 02-Jan-2014 1827 by 93		Batch: W46160	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 03-Jan-2014 1040 by 285	Analyzed: 08-Jan-2014 0929 by 285		Batch: W46173	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 07-Jan-2014 0819 by 285	Analyzed: 08-Jan-2014 1306 by 285		Batch: W46196	
Phosphorus		**0.093**	0.02	**mg/l**	
EPA 200.7	Prep: 02-Jan-2014 1627 by 271	Analyzed: 03-Jan-2014 1123 by 305		Batch: S36043	

AIC No. 174048-2
Sample Identification: Outfall 010 1/2/14 945

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**260**	10	**mg/l**	
SM 2540 C 1997	Prep: 03-Jan-2014 1129 by 285	Analyzed: 06-Jan-2014 1559 by 285		Batch: W46177	
Chloride		**16**	0.2	**mg/l**	
EPA 300.0	Prep: 02-Jan-2014 1455 by 07	Analyzed: 02-Jan-2014 1534 by 07		Batch: C16342	
Sulfate		**23**	0.2	**mg/l**	
EPA 300.0	Prep: 02-Jan-2014 1455 by 07	Analyzed: 02-Jan-2014 1534 by 07		Batch: C16342	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 03-Jan-2014 1030 by 295	Analyzed: 03-Jan-2014 1652 by 295		Batch: B8728	
Fecal Coliform		**2.0**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 02-Jan-2014 1518 by 21		Batch: M4204	

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		174034-1	< 2 mg/l			03Jan14 1040 by 285	08Jan14 0925 by 285		
	Batch: W46173	Duplicate	< 2 mg/l	0.00	20.0	03Jan14 1041 by 285	08Jan14 0927 by 285		
Total Dissolved Solids		174009-2	320 mg/l			03Jan14 1129 by 285	06Jan14 1559 by 285		
	Batch: W46177	Duplicate	300 mg/l	3.54	10.0	03Jan14 1129 by 285	06Jan14 1559 by 285		
Total Dissolved Solids		174010-2	360 mg/l			03Jan14 1129 by 285	06Jan14 1559 by 285		
	Batch: W46177	Duplicate	370 mg/l	2.17	10.0	03Jan14 1129 by 285	06Jan14 1559 by 285		
Total Suspended Solids		174032-1	< 4 mg/l			07Jan14 0819 by 285	08Jan14 1306 by 285		
	Batch: W46196	Duplicate	< 4 mg/l	0.00	20.0	07Jan14 0819 by 285	08Jan14 1306 by 285		
Total Suspended Solids		174057-7	2900 mg/l			07Jan14 0819 by 285	08Jan14 1306 by 285		
	Batch: W46196	Duplicate	2800 mg/l	3.53	20.0	07Jan14 0819 by 285	08Jan14 1306 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	96.1	80.0-120			W46160	02Jan14 0908 by 93	02Jan14 1531 by 302		
Carbonaceous BOD 5-day	200 mg/l	96.7	84.5-115			W46173	03Jan14 1041 by 285	08Jan14 1043 by 285		
Phosphorus	5 mg/l	106	85.0-115			S36043	02Jan14 1627 by 271	03Jan14 1109 by 305		
Chloride	20 mg/l	104	90.0-110			C16342	02Jan14 0938 by 07	02Jan14 1129 by 07		
Sulfate	20 mg/l	105	90.0-110			C16342	02Jan14 0938 by 07	02Jan14 1129 by 07		
Oil and Grease	40 mg/l	107	78.0-114			B8728	03Jan14 1030 by 295	03Jan14 1652 by 295		
	40 mg/l	97.5	78.0-114	9.29	20.0	B8728	03Jan14 1030 by 295	03Jan14 1652 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174012-1	1 mg/l	93.7	80.0-120	W46160	02Jan14 0908 by 93	02Jan14 1624 by 302	5	D
	174012-1	1 mg/l	91.5	80.0-120	W46160	02Jan14 0908 by 93	02Jan14 1626 by 302	5	D
	Relative Percent Difference:		1.09	25.0	W46160				D
Phosphorus	174050-2	5 mg/l	104	75.0-125	S36043	02Jan14 1627 by 271	03Jan14 1112 by 305		
	174050-2	5 mg/l	105	75.0-125	S36043	02Jan14 1627 by 271	03Jan14 1115 by 305		
	Relative Percent Difference:		0.714	20.0	S36043				
Chloride	174021-1	20 mg/l	102	80.0-120	C16342	02Jan14 0938 by 07	02Jan14 1156 by 07		
	174021-1	20 mg/l	98.4	80.0-120	C16342	02Jan14 0938 by 07	02Jan14 1222 by 07		
	Relative Percent Difference:		2.87	10.0	C16342				
Sulfate	174021-1	20 mg/l	102	80.0-120	C16342	02Jan14 0938 by 07	02Jan14 1156 by 07		
	174021-1	20 mg/l	100	80.0-120	C16342	02Jan14 0938 by 07	02Jan14 1222 by 07		
	Relative Percent Difference:		1.93	10.0	C16342				

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	W46177-1	03Jan14 1129 by 285	06Jan14 1559 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46160-1	02Jan14 0908 by 93	02Jan14 1529 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46173-1	03Jan14 1041 by 285	08Jan14 0912 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46196-1	07Jan14 0819 by 285	08Jan14 1306 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36043-1	02Jan14 1627 by 271	03Jan14 1107 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16342-1	02Jan14 0938 by 07	02Jan14 1102 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16342-1	02Jan14 0938 by 07	02Jan14 1102 by 07	
Oil and Grease	< 2 mg/l	2	5	B8728-1	03Jan14 1030 by 295	03Jan14 1652 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4204-1		02Jan14 1518 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 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	1/1/14-1/2/14 945-945		X	X		1	X			EO AS outfall 010
(2)	010	1/2/14 945	X		X		1		X		
(1)	010	1/1/14-1/2/14 945-945		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

ANALYSES REQUESTED

AIC CONTROL NO: 174048
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.3°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	1/2/14 1000		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	1/2/14 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: 174640
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	1/2/14 945	X		X		1	X		TO DS Outfall 010
(2)	010	1/2/14 945	X		X		1		X	L L L
		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	1/2/14 1000		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jeremy Day	1/2/14 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 January 3, 2014. 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.

Steve Bradford
Deputy 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 January 3, 2014
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
174095-1	010 1/2/14-1/3/14 945-945	03-Jan-2014 0945	
174095-2	010 1/3/14 945	03-Jan-2014 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. 174095-1
Sample Identification: 010 1/2/14-1/3/14 945-945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**13**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 06-Jan-2014 0948 by 93	Analyzed: 06-Jan-2014 1522 by 93		Batch: W46189	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 03-Jan-2014 1501 by 285	Analyzed: 08-Jan-2014 1000 by 285		Batch: W46173	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 07-Jan-2014 1009 by 285	Analyzed: 08-Jan-2014 1313 by 285		Batch: W46199	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 03-Jan-2014 1459 by 305	Analyzed: 03-Jan-2014 1714 by 305		Batch: S36049	
Nitrate as N		**24**	0.5	**mg/l**	D
EPA 300.0	Prep: 03-Jan-2014 1420 by 07	Analyzed: 03-Jan-2014 2011 by 07		Batch: C16345	Dil: 10

AIC No. 174095-2
Sample Identification: 010 1/3/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**2.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 03-Jan-2014 1438 by 295		Batch: M4210	

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		174034-1	< 2 mg/l			03Jan14 1040 by 285	08Jan14 0925 by 285		
	Batch: W46173	Duplicate	< 2 mg/l	0.00	20.0	03Jan14 1041 by 285	08Jan14 0927 by 285		
Total Suspended Solids		174065-4	500 mg/l			07Jan14 1009 by 285	08Jan14 1313 by 285		
	Batch: W46199	Duplicate	500 mg/l	0.00	20.0	07Jan14 1009 by 285	08Jan14 1313 by 285		
Total Suspended Solids		174065-5	4200 mg/l			07Jan14 1009 by 285	08Jan14 1313 by 285		
	Batch: W46199	Duplicate	4200 mg/l	1.20	20.0	07Jan14 1009 by 285	08Jan14 1313 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			W46189	06Jan14 0948 by 93	06Jan14 1354 by 93		
Carbonaceous BOD 5-day	200 mg/l	96.7	84.5-115			W46173	03Jan14 1041 by 285	08Jan14 1043 by 285		
Phosphorus	5 mg/l	107	85.0-115			S36049	03Jan14 1254 by 305	03Jan14 1623 by 305		
Nitrate as N	4 mg/l	97.8	90.0-110			C16345	03Jan14 0852 by 07	03Jan14 1044 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174099-1	1 mg/l	100	80.0-120	W46189	06Jan14 0948 by 93	06Jan14 1449 by 93	5	D
	174099-1	1 mg/l	102	80.0-120	W46189	06Jan14 0948 by 93	06Jan14 1450 by 93	5	D
	Relative Percent Difference:		1.10	25.0	W46189				D
Phosphorus	174086-2	5 mg/l	105	75.0-125	S36049	03Jan14 1254 by 305	03Jan14 1626 by 305		
	174086-2	5 mg/l	105	75.0-125	S36049	03Jan14 1254 by 305	03Jan14 1628 by 305		
	Relative Percent Difference:		0.00	20.0	S36049				
Nitrate as N	174067-1	4 mg/l	108	80.0-120	C16345	03Jan14 0852 by 07	03Jan14 1110 by 07		
	174067-1	4 mg/l	102	80.0-120	C16345	03Jan14 0852 by 07	03Jan14 1137 by 07		
	Relative Percent Difference:		5.30	10.0	C16345				

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	W46189-1	06Jan14 0948 by 93	06Jan14 1352 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46173-1	03Jan14 1041 by 285	08Jan14 0912 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46199-1	07Jan14 1009 by 285	08Jan14 1313 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36049-1	03Jan14 1254 by 305	03Jan14 1620 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16345-1	03Jan14 0852 by 07	03Jan14 1017 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4210-1		03Jan14 1439 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,NO3N	Coli. F	NH3N, Total Phosphoru										AIC CONTROL NO: 174095
																					AIC PROPOSAL NO:
																					Carrier: Gold Star
																					Received Temperature C 1.6
1	010	1/2/14-1/3/14 945-945		X	X			1	X												Remarks
2	010	1/3/14 945	X		X			1		X											
1	010	1/2/14-1/3/14 945-945		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	1/3/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	1.3-14 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 January 4, 2014. 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 January 4, 2014
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
174134-1	010 1-4-14 0930	04-Jan-2014 0930	
174134-2	010 1-4-14 0930	04-Jan-2014 0930	

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. 174134-1
Sample Identification: 010 1-4-14 0930

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**13**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 06-Jan-2014 0948 by 93	Analyzed: 06-Jan-2014 1524 by 93		Batch: W46189	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 04-Jan-2014 1430 by 271	Analyzed: 09-Jan-2014 1018 by 271		Batch: W46188	
Total Suspended Solids		**5.6**	4	**mg/l**	
USGS 3765	Prep: 08-Jan-2014 1457 by 308	Analyzed: 09-Jan-2014 1044 by 308		Batch: W46219	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 06-Jan-2014 1104 by 271	Analyzed: 06-Jan-2014 1613 by 305		Batch: S36053	

AIC No. 174134-2
Sample Identification: 010 1-4-14 0930

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**3.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 04-Jan-2014 1300 by 295		Batch: M4214	

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		174135-1	< 2 mg/l			04Jan14 1430 by 271	09Jan14 1012 by 271		
	Batch: W46188	Duplicate	< 2 mg/l	0.00	20.0	04Jan14 1430 by 271	09Jan14 1015 by 271		
Total Suspended Solids		174112-1	< 4 mg/l			08Jan14 1457 by 308	09Jan14 1044 by 308		
	Batch: W46219	Duplicate	< 4 mg/l	0.00	20.0	08Jan14 1457 by 308	09Jan14 1044 by 308		
Total Suspended Solids		174137-1	260 mg/l			08Jan14 1457 by 308	09Jan14 1044 by 308		
	Batch: W46219	Duplicate	260 mg/l	1.53	20.0	08Jan14 1457 by 308	09Jan14 1044 by 308		

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			W46189	06Jan14 0948 by 93	06Jan14 1354 by 93		
Carbonaceous BOD 5-day	200 mg/l	114	84.5-115			W46188	04Jan14 1430 by 271	09Jan14 1047 by 271		
Phosphorus	5 mg/l	106	85.0-115			S36053	06Jan14 1040 by 305	06Jan14 1538 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174099-1	1 mg/l	100	80.0-120	W46189	06Jan14 0948 by 93	06Jan14 1449 by 93	5	D
	174099-1	1 mg/l	102	80.0-120	W46189	06Jan14 0948 by 93	06Jan14 1450 by 93	5	D
	Relative Percent Difference:		1.10	25.0	W46189				D
Phosphorus	174103-1	5 mg/l	108	75.0-125	S36053	06Jan14 1040 by 305	06Jan14 1541 by 305		
	174103-1	5 mg/l	109	75.0-125	S36053	06Jan14 1040 by 305	06Jan14 1544 by 305		
	Relative Percent Difference:		0.0612	20.0	S36053				

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	W46189-1	06Jan14 0948 by 93	06Jan14 1352 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46188-1	04Jan14 1430 by 271	09Jan14 1010 by 271	
Total Suspended Solids	< 4 mg/l	4	4	W46219-1	08Jan14 1457 by 308	09Jan14 1044 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36053-1	06Jan14 1040 by 305	06Jan14 1536 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4214-1		04Jan14 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: D. 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	1-4-14 0930		X	X			1	X													
2	010	1-4-14 0930	X		X			1		X												
3	010	1-4-14 0930		X	X			1			X											
(EMT) 1-6-13																						
		Container Type							P	P	P											
		Preservative							NO	T	S											

ANALYSES REQUESTED

AIC CONTROL NO: 174134
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.8
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
D. Sartain	1-4-14 1000AM		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1-4-14 1245

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 January 5, 2014. 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 January 5, 2014
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
174142-1	010 01-05-14 0930	05-Jan-2014 0930	
174142-2	010 01-05-14 0930	05-Jan-2014 0930	

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. 174142-1
Sample Identification: 010 01-05-14 0930

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**13**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 06-Jan-2014 0948 by 93	Analyzed: 06-Jan-2014 1525 by 93		Batch: W46189	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 06-Jan-2014 1236 by 302	Analyzed: 11-Jan-2014 1020 by 302		Batch: W46191	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 08-Jan-2014 1457 by 308	Analyzed: 09-Jan-2014 1044 by 308		Batch: W46219	
Phosphorus		**0.098**	0.02	**mg/l**	
EPA 200.7	Prep: 06-Jan-2014 1104 by 271	Analyzed: 06-Jan-2014 1619 by 305		Batch: S36053	

AIC No. 174142-2
Sample Identification: 010 01-05-14 0930

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**4.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 05-Jan-2014 1230 by 295		Batch: M4215	

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		174139-1	< 2 mg/l			06Jan14 1236 by 302	11Jan14 1015 by 302		
	Batch: W46191	Duplicate	< 2 mg/l	0.00	20.0	06Jan14 1236 by 302	11Jan14 1016 by 302		
Total Suspended Solids		174112-1	< 4 mg/l			08Jan14 1457 by 308	09Jan14 1044 by 308		
	Batch: W46219	Duplicate	< 4 mg/l	0.00	20.0	08Jan14 1457 by 308	09Jan14 1044 by 308		
Total Suspended Solids		174137-1	260 mg/l			08Jan14 1457 by 308	09Jan14 1044 by 308		
	Batch: W46219	Duplicate	260 mg/l	1.53	20.0	08Jan14 1457 by 308	09Jan14 1044 by 308		

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			W46189	06Jan14 0948 by 93	06Jan14 1354 by 93		
Carbonaceous BOD 5-day	200 mg/l	84.6	84.5-115			W46191	06Jan14 1236 by 302	11Jan14 1013 by 302		
Phosphorus	5 mg/l	106	85.0-115			S36053	06Jan14 1040 by 305	06Jan14 1538 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174099-1	1 mg/l	100	80.0-120	W46189	06Jan14 0948 by 93	06Jan14 1449 by 93	5	D
	174099-1	1 mg/l	102	80.0-120	W46189	06Jan14 0948 by 93	06Jan14 1450 by 93	5	D
	Relative Percent Difference:		1.10	25.0	W46189				D
Phosphorus	174103-1	5 mg/l	108	75.0-125	S36053	06Jan14 1040 by 305	06Jan14 1541 by 305		
	174103-1	5 mg/l	109	75.0-125	S36053	06Jan14 1040 by 305	06Jan14 1544 by 305		
	Relative Percent Difference:		0.0612	20.0	S36053				

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	W46189-1	06Jan14 0948 by 93	06Jan14 1352 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46191-1	06Jan14 1236 by 302	11Jan14 1012 by 302	
Total Suspended Solids	< 4 mg/l	4	4	W46219-1	08Jan14 1457 by 308	09Jan14 1044 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36053-1	06Jan14 1040 by 305	06Jan14 1536 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4215-1		05Jan14 1230 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: D. SARTAIN

PO No.

AIC CONTROL NO: 17414
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: -1.8

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	01-05-14 0930		X	X		1	X			
2	010	01-05-14 0930	X		X		1		X		
1	010	01-05-14 0930		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]	01-05-14 1010 AM		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	1/5/14 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 January 6, 2014. 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 January 6, 2014
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
174163-1	010 1/5/14 945 1/6/14 945	06-Jan-2014 0945	
174163-2	010 1/6/14 945	06-Jan-2014 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. 174163-1
Sample Identification: 010 1/5/14 945 1/6/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 07-Jan-2014 0958 by 93	Analyzed: 08-Jan-2014 1325 by 93		Batch: W46198	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 06-Jan-2014 1404 by 302	Analyzed: 11-Jan-2014 1028 by 302		Batch: W46191	
Total Suspended Solids		**4.0**	4	**mg/l**	
USGS 3765	Prep: 08-Jan-2014 1623 by 308	Analyzed: 09-Jan-2014 1051 by 308		Batch: W46223	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 06-Jan-2014 1607 by 271	Analyzed: 07-Jan-2014 1356 by 305		Batch: S36053	
Nitrate as N		**25**	0.5	**mg/l**	D
EPA 300.0	Prep: 06-Jan-2014 1434 by 07	Analyzed: 06-Jan-2014 1438 by 07		Batch: C16350	Dil: 10

AIC No. 174163-2
Sample Identification: 010 1/6/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**9.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 06-Jan-2014 1515 by 295		Batch: M4216	

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		174139-1	< 2 mg/l			06Jan14 1236 by 302	11Jan14 1015 by 302		
	Batch: W46191	Duplicate	< 2 mg/l	0.00	20.0	06Jan14 1236 by 302	11Jan14 1016 by 302		
Total Suspended Solids		174164-1	< 4 mg/l			08Jan14 1623 by 308	09Jan14 1051 by 308		
	Batch: W46223	Duplicate	< 4 mg/l	0.00	20.0	08Jan14 1623 by 308	09Jan14 1051 by 308		
Total Suspended Solids		174165-1	12 mg/l			08Jan14 1623 by 308	09Jan14 1051 by 308		
	Batch: W46223	Duplicate	10 mg/l	14.3	20.0	08Jan14 1623 by 308	09Jan14 1051 by 308		

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	97.6	80.0-120			W46198	07Jan14 0959 by 93	08Jan14 1226 by 93		
Carbonaceous BOD 5-day	200 mg/l	84.6	84.5-115			W46191	06Jan14 1236 by 302	11Jan14 1013 by 302		
Phosphorus	5 mg/l	106	85.0-115			S36053	06Jan14 1040 by 305	06Jan14 1538 by 305		
Nitrate as N	4 mg/l	97.6	90.0-110			C16350	06Jan14 1029 by 07	06Jan14 1103 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174166-1	1 mg/l	99.0	80.0-120	W46198	07Jan14 0959 by 93	08Jan14 1321 by 93	5	D
	174166-1	1 mg/l	101	80.0-120	W46198	07Jan14 0959 by 93	08Jan14 1323 by 93	5	D
	Relative Percent Difference:		0.603	25.0	W46198				D
Phosphorus	174103-1	5 mg/l	108	75.0-125	S36053	06Jan14 1040 by 305	06Jan14 1541 by 305		
	174103-1	5 mg/l	109	75.0-125	S36053	06Jan14 1040 by 305	06Jan14 1544 by 305		
	Relative Percent Difference:		0.0612	20.0	S36053				
Nitrate as N	174094-9	4 mg/l	99.5	80.0-120	C16350	06Jan14 1029 by 07	06Jan14 1130 by 07		
	174094-9	4 mg/l	101	80.0-120	C16350	06Jan14 1029 by 07	06Jan14 1157 by 07		
	Relative Percent Difference:		1.22	10.0	C16350				

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	W46198-1	07Jan14 0959 by 93	08Jan14 1225 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46191-1	06Jan14 1236 by 302	11Jan14 1012 by 302	
Total Suspended Solids	< 4 mg/l	4	4	W46223-1	08Jan14 1623 by 308	09Jan14 1051 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36053-1	06Jan14 1040 by 305	06Jan14 1536 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16350-1	06Jan14 1029 by 07	06Jan14 1036 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4216-1		06Jan14 1515 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: 174163
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1, 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS,NO3N	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	1/5/14-1/6/14 945-945		X	X		1	X			
~	010	1/6/14 945	X		X		1		X		
1	010	1/5/14-1/6/14 945-945		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	1/6/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time: 1-6-14 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 January 7, 2014. 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 January 7, 2014
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
174186-1	010 1/6/14 945 - 1/7/14 945	07-Jan-2014 0945	
174186-2	010 1/7/14 945	07-Jan-2014 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. 174186-1
Sample Identification: 010 1/6/14 945 - 1/7/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**13**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 07-Jan-2014 1453 by 93	Analyzed: 08-Jan-2014 1328 by 93		Batch: W46198	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 08-Jan-2014 1348 by 285	Analyzed: 13-Jan-2014 1049 by 285		Batch: W46217	
Total Suspended Solids		**6.8**	4	**mg/l**	
USGS 3765	Prep: 08-Jan-2014 1623 by 308	Analyzed: 09-Jan-2014 1051 by 308		Batch: W46223	
Phosphorus		**0.21**	0.02	**mg/l**	
EPA 200.7	Prep: 07-Jan-2014 1619 by 271	Analyzed: 08-Jan-2014 1338 by 305		Batch: S36060	

AIC No. 174186-2
Sample Identification: 010 1/7/14 945

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**260**	10	**mg/l**	
SM 2540 C 1997	Prep: 08-Jan-2014 1541 by 308	Analyzed: 09-Jan-2014 1610 by 308		Batch: W46222	
Chloride		**17**	0.2	**mg/l**	
EPA 300.0	Prep: 07-Jan-2014 1532 by 07	Analyzed: 07-Jan-2014 1756 by 07		Batch: C16355	
Sulfate		**23**	0.2	**mg/l**	
EPA 300.0	Prep: 07-Jan-2014 1532 by 07	Analyzed: 07-Jan-2014 1756 by 07		Batch: C16355	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 08-Jan-2014 0814 by 295	Analyzed: 08-Jan-2014 1004 by 295		Batch: B8732	
Fecal Coliform		**< 1**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 07-Jan-2014 1554 by 295		Batch: M4220	

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		174205-2	< 5 mg/l			08Jan14 1317 by 295	08Jan14 1511 by 295		
	Batch: B8732	Duplicate	< 5 mg/l	0.00	20.0	08Jan14 1317 by 295	08Jan14 1511 by 295		
Oil and Grease		174208-2	6.8 mg/l			08Jan14 1317 by 295	08Jan14 1511 by 295		
	Batch: B8732	Duplicate	6.0 mg/l	12.5	20.0	08Jan14 1317 by 295	08Jan14 1511 by 295		
Carbonaceous BOD 5-day		174186-1	< 2 mg/l			08Jan14 1348 by 285	13Jan14 1049 by 285		
	Batch: W46217	Duplicate	< 2 mg/l	0.00	20.0	08Jan14 1348 by 285	13Jan14 1050 by 285		
Total Dissolved Solids		174161-1	1400 mg/l			08Jan14 1541 by 308	09Jan14 1158 by 308		
	Batch: W46222	Duplicate	1500 mg/l	1.66	10.0	08Jan14 1542 by 308	09Jan14 1156 by 308		
Total Suspended Solids		174164-1	< 4 mg/l			08Jan14 1623 by 308	09Jan14 1051 by 308		
	Batch: W46223	Duplicate	< 4 mg/l	0.00	20.0	08Jan14 1623 by 308	09Jan14 1051 by 308		
Total Suspended Solids		174165-1	12 mg/l			08Jan14 1623 by 308	09Jan14 1051 by 308		
	Batch: W46223	Duplicate	10 mg/l	14.3	20.0	08Jan14 1623 by 308	09Jan14 1051 by 308		

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	97.6	80.0-120			W46198	07Jan14 0959 by 93	08Jan14 1226 by 93		
Carbonaceous BOD 5-day	200 mg/l	98.0	84.5-115			W46217	08Jan14 1348 by 285	13Jan14 1051 by 285		
Phosphorus	5 mg/l	106	85.0-115			S36060	07Jan14 1620 by 271	08Jan14 1325 by 305		
Chloride	20 mg/l	106	90.0-110			C16355	07Jan14 1533 by 07	07Jan14 1609 by 07		
Sulfate	20 mg/l	105	90.0-110			C16355	07Jan14 1533 by 07	07Jan14 1609 by 07		
Oil and Grease	40 mg/l	89.5	78.0-114			B8732	08Jan14 0814 by 295	08Jan14 1004 by 295		
	40 mg/l	92.5	78.0-114	3.30	20.0	B8732	08Jan14 0814 by 295	08Jan14 1004 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174166-1	1 mg/l	99.0	80.0-120	W46198	07Jan14 0959 by 93	08Jan14 1321 by 93	5	D
	174166-1	1 mg/l	101	80.0-120	W46198	07Jan14 0959 by 93	08Jan14 1323 by 93	5	D
	Relative Percent Difference:		0.603	25.0	W46198				D
Phosphorus	174191-2	5 mg/l	101	75.0-125	S36060	07Jan14 1620 by 271	08Jan14 1327 by 305		
	174191-2	5 mg/l	101	75.0-125	S36060	07Jan14 1620 by 271	08Jan14 1330 by 305		
	Relative Percent Difference:		0.211	20.0	S36060				
Chloride	174186-2	20 mg/l	103	80.0-120	C16355	07Jan14 1533 by 07	07Jan14 1636 by 07		
	174186-2	20 mg/l	104	80.0-120	C16355	07Jan14 1533 by 07	07Jan14 1702 by 07		
	Relative Percent Difference:		0.737	10.0	C16355				
Sulfate	174186-2	20 mg/l	105	80.0-120	C16355	07Jan14 1533 by 07	07Jan14 1636 by 07		
	174186-2	20 mg/l	105	80.0-120	C16355	07Jan14 1533 by 07	07Jan14 1702 by 07		
	Relative Percent Difference:		0.168	10.0	C16355				

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	W46222-1	08Jan14 1542 by 308	09Jan14 1156 by 308	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46198-1	07Jan14 0959 by 93	08Jan14 1225 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46217-1	08Jan14 1348 by 285	13Jan14 1046 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46223-1	08Jan14 1623 by 308	09Jan14 1051 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36060-1	07Jan14 1620 by 271	08Jan14 1322 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16355-1	07Jan14 1533 by 07	07Jan14 1542 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16355-1	07Jan14 1533 by 07	07Jan14 1542 by 07	
Oil and Grease	< 2 mg/l	2	5	B8732-1	08Jan14 0814 by 295	08Jan14 1004 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4220-1		07Jan14 1554 by 295	

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

174186

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									AIC CONTROL NO: 174167 GEH177
1	010	1/6/14-1/7/14 945-945		X	X			1	X											AIC PROPOSAL NO:
2	010	1/7/14 945	X		X			1		X										Carrier: Gold Star
1	010	1/6/14-1/7/14 945-945		X	X			1			X									Received Temperature C 0.6 C
																				Remarks
		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	1/7/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Tonya Hopkins	1-7-14 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

174186

PAGE 1 OF 1

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	ANALYSES REQUESTED: OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	~~NO3 (2 Week)~~ NO3 (2 / Week)											AIC CONTROL NO: 174187 EH 1/7
																						AIC PROPOSAL NO:
																						Carrier: Gold Star
																						Received Temperature C 0.6 C
3	010	1/7/14 945	X		X			1	X													Remarks
2	010	1/7/14 945	X		X			1		X												
	~~010~~			x	X			1			X											
		Container Type							P	P	P	P										Field pH calibration
		Preservative							S	NO	NO	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	1/7/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Tonya Hopton	1-7-14 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 January 8, 2014. 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.

Steve Bradford
Deputy 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 January 8, 2014
Daily / Monthly - Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in two (2) ice chests.
Ice chest #1 was delivered with a custody seal intact and signed
Ice chest #2 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
174211-1	010 1/7/14 9:45-1:50 - 1/8/14 4:50-9:45	08-Jan-2014 0945	
174211-2	010 1/8/14 9:45	08-Jan-2014 0945	

Qualifiers:
D Result is from a secondary dilution factor
X Spiking level is invalid due to the high concentration of analyte in the spiked sample

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. 174211-1
Sample Identification: 010 1/7/14 9:45-1:50 - 1/8/14 4:50-9:45

Analyte		Result	RL	Units	Qualifier
Chromium, Hexavalent		**< 0.007**	0.007	**mg/l**	
SM 3500-Cr B 2009	Prep: 09-Jan-2014 1334 by 308	Analyzed: 09-Jan-2014 1445 by 308		Batch: W46235	
Ammonia as N with Distillation		**13**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 09-Jan-2014 0839 by 302	Analyzed: 10-Jan-2014 1425 by 93		Batch: W46226	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 09-Jan-2014 1153 by 285	Analyzed: 14-Jan-2014 1040 by 285		Batch: W46232	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 10-Jan-2014 1004 by 285	Analyzed: 13-Jan-2014 1433 by 285		Batch: W46249	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 09-Jan-2014 1103 by 235	Analyzed: 09-Jan-2014 1628 by 305		Batch: S36065	
Mercury, low level		**0.011**	0.0050	**ug/l**	
EPA 245.7	Prep: 09-Jan-2014 0927 by 311	Analyzed: 09-Jan-2014 1218 by 311		Batch: S36066	
Nitrate as N		**28**	0.5	**mg/l**	D
EPA 300.0	Prep: 09-Jan-2014 1128 by 07	Analyzed: 09-Jan-2014 1411 by 07		Batch: C16362	Dil: 10
Total Recoverable Trivalent Chromium		**< 0.007**	0.007	**mg/l**	
Calculation	Prep: 09-Jan-2014 0934 by 235	Analyzed: 09-Jan-2014 1518 by 305		Batch: S36067	
Total Recoverable Cadmium		**0.00039**	0.0001	**mg/l**	
EPA 200.8	Prep: 09-Jan-2014 0931 by 235	Analyzed: 09-Jan-2014 1518 by 305		Batch: S36067	
Total Recoverable Copper		**0.0090**	0.001	**mg/l**	
EPA 200.8	Prep: 09-Jan-2014 0931 by 235	Analyzed: 09-Jan-2014 1518 by 305		Batch: S36067	
Total Recoverable Lead		**0.0050**	0.001	**mg/l**	
EPA 200.8	Prep: 09-Jan-2014 0931 by 235	Analyzed: 09-Jan-2014 1518 by 305		Batch: S36067	
Total Recoverable Nickel		**< 0.01**	0.01	**mg/l**	
EPA 200.8	Prep: 09-Jan-2014 0931 by 235	Analyzed: 09-Jan-2014 1518 by 305		Batch: S36067	
Total Recoverable Selenium		**< 0.002**	0.002	**mg/l**	
EPA 200.8	Prep: 09-Jan-2014 0931 by 235	Analyzed: 09-Jan-2014 1518 by 305		Batch: S36067	
Total Recoverable Silver		**< 0.0002**	0.0002	**mg/l**	
EPA 200.8	Prep: 09-Jan-2014 0931 by 235	Analyzed: 09-Jan-2014 1518 by 305		Batch: S36067	
Total Recoverable Zinc		**1.2**	0.02	**mg/l**	D
EPA 200.8	Prep: 09-Jan-2014 0931 by 235	Analyzed: 10-Jan-2014 1124 by 305		Batch: S36067	Dil: 10

AIC No. 174211-2
Sample Identification: 010 1/8/14 9:45

Analyte		Result	RL	Units	Qualifier
Total Cyanide		**< 0.01**	0.01	**mg/l**	
SM 4500-CN C,E 1999	Prep: 13-Jan-2014 0834 by 308	Analyzed: 16-Jan-2014 0936 by 302		Batch: W46263	
Fecal Coliform		**< 1**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 08-Jan-2014 1431 by 21		Batch: M4231	

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		174210-1	5.5 mg/l			09Jan14 1153 by 285	14Jan14 1037 by 285		
	Batch: W46232	Duplicate	5.9 mg/l	6.97	20.0	09Jan14 1153 by 285	14Jan14 1039 by 285		
Total Suspended Solids		174206-1	56 mg/l			10Jan14 1004 by 285	13Jan14 1433 by 285		
	Batch: W46249	Duplicate	55 mg/l	2.88	20.0	10Jan14 1004 by 285	13Jan14 1433 by 285		
Total Suspended Solids		174207-1	160 mg/l			10Jan14 1004 by 285	13Jan14 1433 by 285		
	Batch: W46249	Duplicate	160 mg/l	2.48	20.0	10Jan14 1004 by 285	13Jan14 1433 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Chromium, Hexavalent	0.05 mg/l	106	80.0-120			W46235	09Jan14 1334 by 308	09Jan14 1445 by 308		
Total Cyanide	0.1 mg/l	92.7	85.0-115			W46263	13Jan14 0834 by 308	16Jan14 0934 by 302		
Ammonia as N with Distillation	1 mg/l	95.4	80.0-120			W46226	09Jan14 1154 by 93	10Jan14 1226 by 93		
Carbonaceous BOD 5-day	200 mg/l	110	84.5-115			W46232	09Jan14 1153 by 285	14Jan14 1049 by 285		
Phosphorus	5 mg/l	105	85.0-115			S36065	09Jan14 0906 by 235	09Jan14 1443 by 305		
Mercury, low level	0.01 ug/l	89.4	76.0-113			S36066	09Jan14 0927 by 311	09Jan14 1158 by 311		
Nitrate as N	4 mg/l	102	90.0-110			C16362	09Jan14 1019 by 07	09Jan14 1054 by 07		
Total Recoverable Cadmium	0.05 mg/l	101	85.0-115			S36067	09Jan14 0931 by 235	09Jan14 1502 by 305		
Total Recoverable Copper	0.05 mg/l	103	85.0-115			S36067	09Jan14 0931 by 235	09Jan14 1502 by 305		
Total Recoverable Lead	0.05 mg/l	98.5	85.0-115			S36067	09Jan14 0931 by 235	09Jan14 1502 by 305		
Total Recoverable Nickel	0.05 mg/l	99.7	85.0-115			S36067	09Jan14 0931 by 235	09Jan14 1502 by 305		
Total Recoverable Selenium	0.05 mg/l	101	85.0-115			S36067	09Jan14 0931 by 235	09Jan14 1502 by 305		
Total Recoverable Silver	0.02 mg/l	104	85.0-115			S36067	09Jan14 0931 by 235	09Jan14 1502 by 305		
Total Recoverable Zinc	0.05 mg/l	104	85.0-115			S36067	09Jan14 0931 by 235	09Jan14 1502 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	174211-1	0.05 mg/l	110	76.5-146	W46235	09Jan14 1334 by 308	09Jan14 1445 by 308		
	174211-1	0.05 mg/l	110	76.5-146	W46235	09Jan14 1334 by 308	09Jan14 1445 by 308		
	Relative Percent Difference:		0.00	25.0	W46235				
Total Cyanide	174211-2	0.1 mg/l	86.8	75.0-125	W46263	13Jan14 0834 by 308	16Jan14 0938 by 302		
	174211-2	0.1 mg/l	91.3	75.0-125	W46263	13Jan14 0834 by 308	16Jan14 0940 by 302		
	Relative Percent Difference:		4.71	20.0	W46263				
Ammonia as N with Distillation	174210-1	1 mg/l	-	80.0-120	W46226	09Jan14 1154 by 93	10Jan14 1337 by 93	5	X
	174210-1	1 mg/l	-	80.0-120	W46226	09Jan14 1154 by 93	10Jan14 1339 by 93	5	X
	Relative Percent Difference:		1.49	25.0	W46226				D
Phosphorus	174233-2	5 mg/l	108	75.0-125	S36065	09Jan14 0906 by 235	09Jan14 1447 by 305		
	174233-2	5 mg/l	108	75.0-125	S36065	09Jan14 0906 by 235	09Jan14 1450 by 305		
	Relative Percent Difference:		0.228	20.0	S36065				
Mercury, low level	174200-1	0.01 ug/l	101	63.0-111	S36066	09Jan14 0927 by 311	09Jan14 1203 by 311		
	174200-1	0.01 ug/l	103	63.0-111	S36066	09Jan14 0927 by 311	09Jan14 1208 by 311		
	Relative Percent Difference:		0.844	18.0	S36066				
Nitrate as N	174243-1	4 mg/l	104	80.0-120	C16362	09Jan14 1019 by 07	09Jan14 1121 by 07		
	174243-1	4 mg/l	105	80.0-120	C16362	09Jan14 1019 by 07	09Jan14 1148 by 07		
	Relative Percent Difference:		0.617	10.0	C16362				
Total Recoverable Cadmium	174211-1	0.05 mg/l	97.1	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1507 by 305		
	174211-1	0.05 mg/l	96.7	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1513 by 305		
	Relative Percent Difference:		0.444	20.0	S36067				
Total Recoverable Copper	174211-1	0.05 mg/l	97.4	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1507 by 305		
	174211-1	0.05 mg/l	97.4	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1513 by 305		
	Relative Percent Difference:		0.0390	20.0	S36067				
Total Recoverable Lead	174211-1	0.05 mg/l	96.7	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1507 by 305		
	174211-1	0.05 mg/l	96.5	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1513 by 305		
	Relative Percent Difference:		0.199	20.0	S36067				
Total Recoverable Nickel	174211-1	0.05 mg/l	90.5	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1507 by 305		
	174211-1	0.05 mg/l	93.8	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1513 by 305		
	Relative Percent Difference:		3.49	20.0	S36067				
Total Recoverable Selenium	174211-1	0.05 mg/l	94.6	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1507 by 305		
	174211-1	0.05 mg/l	94.8	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1513 by 305		
	Relative Percent Difference:		0.227	20.0	S36067				
Total Recoverable Silver	174211-1	0.02 mg/l	105	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1507 by 305		
	174211-1	0.02 mg/l	105	75.0-125	S36067	09Jan14 0931 by 235	09Jan14 1513 by 305		
	Relative Percent Difference:		0.380	20.0	S36067				
Total Recoverable Zinc	174211-1	0.05 mg/l	76.2	75.0-125	S36067	09Jan14 0931 by 235	10Jan14 1113 by 305	10	D
	174211-1	0.05 mg/l	75.6	75.0-125	S36067	09Jan14 0931 by 235	10Jan14 1119 by 305	10	D
	Relative Percent Difference:		0.104	20.0	S36067				D

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	W46235-1	09Jan14 1334 by 308	09Jan14 1445 by 308	
Total Cyanide	< 0.01 mg/l	0.01	0.01	W46263-1	13Jan14 0834 by 308	16Jan14 0932 by 302	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46226-5	09Jan14 1154 by 93	10Jan14 1224 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46232-1	09Jan14 1153 by 285	14Jan14 1035 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46249-1	10Jan14 1004 by 285	13Jan14 1433 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36065-1	09Jan14 0906 by 235	09Jan14 1440 by 305	
Mercury, low level	< 0.0018 ug/l	0.0018	0.0050	S36066-1	09Jan14 0927 by 311	09Jan14 1148 by 311	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16362-1	09Jan14 1019 by 07	09Jan14 1028 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4231-1		08Jan14 1432 by 304	
Total Recoverable Cadmium	< 0.0001 mg/l	0.0001	0.0001	S36067-1	09Jan14 0931 by 235	09Jan14 1457 by 305	
Total Recoverable Copper	< 0.0005 mg/l	0.0005	0.0005	S36067-1	09Jan14 0931 by 235	09Jan14 1457 by 305	
Total Recoverable Lead	< 0.0005 mg/l	0.0005	0.0005	S36067-1	09Jan14 0931 by 235	09Jan14 1457 by 305	
Total Recoverable Nickel	< 0.01 mg/l	0.01	0.01	S36067-1	09Jan14 0931 by 235	09Jan14 1457 by 305	
Total Recoverable Selenium	< 0.002 mg/l	0.002	0.002	S36067-1	09Jan14 0931 by 235	09Jan14 1457 by 305	
Total Recoverable Silver	< 0.0002 mg/l	0.0002	0.0002	S36067-1	09Jan14 0931 by 235	09Jan14 1457 by 305	
Total Recoverable Zinc	< 0.002 mg/l	0.002	0.002	S36067-1	09Jan14 0931 by 235	09Jan14 1457 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

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS,NO3N	Coli. F	NH3N, Total Phosphoru
1	010	1/7/14-1/8/14 9:45-1:50, 4:50-9:45		X	X			1	X		
2	010	1/8/14 945	X		X			1		X	
1	010	1/7/14 - 1/8/14 945-1:50, 4:50-945		X	X			1			X
		Container Type							P	P	P
		Preservative							NO	T	S

AIC CONTROL NO: 174211
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.2 / 1.3
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	1/8/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Logan Hopkins	1-8-14 1315

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									AIC CONTROL NO: 174211 / AIC PROPOSAL NO: / Carrier: Gold Star / Received Temperature C 2.2 / 1.3 / Remarks
1	010	1/7/14-1/8/14 945-1:50, 4:50-945		X	X		1	X												
1	010	1/7/14-1/8/14 945-1:50, 4:50-945		X	X		1		X											
2	010	1/8/14 945	X		X		1			X										
1	010	1/7/14-1/8/14 945-1:50, 4:50-945		X	X		1				X									
		Container Type						G	P	P	P	P								Field pH calibration
		Preservative						NO	A	B	N	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 A=$(NH_4)_2SO_4$, NH_4OH

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	1/8/14 13:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Lisa Hopton	1-8-14 1315

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

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 January 9, 2014. 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 January 9, 2014
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
174271-1	Outfall 010 1/814 945 1/9/14 945	09-Jan-2014 0945	
174271-2	Outfall 010 1/9/14 945	09-Jan-2014 0945	

Qualifiers:
D Result is from a secondary dilution factor
X Spiking level is invalid due to the high concentration of analyte in the spiked sample

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. 174271-1
Sample Identification: Outfall 010 1/814 945 1/9/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**13**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 09-Jan-2014 1549 by 93	Analyzed: 10-Jan-2014 1426 by 93		Batch: W46226	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 09-Jan-2014 1426 by 285	Analyzed: 14-Jan-2014 1115 by 285		Batch: W46232	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 13-Jan-2014 1542 by 285	Analyzed: 14-Jan-2014 1311 by 285		Batch: W46271	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 09-Jan-2014 1423 by 235	Analyzed: 10-Jan-2014 1322 by 305		Batch: S36070	

AIC No. 174271-2
Sample Identification: Outfall 010 1/9/14 945

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**250**	10	**mg/l**	
SM 2540 C 1997	Prep: 10-Jan-2014 1540 by 302	Analyzed: 14-Jan-2014 0928 by 302		Batch: W46258	
Chloride		**19**	0.2	**mg/l**	
EPA 300.0	Prep: 09-Jan-2014 1434 by 07	Analyzed: 09-Jan-2014 1749 by 07		Batch: C16362	
Sulfate		**26**	0.2	**mg/l**	
EPA 300.0	Prep: 09-Jan-2014 1434 by 07	Analyzed: 09-Jan-2014 1749 by 07		Batch: C16362	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 10-Jan-2014 0905 by 295	Analyzed: 10-Jan-2014 1320 by 295		Batch: B8736	
Fecal Coliform		**< 1**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 09-Jan-2014 1451 by 295		Batch: M4236	

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		174210-1	5.5 mg/l			09Jan14 1153 by 285	14Jan14 1037 by 285		
	Batch: W46232	Duplicate	5.9 mg/l	6.97	20.0	09Jan14 1153 by 285	14Jan14 1039 by 285		
Total Dissolved Solids		174268-2	280 mg/l			10Jan14 1540 by 302	14Jan14 0928 by 302		
	Batch: W46258	Duplicate	280 mg/l	2.15	10.0	10Jan14 1540 by 302	14Jan14 0928 by 302		
Total Suspended Solids		174228-5	240 mg/l			13Jan14 1542 by 285	14Jan14 1311 by 285		
	Batch: W46271	Duplicate	240 mg/l	0.837	20.0	13Jan14 1543 by 285	14Jan14 1311 by 285		
Total Suspended Solids		174228-6	4400 mg/l			13Jan14 1542 by 285	14Jan14 1311 by 285		
	Batch: W46271	Duplicate	4300 mg/l	0.917	20.0	13Jan14 1543 by 285	14Jan14 1311 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	95.4	80.0-120			W46226	09Jan14 1154 by 93	10Jan14 1226 by 93		
Carbonaceous BOD 5-day	200 mg/l	110	84.5-115			W46232	09Jan14 1153 by 285	14Jan14 1049 by 285		
Phosphorus	5 mg/l	104	85.0-115			S36070	09Jan14 1119 by 235	10Jan14 1213 by 305		
Chloride	20 mg/l	108	90.0-110			C16362	09Jan14 1019 by 07	09Jan14 1054 by 07		
Sulfate	20 mg/l	105	90.0-110			C16362	09Jan14 1019 by 07	09Jan14 1054 by 07		
Oil and Grease	40 mg/l	95.0	78.0-114			B8736	10Jan14 0905 by 295	10Jan14 1320 by 295		
	40 mg/l	99.5	78.0-114	4.63	20.0	B8736	10Jan14 0905 by 295	10Jan14 1320 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174210-1	1 mg/l	-	80.0-120	W46226	09Jan14 1154 by 93	10Jan14 1337 by 93	5	X
	174210-1	1 mg/l	-	80.0-120	W46226	09Jan14 1154 by 93	10Jan14 1339 by 93	5	X
	Relative Percent Difference:		1.49	25.0	W46226				D
Phosphorus	174216-1	5 mg/l	102	75.0-125	S36070	09Jan14 1119 by 235	10Jan14 1217 by 305		
	174216-1	5 mg/l	104	75.0-125	S36070	09Jan14 1119 by 235	10Jan14 1222 by 305		
	Relative Percent Difference:		1.19	20.0	S36070				
Chloride	174243-1	20 mg/l	108	80.0-120	C16362	09Jan14 1019 by 07	09Jan14 1121 by 07		
	174243-1	20 mg/l	108	80.0-120	C16362	09Jan14 1019 by 07	09Jan14 1148 by 07		
	Relative Percent Difference:		0.112	10.0	C16362				
Sulfate	174243-1	20 mg/l	107	80.0-120	C16362	09Jan14 1019 by 07	09Jan14 1121 by 07		
	174243-1	20 mg/l	108	80.0-120	C16362	09Jan14 1019 by 07	09Jan14 1148 by 07		
	Relative Percent Difference:		0.871	10.0	C16362				

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	W46258-1	10Jan14 1540 by 302	14Jan14 0928 by 302	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46226-5	09Jan14 1154 by 93	10Jan14 1224 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46232-1	09Jan14 1153 by 285	14Jan14 1035 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46271-1	13Jan14 1543 by 285	14Jan14 1311 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36070-1	09Jan14 1119 by 235	10Jan14 1210 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16362-1	09Jan14 1019 by 07	09Jan14 1028 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16362-1	09Jan14 1019 by 07	09Jan14 1028 by 07	
Oil and Grease	< 2 mg/l	2	5	B8736-1	10Jan14 0905 by 295	10Jan14 1320 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4236-1		09Jan14 1451 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 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	1/8/14-1/9/14 945-945		X	X			1	X			
(2)	010	1/9/14 945	X		X			1		X		
(1)	010	1/8/14-1/9/14 945-945		X	X			1			X	
		Container Type							P	P	P	
		Preservative							NO	T	S	

AIC CONTROL NO: 174271
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9C
Remarks: 10 RS; Outfall 010
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	1/9/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	1/9/14 BLS

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	ANALYSES REQUESTED: OG (2 / Week)	ANALYSES REQUESTED: TDS,Cl,SO4 (2 / Week)	Remarks
(2)	010	1/9/14 945	X		X			1	X		ID as Outfall 010
(2)	010	1/9/14 945	X		X			1		X	
		Container Type							P	P	
		Preservative							S	NO	

AIC CONTROL NO: 174271
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9°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	1/9/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/9/14 1315

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 January 10, 2014. 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.

Steve Bradford
Deputy 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 January 10, 2014
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
174336-1	010 1/9/14 945 - 1/10/14 945	10-Jan-2014 0945	
174336-2	010 1/10/14 945	10-Jan-2014 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. 174336-1
Sample Identification: 010 1/9/14 945 - 1/10/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 13-Jan-2014 0913 by 93	Analyzed: 14-Jan-2014 1246 by 302		Batch: W46264	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 10-Jan-2014 1559 by 285	Analyzed: 15-Jan-2014 1131 by 285		Batch: W46246	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 14-Jan-2014 1318 by 285	Analyzed: 15-Jan-2014 1507 by 285		Batch: W46281	
Phosphorus		**0.089**	0.02	**mg/l**	
EPA 200.7	Prep: 13-Jan-2014 0913 by 271	Analyzed: 13-Jan-2014 1756 by 305		Batch: S36080	
Nitrate as N		**28**	0.5	**mg/l**	D
EPA 300.0	Prep: 10-Jan-2014 1447 by 07	Analyzed: 10-Jan-2014 1713 by 07		Batch: C16363	Dil: 10

AIC No. 174336-2
Sample Identification: 010 1/10/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**2.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 10-Jan-2014 1547 by 304		Batch: M4242	

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		174279-1	< 2 mg/l			10Jan14 0959 by 285	15Jan14 0949 by 285		
	Batch: W46246	Duplicate	< 2 mg/l	0.00	20.0	10Jan14 0959 by 285	15Jan14 0952 by 285		
Total Suspended Solids		174282-1	52 mg/l			14Jan14 1318 by 285	15Jan14 1507 by 285		
	Batch: W46281	Duplicate	50 mg/l	3.12	20.0	14Jan14 1318 by 285	15Jan14 1507 by 285		
Total Suspended Solids		174283-1	15 mg/l			14Jan14 1318 by 285	15Jan14 1507 by 285		
	Batch: W46281	Duplicate	15 mg/l	2.67	20.0	14Jan14 1318 by 285	15Jan14 1507 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	97.2	80.0-120			W46264	13Jan14 0915 by 93	14Jan14 1225 by 302		
Carbonaceous BOD 5-day	200 mg/l	104	84.5-115			W46246	10Jan14 0959 by 285	15Jan14 1140 by 285		
Phosphorus	5 mg/l	105	85.0-115			S36080	13Jan14 0913 by 271	13Jan14 1710 by 305		
Nitrate as N	4 mg/l	95.0	90.0-110			C16363	10Jan14 1028 by 07	10Jan14 1101 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174339-1	1 mg/l	100	80.0-120	W46264	13Jan14 0915 by 93	14Jan14 1228 by 302	5	D
	174339-1	1 mg/l	102	80.0-120	W46264	13Jan14 0915 by 93	14Jan14 1230 by 302	5	D
	Relative Percent Difference:		0.497	25.0	W46264				D
Phosphorus	174332-2	5 mg/l	106	75.0-125	S36080	13Jan14 0913 by 271	13Jan14 1713 by 305		
	174332-2	5 mg/l	106	75.0-125	S36080	13Jan14 0913 by 271	13Jan14 1716 by 305		
	Relative Percent Difference:		0.227	20.0	S36080				
Nitrate as N	174298-1	4 mg/l	95.1	80.0-120	C16363	10Jan14 1028 by 07	10Jan14 1128 by 07		
	174298-1	4 mg/l	97.0	80.0-120	C16363	10Jan14 1028 by 07	10Jan14 1155 by 07		
	Relative Percent Difference:		1.79	10.0	C16363				

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	W46264-1	13Jan14 0915 by 93	14Jan14 1223 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46246-1	10Jan14 0959 by 285	15Jan14 0945 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46281-1	14Jan14 1318 by 285	15Jan14 1507 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36080-1	13Jan14 0913 by 271	13Jan14 1708 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16363-1	10Jan14 1028 by 07	10Jan14 1034 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4242-1		10Jan14 1547 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: LarkenPennington

PO No.

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS,NO3N	Coli. F	NH3N, Total Phosphoru
1	010	1/9/14-1/10/14 945-945		X	X			1	X		
2	010	1/10/14 945	X		X			1		X	
1	010	1/9/14-1/10/14 945-945		X	X			1			X
		Container Type							P	P	P
		Preservative							NO	T	S

AIC CONTROL NO: 174330
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.6
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
LarkenPennington	1/10/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Tyga Hopkins	1-10-14 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 January 11, 2014. 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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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 January 11, 2014
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
174356-1	Outfall 010 1/10/14 945 1/11/14 945	11-Jan-2014 0945	
174356-2	Outfall 010 1/11/14 945	11-Jan-2014 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. 174356-1
Sample Identification: Outfall 010 1/10/14 945 1/11/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**10**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 13-Jan-2014 0913 by 93	Analyzed: 14-Jan-2014 1802 by 93		Batch: W46264	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 13-Jan-2014 0740 by 285	Analyzed: 18-Jan-2014 1238 by 285		Batch: W46268	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 15-Jan-2014 1524 by 308	Analyzed: 16-Jan-2014 1136 by 308		Batch: W46302	
Phosphorus		**0.071**	0.02	**mg/l**	
EPA 200.7	Prep: 13-Jan-2014 0946 by 271	Analyzed: 13-Jan-2014 1909 by 305		Batch: S36080	

AIC No. 174356-2
Sample Identification: Outfall 010 1/11/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**3.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 11-Jan-2014 1320 by 304		Batch: M4243	

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		174359-1	< 2 mg/l			13Jan14 0740 by 285	18Jan14 1225 by 285		
	Batch: W46268	Duplicate	< 2 mg/l	0.00	20.0	13Jan14 0740 by 285	18Jan14 1227 by 285		
Total Suspended Solids		174338-1	16 mg/l			15Jan14 1524 by 308	16Jan14 1136 by 308		
	Batch: W46302	Duplicate	18 mg/l	11.5	20.0	15Jan14 1524 by 308	16Jan14 1136 by 308		
Total Suspended Solids		174339-1	24 mg/l			15Jan14 1524 by 308	16Jan14 1136 by 308		
	Batch: W46302	Duplicate	28 mg/l	13.7	20.0	15Jan14 1524 by 308	16Jan14 1136 by 308		

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	97.2	80.0-120			W46264	13Jan14 0915 by 93	14Jan14 1225 by 302		
Carbonaceous BOD 5-day	200 mg/l	99.7	84.5-115			W46268	13Jan14 0740 by 285	18Jan14 1224 by 285		
Phosphorus	5 mg/l	105	85.0-115			S36080	13Jan14 0913 by 271	13Jan14 1710 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174339-1	1 mg/l	100	80.0-120	W46264	13Jan14 0915 by 93	14Jan14 1228 by 302	5	D
	174339-1	1 mg/l	102	80.0-120	W46264	13Jan14 0915 by 93	14Jan14 1230 by 302	5	D
	Relative Percent Difference:		0.497	25.0	W46264				D
Phosphorus	174332-2	5 mg/l	106	75.0-125	S36080	13Jan14 0913 by 271	13Jan14 1713 by 305		
	174332-2	5 mg/l	106	75.0-125	S36080	13Jan14 0913 by 271	13Jan14 1716 by 305		
	Relative Percent Difference:		0.227	20.0	S36080				

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	W46264-1	13Jan14 0915 by 93	14Jan14 1223 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46268-1	13Jan14 0740 by 285	18Jan14 1223 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46302-1	15Jan14 1524 by 308	16Jan14 1136 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36080-1	13Jan14 0913 by 271	13Jan14 1708 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4243-1		11Jan14 1320 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: Larken Pennington

PO No.

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	1/10/14-1/11/14 945-945		X	X			1	X			To DS outfall 010
(2)	010	1/11/14 945	X		X			1		X		
(1)	010	1/1-14-1/11/14 945-945		X	X			1			X	
		Container Type							P	P	P	
		Preservative							NO	T	S	

ANALYSES REQUESTED

AIC CONTROL NO: 174356
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.4

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	1/11/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1-11-14 1245

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 January 12, 2014. 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 January 12, 2014
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
174361-1	010 1/11/14 945 - 1/12/14 945	12-Jan-2014 0945	
174361-2	010 1/12/14 945	12-Jan-2014 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. 174361-1
Sample Identification: 010 1/11/14 945 - 1/12/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 13-Jan-2014 0921 by 93	Analyzed: 14-Jan-2014 1310 by 302		Batch: W46264	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 13-Jan-2014 1030 by 285	Analyzed: 18-Jan-2014 1246 by 285		Batch: W46268	
Total Suspended Solids		**6.0**	4	**mg/l**	
USGS 3765	Prep: 15-Jan-2014 1524 by 308	Analyzed: 16-Jan-2014 1136 by 308		Batch: W46302	
Phosphorus		**0.070**	0.02	**mg/l**	
EPA 200.7	Prep: 13-Jan-2014 0948 by 271	Analyzed: 13-Jan-2014 1834 by 305		Batch: S36081	

AIC No. 174361-2
Sample Identification: 010 1/12/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**3.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 12-Jan-2014 1400 by 304		Batch: M4244	

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		174359-1	< 2 mg/l			13Jan14 0740 by 285	18Jan14 1225 by 285		
	Batch: W46268	Duplicate	< 2 mg/l	0.00	20.0	13Jan14 0740 by 285	18Jan14 1227 by 285		
Total Suspended Solids		174338-1	16 mg/l			15Jan14 1524 by 308	16Jan14 1136 by 308		
	Batch: W46302	Duplicate	18 mg/l	11.5	20.0	15Jan14 1524 by 308	16Jan14 1136 by 308		
Total Suspended Solids		174339-1	24 mg/l			15Jan14 1524 by 308	16Jan14 1136 by 308		
	Batch: W46302	Duplicate	28 mg/l	13.7	20.0	15Jan14 1524 by 308	16Jan14 1136 by 308		

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	97.2	80.0-120			W46264	13Jan14 0915 by 93	14Jan14 1225 by 302		
Carbonaceous BOD 5-day	200 mg/l	99.7	84.5-115			W46268	13Jan14 0740 by 285	18Jan14 1224 by 285		
Phosphorus	5 mg/l	104	85.0-115			S36081	13Jan14 0947 by 271	13Jan14 1815 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174339-1	1 mg/l	100	80.0-120	W46264	13Jan14 0915 by 93	14Jan14 1228 by 302	5	D
	174339-1	1 mg/l	102	80.0-120	W46264	13Jan14 0915 by 93	14Jan14 1230 by 302	5	D
	Relative Percent Difference:		0.497	25.0	W46264				D
Phosphorus	174357-1	5 mg/l	101	75.0-125	S36081	13Jan14 0947 by 271	13Jan14 1818 by 305		
	174357-1	5 mg/l	100	75.0-125	S36081	13Jan14 0947 by 271	13Jan14 1821 by 305		
	Relative Percent Difference:		0.881	20.0	S36081				

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	W46264-1	13Jan14 0915 by 93	14Jan14 1223 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46268-1	13Jan14 0740 by 285	18Jan14 1223 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46302-1	15Jan14 1524 by 308	16Jan14 1136 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36081-1	13Jan14 0947 by 271	13Jan14 1812 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4244-1		12Jan14 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: Larken Pennington
PO No.

AIC CONTROL NO: 174361
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.2

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	1/1/14-1/2/14 9:45-9:45		X	X			1	X			
2	010	1/2/14 9:45	X		X			1		X		
1	010	1/1/14-1/2/14 9:45-9:45		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	1/2/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1-2-14 12:20

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 January 13, 2014. 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 January 13, 2014
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
174373-1	Outfall 010 1/12/14 945 1/13/14 945	13-Jan-2014 0945	
174373-2	Outfall 010 1/13/14 945	13-Jan-2014 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. 174373-1
Sample Identification: Outfall 010 1/12/14 945 1/13/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 14-Jan-2014 1011 by 93	Analyzed: 17-Jan-2014 2348 by 302		Batch: W46276	Dil: 26
Carbonaceous BOD 5-day		**5.8**	2	**mg/l**	
SM 5210 B 2001	Prep: 15-Jan-2014 0813 by 285	Analyzed: 20-Jan-2014 1040 by 285		Batch: W46291	
Total Suspended Solids		**5.6**	4	**mg/l**	
USGS 3765	Prep: 15-Jan-2014 1612 by 308	Analyzed: 16-Jan-2014 1141 by 308		Batch: W46308	
Phosphorus		**0.065**	0.02	**mg/l**	
EPA 200.7	Prep: 13-Jan-2014 1433 by 271	Analyzed: 13-Jan-2014 1845 by 305		Batch: S36081	
Nitrate as N		**22**	0.5	**mg/l**	D
EPA 300.0	Prep: 13-Jan-2014 1733 by 07	Analyzed: 14-Jan-2014 0102 by 07		Batch: C16378	Dil: 10

AIC No. 174373-2
Sample Identification: Outfall 010 1/13/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 13-Jan-2014 1432 by 295		Batch: M4246	

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		174372-1	5.3 mg/l			15Jan14 0813 by 285	20Jan14 1036 by 285		
	Batch: W46291	Duplicate	5.5 mg/l	3.50	20.0	15Jan14 0813 by 285	20Jan14 1038 by 285		
Total Suspended Solids		174374-1	9.6 mg/l			15Jan14 1612 by 308	16Jan14 1141 by 308		
	Batch: W46308	Duplicate	11 mg/l	15.4	20.0	15Jan14 1612 by 308	16Jan14 1141 by 308		
Total Suspended Solids		174375-1	4.4 mg/l			15Jan14 1612 by 308	16Jan14 1141 by 308		
	Batch: W46308	Duplicate	4.4 mg/l	0.00	20.0	15Jan14 1612 by 308	16Jan14 1141 by 308		

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	101	80.0-120			W46276	14Jan14 1012 by 93	17Jan14 2025 by 302		
Carbonaceous BOD 5-day	200 mg/l	90.8	84.5-115			W46291	15Jan14 0813 by 285	20Jan14 1035 by 285		
Phosphorus	5 mg/l	104	85.0-115			S36081	13Jan14 0947 by 271	13Jan14 1815 by 305		
Nitrate as N	4 mg/l	102	90.0-110			C16378	13Jan14 1733 by 07	13Jan14 2154 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174377-1	1 mg/l	81.2	80.0-120	W46276	14Jan14 1012 by 93	18Jan14 1256 by 302	5	D
	174377-1	1 mg/l	88.2	80.0-120	W46276	14Jan14 1012 by 93	18Jan14 1258 by 302	5	D
	Relative Percent Difference:		1.66	25.0	W46276				D
Phosphorus	174357-1	5 mg/l	101	75.0-125	S36081	13Jan14 0947 by 271	13Jan14 1818 by 305		
	174357-1	5 mg/l	100	75.0-125	S36081	13Jan14 0947 by 271	13Jan14 1821 by 305		
	Relative Percent Difference:		0.881	20.0	S36081				
Nitrate as N	174366-1	4 mg/l	95.7	80.0-120	C16378	13Jan14 1733 by 07	13Jan14 2221 by 07		
	174366-1	4 mg/l	96.3	80.0-120	C16378	13Jan14 1733 by 07	13Jan14 2248 by 07		
	Relative Percent Difference:		0.677	10.0	C16378				

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	W46276-1	14Jan14 1012 by 93	17Jan14 2024 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46291-1	15Jan14 0813 by 285	20Jan14 1034 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46308-1	15Jan14 1612 by 308	16Jan14 1141 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36081-1	13Jan14 0947 by 271	13Jan14 1812 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16378-1	13Jan14 1733 by 07	13Jan14 2127 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4246-1		13Jan14 1432 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: 174373
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.3°C

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS, NO3N	Coli. F	NH3N, Total Phosphoru	Remarks
(1)		010	1/12/14-1/13/14 945-945		X	X			1	X			FOR OUTFALL 010
(2)		010	1/13/14 945	X		X			1		X		
(1)		010	1/12/14-1/13/14 945-945		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	1/13/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	1/13/14 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 January 14, 2014. 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

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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 January 14, 2014
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
174415-1	Outfall 010 1/13/14 945 1/14/14 945	14-Jan-2014 0945	
174415-2	Outfall 010 1/14/14 945	14-Jan-2014 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).
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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. 174415-1
Sample Identification: Outfall 010 1/13/14 945 1/14/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 14-Jan-2014 1523 by 93	Analyzed: 17-Jan-2014 2349 by 302		Batch: W46276	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 15-Jan-2014 0813 by 285	Analyzed: 20-Jan-2014 1100 by 285		Batch: W46291	
Total Suspended Solids		**7.6**	4	**mg/l**	
USGS 3765	Prep: 15-Jan-2014 1612 by 308	Analyzed: 16-Jan-2014 1141 by 308		Batch: W46308	
Phosphorus		**0.088**	0.02	**mg/l**	
EPA 200.7	Prep: 14-Jan-2014 1640 by 271	Analyzed: 15-Jan-2014 1243 by 305		Batch: S36094	

AIC No. 174415-2
Sample Identification: Outfall 010 1/14/14 945

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**250**	10	**mg/l**	
SM 2540 C 1997	Prep: 14-Jan-2014 1513 by 285	Analyzed: 15-Jan-2014 1633 by 285		Batch: W46283	
Chloride		**17**	0.2	**mg/l**	
EPA 300.0	Prep: 14-Jan-2014 1433 by 07	Analyzed: 14-Jan-2014 1824 by 07		Batch: C16380	
Sulfate		**24**	0.2	**mg/l**	
EPA 300.0	Prep: 14-Jan-2014 1433 by 07	Analyzed: 14-Jan-2014 1824 by 07		Batch: C16380	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 17-Jan-2014 0810 by 295	Analyzed: 17-Jan-2014 1058 by 295		Batch: B8747	
Fecal Coliform		**1.0**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 14-Jan-2014 1538 by 295		Batch: M4248	

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		174450-2	< 5 mg/l			17Jan14 0810 by 295	17Jan14 1058 by 295		
	Batch: B8747	Duplicate	< 5 mg/l	0.00	20.0	17Jan14 1033 by 295	17Jan14 1058 by 295		
Total Dissolved Solids		174389-1	230 mg/l			14Jan14 1513 by 285	15Jan14 1633 by 285		
	Batch: W46283	Duplicate	220 mg/l	3.57	10.0	14Jan14 1513 by 285	15Jan14 1633 by 285		
Total Dissolved Solids		174403-1	120 mg/l			14Jan14 1513 by 285	15Jan14 1633 by 285		
	Batch: W46283	Duplicate	120 mg/l	5.86	10.0	14Jan14 1513 by 285	15Jan14 1633 by 285		
Carbonaceous BOD 5-day		174372-1	5.3 mg/l			15Jan14 0813 by 285	20Jan14 1036 by 285		
	Batch: W46291	Duplicate	5.5 mg/l	3.50	20.0	15Jan14 0813 by 285	20Jan14 1038 by 285		
Total Suspended Solids		174374-1	9.6 mg/l			15Jan14 1612 by 308	16Jan14 1141 by 308		
	Batch: W46308	Duplicate	11 mg/l	15.4	20.0	15Jan14 1612 by 308	16Jan14 1141 by 308		
Total Suspended Solids		174375-1	4.4 mg/l			15Jan14 1612 by 308	16Jan14 1141 by 308		
	Batch: W46308	Duplicate	4.4 mg/l	0.00	20.0	15Jan14 1612 by 308	16Jan14 1141 by 308		

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	101	80.0-120			W46276	14Jan14 1012 by 93	17Jan14 2025 by 302		
Carbonaceous BOD 5-day	200 mg/l	90.8	84.5-115			W46291	15Jan14 0813 by 285	20Jan14 1035 by 285		
Phosphorus	5 mg/l	106	85.0-115			S36094	14Jan14 1640 by 271	15Jan14 1227 by 305		
Chloride	20 mg/l	104	90.0-110			C16380	14Jan14 1434 by 07	14Jan14 1516 by 07		
Sulfate	20 mg/l	108	90.0-110			C16380	14Jan14 1434 by 07	14Jan14 1516 by 07		
Oil and Grease	40 mg/l	102	78.0-114			B8747	17Jan14 0811 by 295	17Jan14 1058 by 295		
	40 mg/l	95.0	78.0-114	7.11	20.0	B8747	17Jan14 0811 by 295	17Jan14 1058 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174377-1	1 mg/l	81.2	80.0-120	W46276	14Jan14 1012 by 93	18Jan14 1256 by 302	5	D
	174377-1	1 mg/l	88.2	80.0-120	W46276	14Jan14 1012 by 93	18Jan14 1258 by 302	5	D
	Relative Percent Difference:		1.66	25.0	W46276				D
Phosphorus	174413-2	5 mg/l	109	75.0-125	S36094	14Jan14 1640 by 271	15Jan14 1230 by 305		
	174413-2	5 mg/l	107	75.0-125	S36094	14Jan14 1640 by 271	15Jan14 1232 by 305		
	Relative Percent Difference:		1.73	20.0	S36094				
Chloride	174412-2	20 mg/l	99.0	80.0-120	C16380	14Jan14 1434 by 07	14Jan14 1543 by 07		
	174412-2	20 mg/l	98.8	80.0-120	C16380	14Jan14 1434 by 07	14Jan14 1610 by 07		
	Relative Percent Difference:		0.139	10.0	C16380				
Sulfate	174412-2	20 mg/l	102	80.0-120	C16380	14Jan14 1434 by 07	14Jan14 1543 by 07		
	174412-2	20 mg/l	102	80.0-120	C16380	14Jan14 1434 by 07	14Jan14 1610 by 07		
	Relative Percent Difference:		0.376	10.0	C16380				

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	W46283-1	14Jan14 1513 by 285	15Jan14 1633 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46276-1	14Jan14 1012 by 93	17Jan14 2024 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46291-1	15Jan14 0813 by 285	20Jan14 1034 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46308-1	15Jan14 1612 by 308	16Jan14 1141 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36094-1	14Jan14 1640 by 271	15Jan14 1224 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16380-1	14Jan14 1434 by 07	14Jan14 1449 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16380-1	14Jan14 1434 by 07	14Jan14 1449 by 07	
Oil and Grease	< 2 mg/l	2	5	B8747-1	17Jan14 0811 by 295	17Jan14 1058 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4248-1		14Jan14 1538 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 No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus											
(1)	010	1/13/14-1/14/14 945-945		X	X			1	X													
(2)	010	1/14/14 945	X		X			1		X												
(1)	010	1/13/14-1/14/14 945-945		X	X			1			X											
		Container Type							P	P	P											
		Preservative							NO	T	S											

ANALYSES REQUESTED

AIC CONTROL NO: 174415
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.4 C
Remarks: EP DS OUTFALL 010

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	1/14/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/14/14 1315

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 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)
(2)	010	1/14/14 945	X		X		1	X	
(2)	010	1/14/14 945	X		X		1		X
		Container Type						P	P
		Preservative						S	NO

AIC CONTROL NO: 174415
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.4°C
Remarks: ED OS OUTFALL 010 — 1 1 1
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	1/14/14 15:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/14/14 1315

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 January 15, 2014. 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.

Steve Bradford
Deputy 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) received on January 15, 2014
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
174459-1	010 1/14/14 945 1/15/14 945	15-Jan-2014 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. 174459-1
Sample Identification: 010 1/14/14 945 1/15/14 945

Analyte		Result	RL	Units	Qualifier
Total Recoverable Zinc		**1.4**	0.01	**mg/l**	D
EPA 200.7	Prep: 15-Jan-2014 1509 by 305	Analyzed: 16-Jan-2014 1122 by 305		Batch: S36101	Dil: 5

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
Total Recoverable Zinc	0.05 mg/l	106	85.0-115			S36101	15Jan14 1136 by 305	15Jan14 1505 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Recoverable Zinc	174434-1	0.05 mg/l	98.6	75.0-125	S36101	15Jan14 1136 by 305	15Jan14 1510 by 305		
	174434-1	0.05 mg/l	100	75.0-125	S36101	15Jan14 1136 by 305	15Jan14 1516 by 305		
	Relative Percent Difference:		1.62	20.0	S36101				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Recoverable Zinc	< 0.002 mg/l	0.002	0.002	S36101-1	15Jan14 1136 by 305	15Jan14 1500 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.

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS,NO3N	Coli. F	NH3N, Total Phosphorus	Metal: Zinc	Remarks
	010	1/14/14-1/15/14 945-945		X	X		1	X				174461
	010	1/15/14 945	X		X		1		X			174461
	010	1/14/14-1/15/14 945-945		X	X		1			X		174461
(i)	010	1/14/14-1/15/14 945-945		X	X		1				X	
		Container Type						P	P	P		
		Preservative						NO	T	S		

AIC CONTROL NO: 174459
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9°C

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	1/15/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/15/14 1315

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 January 15, 2014. 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 January 15, 2014
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
174461-1	010 1/14/14 945 1/15/14 945	15-Jan-2014 0945	
174461-2	010 1/15/14 945	15-Jan-2014 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. 174461-1
Sample Identification: 010 1/14/14 945 1/15/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 16-Jan-2014 1040 by 93	Analyzed: 17-Jan-2014 2353 by 302		Batch: W46314	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 16-Jan-2014 1105 by 285	Analyzed: 21-Jan-2014 1140 by 285		Batch: W46315	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 16-Jan-2014 1540 by 308	Analyzed: 17-Jan-2014 1047 by 308		Batch: W46324	
Phosphorus		**0.095**	0.02	**mg/l**	
EPA 200.7	Prep: 15-Jan-2014 1632 by 311	Analyzed: 16-Jan-2014 1456 by 305		Batch: S36106	
Nitrate as N		**22**	0.5	**mg/l**	D
EPA 300.0	Prep: 15-Jan-2014 1406 by 07	Analyzed: 15-Jan-2014 2154 by 07		Batch: C16386	Dil: 10

AIC No. 174461-2
Sample Identification: 010 1/15/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**2.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 15-Jan-2014 1528 by 295		Batch: M4249	

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		174441-1	230 mg/l			16Jan14 1105 by 285	21Jan14 1126 by 285		
	Batch: W46315	Duplicate	230 mg/l	0.221	20.0	16Jan14 1106 by 285	21Jan14 1139 by 285		
Total Suspended Solids		174430-1	< 4 mg/l			16Jan14 1540 by 308	17Jan14 1047 by 308		
	Batch: W46324	Duplicate	< 4 mg/l	0.00	20.0	16Jan14 1540 by 308	17Jan14 1047 by 308		
Total Suspended Solids		174418-3	10 mg/l			16Jan14 1540 by 308	17Jan14 1047 by 308		
	Batch: W46324	Duplicate	9.6 mg/l	4.08	20.0	16Jan14 1540 by 308	17Jan14 1047 by 308		

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			W46314	16Jan14 1042 by 93	17Jan14 2059 by 302		
Carbonaceous BOD 5-day	200 mg/l	99.9	84.5-115			W46315	16Jan14 1106 by 285	21Jan14 1124 by 285		
Phosphorus	5 mg/l	110	85.0-115			S36106	15Jan14 1632 by 311	16Jan14 1448 by 305		
Nitrate as N	4 mg/l	101	90.0-110			C16386	15Jan14 1407 by 07	15Jan14 1444 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174462-1	1 mg/l	116	80.0-120	W46314	16Jan14 1042 by 93	17Jan14 2248 by 302	5	D
	174462-1	1 mg/l	101	80.0-120	W46314	16Jan14 1042 by 93	17Jan14 2250 by 302	5	D
	Relative Percent Difference:		3.33	25.0	W46314				D
Phosphorus	174461-1	5 mg/l	107	75.0-125	S36106	15Jan14 1632 by 311	16Jan14 1451 by 305		
	174461-1	5 mg/l	109	75.0-125	S36106	15Jan14 1632 by 311	16Jan14 1453 by 305		
	Relative Percent Difference:		1.70	20.0	S36106				
Nitrate as N	174458-2	4 mg/l	98.2	80.0-120	C16386	15Jan14 1407 by 07	15Jan14 1511 by 07		
	174458-2	4 mg/l	104	80.0-120	C16386	15Jan14 1407 by 07	15Jan14 1538 by 07		
	Relative Percent Difference:		5.20	10.0	C16386				

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	W46314-1	16Jan14 1042 by 93	17Jan14 2057 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46315-1	16Jan14 1106 by 285	21Jan14 1123 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46324-1	16Jan14 1540 by 308	17Jan14 1047 by 308	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36106-1	15Jan14 1632 by 311	16Jan14 1445 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16386-1	15Jan14 1407 by 07	15Jan14 1418 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4249-1		15Jan14 1528 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

COPY

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 No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS, NO3N	Coli. F	NH3N, Total Phosphorus	Metal: Zinc	Remarks
(4)	010	1/14/14-1/15/14 945-945		X	X		1	X				
(2)	010	1/15/14 945	X		X		1		X			
(1)	010	1/14/14-1/15/14 945-945		X	X		1			X		
	010	1/14/14-1/15/14 945-945		X	X		1				X	174459
		Container Type						P	P	P		
		Preservative						NO	T	S		

ANALYSES REQUESTED

AIC CONTROL NO: 174461
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9°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	1/15/14 12:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	1/15/14 1315

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 January 16, 2014. 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 January 16, 2014
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
174515-1	010 1/15/14 945 1/16/14 945	16-Jan-2014 0945	
174515-2	010 1/16/14 945	16-Jan-2014 0945	

Qualifiers:
D Result is from a secondary dilution factor
X Spiking level is invalid due to the high concentration of analyte in the spiked sample

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. 174515-1
Sample Identification: 010 1/15/14 945 1/16/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 16-Jan-2014 1452 by 93	Analyzed: 17-Jan-2014 2354 by 302		Batch: W46314	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 17-Jan-2014 1057 by 285	Analyzed: 22-Jan-2014 0953 by 285		Batch: W46333	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 20-Jan-2014 1339 by 285	Analyzed: 21-Jan-2014 1114 by 285		Batch: W46355	
Phosphorus		**0.082**	0.02	**mg/l**	
EPA 200.7	Prep: 16-Jan-2014 1603 by 305	Analyzed: 17-Jan-2014 1459 by 305		Batch: S36109	

AIC No. 174515-2
Sample Identification: 010 1/16/14 945

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**270**	10	**mg/l**	
SM 2540 C 1997	Prep: 20-Jan-2014 1446 by 285	Analyzed: 21-Jan-2014 1403 by 285		Batch: W46357	
Chloride		**17**	0.2	**mg/l**	
EPA 300.0	Prep: 16-Jan-2014 1537 by 07	Analyzed: 17-Jan-2014 0954 by 07		Batch: C16388	
Sulfate		**22**	0.2	**mg/l**	
EPA 300.0	Prep: 16-Jan-2014 1537 by 07	Analyzed: 17-Jan-2014 0954 by 07		Batch: C16388	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 17-Jan-2014 1219 by 295	Analyzed: 17-Jan-2014 1655 by 295		Batch: B8748	
Fecal Coliform		**4.0**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 16-Jan-2014 1534 by 21		Batch: M4252	

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		174510-2	4.5 mg/l			17Jan14 1057 by 285	22Jan14 0941 by 285		
	Batch: W46333	Duplicate	4.8 mg/l	7.71	20.0	17Jan14 1057 by 285	22Jan14 1103 by 285		
Total Suspended Solids		174513-3	64 mg/l			20Jan14 1339 by 285	21Jan14 1114 by 285		
	Batch: W46355	Duplicate	62 mg/l	3.17	20.0	20Jan14 1340 by 285	21Jan14 1114 by 285		
Total Suspended Solids		174535-4	4500 mg/l			20Jan14 1339 by 285	21Jan14 1114 by 285		
	Batch: W46355	Duplicate	4600 mg/l	0.659	20.0	20Jan14 1340 by 285	21Jan14 1114 by 285		
Total Dissolved Solids		174511-2	700 mg/l			20Jan14 1446 by 285	21Jan14 1403 by 285		
	Batch: W46357	Duplicate	690 mg/l	1.45	10.0	20Jan14 1447 by 285	21Jan14 1403 by 285		
Total Dissolved Solids		174510-3	260 mg/l			20Jan14 1446 by 285	21Jan14 1403 by 285		
	Batch: W46357	Duplicate	270 mg/l	2.64	10.0	20Jan14 1447 by 285	21Jan14 1403 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			W46314	16Jan14 1042 by 93	17Jan14 2059 by 302		
Carbonaceous BOD 5-day	200 mg/l	98.2	84.5-115			W46333	17Jan14 1057 by 285	22Jan14 0939 by 285		
Phosphorus	5 mg/l	105	85.0-115			S36109	16Jan14 1120 by 305	17Jan14 1354 by 305		
Chloride	20 mg/l	101	90.0-110			C16388	16Jan14 1525 by 07	16Jan14 1558 by 07		
Sulfate	20 mg/l	99.9	90.0-110			C16388	16Jan14 1525 by 07	16Jan14 1558 by 07		
Oil and Grease	40 mg/l	110	78.0-114			B8748	17Jan14 1219 by 295	17Jan14 1655 by 295		
	40 mg/l	110	78.0-114	0.909	20.0	B8748	17Jan14 1219 by 295	17Jan14 1655 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174462-1	1 mg/l	116	80.0-120	W46314	16Jan14 1042 by 93	17Jan14 2248 by 302	5	D
	174462-1	1 mg/l	101	80.0-120	W46314	16Jan14 1042 by 93	17Jan14 2250 by 302	5	D
	Relative Percent Difference:		3.33	25.0	W46314				D
Phosphorus	174478-1	5 mg/l	-	75.0-125	S36109	16Jan14 1120 by 305	17Jan14 1557 by 305	10	X
	174478-1	5 mg/l	-	75.0-125	S36109	16Jan14 1120 by 305	17Jan14 1601 by 305	10	X
	Relative Percent Difference:		2.29	20.0	S36109				D
Chloride	174510-3	20 mg/l	107	80.0-120	C16388	16Jan14 1525 by 07	16Jan14 1625 by 07		
	174510-3	20 mg/l	109	80.0-120	C16388	16Jan14 1525 by 07	16Jan14 1651 by 07		
	Relative Percent Difference:		1.30	10.0	C16388				
Sulfate	174510-3	20 mg/l	107	80.0-120	C16388	16Jan14 1525 by 07	16Jan14 1625 by 07		
	174510-3	20 mg/l	109	80.0-120	C16388	16Jan14 1525 by 07	16Jan14 1651 by 07		
	Relative Percent Difference:		1.67	10.0	C16388				

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	W46357-1	20Jan14 1447 by 285	21Jan14 1403 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46314-1	16Jan14 1042 by 93	17Jan14 2057 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46333-1	17Jan14 1057 by 285	22Jan14 0938 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46355-1	20Jan14 1340 by 285	21Jan14 1114 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36109-1	16Jan14 1120 by 305	17Jan14 1350 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16388-1	16Jan14 1525 by 07	16Jan14 1531 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16388-1	16Jan14 1525 by 07	16Jan14 1531 by 07	
Oil and Grease	< 2 mg/l	2	5	B8748-1	17Jan14 1219 by 295	17Jan14 1655 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4252-1		16Jan14 1534 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 No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL		NO OF BOTTLES	CBOD, TSS	Coli, F	NH3N, Total Phosphorus	Metal: Zinc
1	010	1/15/14 945 - 1/16/14 945		X	X			1	X			
2	010	1/16/14 945	X		X			1		X		
3	010	1/15/14 945 - 1/16/14 945		X	X			1			X	
	test grab	1/15/14 11:02am	X		X							X
		Container Type							P	P	P	P
		Preservative							NO	T	S	N

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

AIC CONTROL NO: 174515
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.1
Remarks
AIC # 174514
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	1/16/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1-16-14 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: LarkenPennington

PO No.

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)
2	010	1/15/14 945	X		X		1	X	
2	010	1/14/14 945	X		X		1		X
		Container Type						P	P
		Preservative						S	NO

AIC CONTROL NO: 124515
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1.1
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
LarkenPennington	1/16/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1-16-14 13:36

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 January 17, 2014. 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 January 17, 2014
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
174574-1	010 1/16/14 945 - 1/17/14 945	17-Jan-2014 0945	
174574-2	010 1/17/14 945	17-Jan-2014 0945	

Qualifiers:
D Result is from a secondary dilution factor
X Spiking level is invalid due to the high concentration of analyte in the spiked sample

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. 174574-1
Sample Identification: 010 1/16/14 945 - 1/17/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 20-Jan-2014 0920 by 93	Analyzed: 21-Jan-2014 1044 by 302		Batch: W46345	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 17-Jan-2014 1547 by 285	Analyzed: 22-Jan-2014 1057 by 285		Batch: W46333	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 21-Jan-2014 1143 by 285	Analyzed: 22-Jan-2014 0958 by 285		Batch: W46370	
Phosphorus		**0.065**	0.02	**mg/l**	
EPA 200.7	Prep: 20-Jan-2014 0942 by 271	Analyzed: 20-Jan-2014 2150 by 305		Batch: S36121	
Nitrate as N		**24**	0.5	**mg/l**	D
EPA 300.0	Prep: 17-Jan-2014 1555 by 07	Analyzed: 17-Jan-2014 2352 by 07		Batch: C16395	Dil: 10

AIC No. 174574-2
Sample Identification: 010 1/17/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 17-Jan-2014 1451 by 295		Batch: M4255	

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		174510-2	4.5 mg/l			17Jan14 1057 by 285	22Jan14 0941 by 285		
	Batch: W46333	Duplicate	4.8 mg/l	7.71	20.0	17Jan14 1057 by 285	22Jan14 1103 by 285		
Total Suspended Solids		174563-1	25 mg/l			21Jan14 1143 by 285	22Jan14 0958 by 285		
	Batch: W46370	Duplicate	24 mg/l	4.08	20.0	21Jan14 1144 by 285	22Jan14 0958 by 285		
Total Suspended Solids		174566-1	8.8 mg/l			21Jan14 1143 by 285	22Jan14 0958 by 285		
	Batch: W46370	Duplicate	9.2 mg/l	4.44	20.0	21Jan14 1144 by 285	22Jan14 0958 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	107	80.0-120			W46345	20Jan14 0920 by 93	21Jan14 0905 by 302		
Carbonaceous BOD 5-day	200 mg/l	98.2	84.5-115			W46333	17Jan14 1057 by 285	22Jan14 0939 by 285		
Phosphorus	5 mg/l	103	85.0-115			S36121	20Jan14 0943 by 271	20Jan14 2112 by 305		
Nitrate as N	4 mg/l	93.3	90.0-110			C16395	17Jan14 1555 by 07	17Jan14 2204 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174513-1	1 mg/l	-	80.0-120	W46345	20Jan14 0920 by 93	21Jan14 0909 by 302	5	X
	174513-1	1 mg/l	-	80.0-120	W46345	20Jan14 0920 by 93	21Jan14 0911 by 302	5	X
	Relative Percent Difference:		5.92	25.0	W46345				D
Phosphorus	174569-1	5 mg/l	104	75.0-125	S36121	20Jan14 0943 by 271	20Jan14 2117 by 305		
	174569-1	5 mg/l	104	75.0-125	S36121	20Jan14 0943 by 271	20Jan14 2123 by 305		
	Relative Percent Difference:		0.282	20.0	S36121				
Nitrate as N	174557-1	4 mg/l	95.9	80.0-120	C16395	17Jan14 1555 by 07	17Jan14 2231 by 07		
	174557-1	4 mg/l	95.4	80.0-120	C16395	17Jan14 1555 by 07	17Jan14 2258 by 07		
	Relative Percent Difference:		0.549	10.0	C16395				

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	W46345-1	20Jan14 0920 by 93	21Jan14 0903 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46333-1	17Jan14 1057 by 285	22Jan14 0938 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46370-1	21Jan14 1144 by 285	22Jan14 0958 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36121-1	20Jan14 0943 by 271	20Jan14 2107 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16395-1	17Jan14 1555 by 07	17Jan14 2137 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4255-1		17Jan14 1451 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: 174574
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	MATRIX:	NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS,NO3N	ANALYSES REQUESTED: Coli. F	ANALYSES REQUESTED: NH3N, Total Phosphoru	Remarks
1	010	1/16/14-1/17/14 945-945		X	X			1	X			
2	010	1/17/14 945	X		X			1		X		
1	010	1/16/14-1/17/14 945-945		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	1/17/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Logan Hopton	1-17-14 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 January 18, 2014. 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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lpennington@edc-ark.com

El Dorado Chemical Company
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GBMc & Associates, Inc.
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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) received on January 18, 2014
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
174596-1	010 1-18-14 0930	18-Jan-2014 0930	

Qualifiers:
- D Result is from a secondary dilution factor
- X Spiking level is invalid due to the high concentration of analyte in the spiked sample

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. 174596-1
Sample Identification: 010 1-18-14 0930

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**11**	3	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 20-Jan-2014 0920 by 93	Analyzed: 21-Jan-2014 0935 by 302		Batch: W46345	Dil: 26
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 18-Jan-2014 1525 by 93	Analyzed: 23-Jan-2014 0952 by 93		Batch: W46340	
Total Suspended Solids		**7.2**	4	**mg/l**	
USGS 3765	Prep: 21-Jan-2014 1143 by 285	Analyzed: 22-Jan-2014 0958 by 285		Batch: W46370	
Phosphorus		**0.065**	0.02	**mg/l**	
EPA 200.7	Prep: 20-Jan-2014 0942 by 271	Analyzed: 20-Jan-2014 2155 by 305		Batch: S36121	
Fecal Coliform		**< 1**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 18-Jan-2014 1315 by 295		Batch: M4256	

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		174603-1	12 mg/l			18Jan14 1525 by 93	23Jan14 0946 by 93		
	Batch: W46340	Duplicate	12 mg/l	2.81	20.0	18Jan14 1525 by 93	23Jan14 0948 by 93		
Total Suspended Solids		174563-1	25 mg/l			21Jan14 1143 by 285	22Jan14 0958 by 285		
	Batch: W46370	Duplicate	24 mg/l	4.08	20.0	21Jan14 1144 by 285	22Jan14 0958 by 285		
Total Suspended Solids		174566-1	8.8 mg/l			21Jan14 1143 by 285	22Jan14 0958 by 285		
	Batch: W46370	Duplicate	9.2 mg/l	4.44	20.0	21Jan14 1144 by 285	22Jan14 0958 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	107	80.0-120			W46345	20Jan14 0920 by 93	21Jan14 0905 by 302		
Carbonaceous BOD 5-day	200 mg/l	88.1	84.5-115			W46340	18Jan14 1525 by 93	23Jan14 0944 by 93		
Phosphorus	5 mg/l	103	85.0-115			S36121	20Jan14 0943 by 271	20Jan14 2112 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174513-1	1 mg/l	-	80.0-120	W46345	20Jan14 0920 by 93	21Jan14 0909 by 302	5	X
	174513-1	1 mg/l	-	80.0-120	W46345	20Jan14 0920 by 93	21Jan14 0911 by 302	5	X
	Relative Percent Difference:		5.92	25.0	W46345				D
Phosphorus	174569-1	5 mg/l	104	75.0-125	S36121	20Jan14 0943 by 271	20Jan14 2117 by 305		
	174569-1	5 mg/l	104	75.0-125	S36121	20Jan14 0943 by 271	20Jan14 2123 by 305		
	Relative Percent Difference:		0.282	20.0	S36121				

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	W46345-1	20Jan14 0920 by 93	21Jan14 0903 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46340-1	18Jan14 1525 by 93	23Jan14 0943 by 93	
Total Suspended Solids	< 4 mg/l	4	4	W46370-1	21Jan14 1144 by 285	22Jan14 0958 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36121-1	20Jan14 0943 by 271	20Jan14 2107 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4256-1		18Jan14 1315 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: D. 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										
	010	1-18-14 0930	X	X	X			1	X												
	010	1-18-14 0930	X		X			1		X											
	010	1-18-14 0930	X	X	X			1			X										
		Container Type							P	P	P										
		Preservative							NO	T	S										

AIC CONTROL NO: 174596
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: -1.9
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
	1-18-14 1000 AM		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/18/14 1250

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 January 19, 2014. 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 January 19, 2014
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
174597-1	010 01-19-14 0930	19-Jan-2014 0930	
174597-2	010 01-19-14 0930	19-Jan-2014 0930	

Qualifiers:
D Result is from a secondary dilution factor
X Spiking level is invalid due to the high concentration of analyte in the spiked sample

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. 174597-1
Sample Identification: 010 01-19-14 0930

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**9.8**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 20-Jan-2014 0920 by 93	Analyzed: 21-Jan-2014 0937 by 302		Batch: W46345	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 20-Jan-2014 1407 by 285	Analyzed: 25-Jan-2014 1251 by 285		Batch: W46356	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 21-Jan-2014 1419 by 285	Analyzed: 23-Jan-2014 0810 by 285		Batch: W46373	
Phosphorus		**0.066**	0.02	**mg/l**	
EPA 200.7	Prep: 20-Jan-2014 0942 by 271	Analyzed: 20-Jan-2014 2238 by 305		Batch: S36121	

AIC No. 174597-2
Sample Identification: 010 01-19-14 0930

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 19-Jan-2014 1315 by 295		Batch: M4257	

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		174595-1	< 2 mg/l			20Jan14 1405 by 285	25Jan14 1248 by 285		
	Batch: W46356	Duplicate	< 2 mg/l	0.00	20.0	20Jan14 1405 by 285	25Jan14 1246 by 285		
Total Suspended Solids		174597-1	< 4 mg/l			21Jan14 1419 by 285	23Jan14 0810 by 285		
	Batch: W46373	Duplicate	< 4 mg/l	0.00	20.0	21Jan14 1419 by 285	23Jan14 0810 by 285		
Total Suspended Solids		174598-1	< 4 mg/l			21Jan14 1419 by 285	23Jan14 0810 by 285		
	Batch: W46373	Duplicate	< 4 mg/l	0.00	20.0	21Jan14 1419 by 285	23Jan14 0810 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	107	80.0-120			W46345	20Jan14 0920 by 93	21Jan14 0905 by 302		
Carbonaceous BOD 5-day	200 mg/l	96.9	84.5-115			W46356	20Jan14 1405 by 285	25Jan14 1246 by 285		
Phosphorus	5 mg/l	103	85.0-115			S36121	20Jan14 0943 by 271	20Jan14 2112 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174513-1	1 mg/l	-	80.0-120	W46345	20Jan14 0920 by 93	21Jan14 0909 by 302	5	X
	174513-1	1 mg/l	-	80.0-120	W46345	20Jan14 0920 by 93	21Jan14 0911 by 302	5	X
	Relative Percent Difference:		5.92	25.0	W46345				D
Phosphorus	174569-1	5 mg/l	104	75.0-125	S36121	20Jan14 0943 by 271	20Jan14 2117 by 305		
	174569-1	5 mg/l	104	75.0-125	S36121	20Jan14 0943 by 271	20Jan14 2123 by 305		
	Relative Percent Difference:		0.282	20.0	S36121				

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	W46345-1	20Jan14 0920 by 93	21Jan14 0903 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46356-1	20Jan14 1405 by 285	25Jan14 1245 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46373-1	21Jan14 1419 by 285	23Jan14 0810 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36121-1	20Jan14 0943 by 271	20Jan14 2107 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4257-1		19Jan14 1315 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: D. SIRTAIN

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	01-19-14 0930		X	X			1	X												
2	010	01-19-14 0930	X		X			1		X											
1	010	01-19-14 0930		X	X			1			X										
		Container Type							P	P	P										
		Preservative							NO	T	S										

ANALYSES REQUESTED

AIC CONTROL NO: 174597
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: -3.5
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
David Sirtain	01-19-14 1010am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/19/14 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 January 20, 2014. 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 January 20, 2014
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
174610-1	010 1/19/14 945 1/20/14 945	20-Jan-2014 0945	
174610-2	010 1/20/14 945	20-Jan-2014 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. 174610-1
Sample Identification: 010 1/19/14 945 1/20/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**9.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 21-Jan-2014 0954 by 93	Analyzed: 22-Jan-2014 1509 by 93		Batch: W46369	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 20-Jan-2014 1512 by 285	Analyzed: 25-Jan-2014 1301 by 285		Batch: W46356	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 21-Jan-2014 1419 by 285	Analyzed: 23-Jan-2014 0810 by 285		Batch: W46373	
Phosphorus		**0.084**	0.02	**mg/l**	
EPA 200.7	Prep: 21-Jan-2014 1629 by 271	Analyzed: 22-Jan-2014 1415 by 305		Batch: S36138	
Nitrate as N		**23**	0.5	**mg/l**	D
EPA 300.0	Prep: 20-Jan-2014 1537 by 07	Analyzed: 21-Jan-2014 0150 by 07		Batch: C16398	Dil: 10

AIC No. 174610-2
Sample Identification: 010 1/20/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**8.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 20-Jan-2014 1354 by 295		Batch: M4258	

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		174595-1	< 2 mg/l			20Jan14 1405 by 285	25Jan14 1248 by 285		
	Batch: W46356	Duplicate	< 2 mg/l	0.00	20.0	20Jan14 1405 by 285	25Jan14 1246 by 285		
Total Suspended Solids		174597-1	< 4 mg/l			21Jan14 1419 by 285	23Jan14 0810 by 285		
	Batch: W46373	Duplicate	< 4 mg/l	0.00	20.0	21Jan14 1419 by 285	23Jan14 0810 by 285		
Total Suspended Solids		174598-1	< 4 mg/l			21Jan14 1419 by 285	23Jan14 0810 by 285		
	Batch: W46373	Duplicate	< 4 mg/l	0.00	20.0	21Jan14 1419 by 285	23Jan14 0810 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	101	80.0-120			W46369	21Jan14 0954 by 93	22Jan14 1409 by 93		
Carbonaceous BOD 5-day	200 mg/l	96.9	84.5-115			W46356	20Jan14 1405 by 285	25Jan14 1246 by 285		
Phosphorus	5 mg/l	103	85.0-115			S36138	21Jan14 1629 by 271	22Jan14 1357 by 305		
Nitrate as N	4 mg/l	93.2	90.0-110			C16398	20Jan14 1537 by 07	20Jan14 1653 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174611-1	1 mg/l	96.7	80.0-120	W46369	21Jan14 0954 by 93	23Jan14 1116 by 93	5	D
	174611-1	1 mg/l	83.4	80.0-120	W46369	21Jan14 0954 by 93	23Jan14 1118 by 93	5	D
	Relative Percent Difference:		2.95	25.0	W46369				D
Phosphorus	174652-1	5 mg/l	104	75.0-125	S36138	21Jan14 1629 by 271	22Jan14 1400 by 305		
	174652-1	5 mg/l	104	75.0-125	S36138	21Jan14 1629 by 271	22Jan14 1403 by 305		
	Relative Percent Difference:		0.284	20.0	S36138				
Nitrate as N	174619-1	4 mg/l	94.6	80.0-120	C16398	20Jan14 1537 by 07	20Jan14 1720 by 07		
	174619-1	4 mg/l	94.4	80.0-120	C16398	20Jan14 1537 by 07	20Jan14 1747 by 07		
	Relative Percent Difference:		0.261	10.0	C16398				

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	W46369-1	21Jan14 0954 by 93	22Jan14 1407 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46356-1	20Jan14 1405 by 285	25Jan14 1245 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46373-1	21Jan14 1419 by 285	23Jan14 0810 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36138-1	21Jan14 1629 by 271	22Jan14 1354 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16398-1	20Jan14 1537 by 07	20Jan14 1626 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4258-1		20Jan14 1355 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: 174610
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.6

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	1/19/14-1/20/14 945-945		X	X			1	X			
2	010	1/20/14 945	X		X			1		X		
3	010	1/19/14-1/20/14 945-945		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	1/20/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1-20-14 15:15

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

January 27, 2014
Control No. 174654

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 January 21, 2014. 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 January 21, 2014
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
174654-1	010 1/20/14 945 1/21/14 945	21-Jan-2014 0945	
174654-2	010 1/21/14 945	21-Jan-2014 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. 174654-1
Sample Identification: 010 1/20/14 945 1/21/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**9.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 21-Jan-2014 1633 by 93	Analyzed: 22-Jan-2014 1514 by 93		Batch: W46369	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 22-Jan-2014 1355 by 285	Analyzed: 27-Jan-2014 1000 by 285		Batch: W46394	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 22-Jan-2014 1518 by 285	Analyzed: 23-Jan-2014 1027 by 285		Batch: W46396	
Phosphorus		**0.079**	0.02	**mg/l**	
EPA 200.7	Prep: 21-Jan-2014 1629 by 271	Analyzed: 22-Jan-2014 1436 by 305		Batch: S36138	

AIC No. 174654-2
Sample Identification: 010 1/21/14 945

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**240**	10	**mg/l**	
SM 2540 C 1997	Prep: 23-Jan-2014 1624 by 285	Analyzed: 24-Jan-2014 1542 by 285		Batch: W46417	
Chloride		**18**	0.2	**mg/l**	
EPA 300.0	Prep: 21-Jan-2014 1615 by 07	Analyzed: 21-Jan-2014 2316 by 07		Batch: C16402	
Sulfate		**23**	0.2	**mg/l**	
EPA 300.0	Prep: 21-Jan-2014 1615 by 07	Analyzed: 21-Jan-2014 2316 by 07		Batch: C16402	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 24-Jan-2014 0838 by 295	Analyzed: 24-Jan-2014 1126 by 295		Batch: B8758	
Fecal Coliform		**2.0**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 21-Jan-2014 1521 by 295		Batch: M4259	

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		174687-2	< 5 mg/l			24Jan14 0838 by 295	24Jan14 1126 by 295		
	Batch: B8758	Duplicate	< 5 mg/l	0.00	20.0	24Jan14 1009 by 295	24Jan14 1126 by 295		
Carbonaceous BOD 5-day		174642-1	18 mg/l			22Jan14 1355 by 285	27Jan14 0944 by 285		
	Batch: W46394	Duplicate	18 mg/l	1.11	20.0	22Jan14 1355 by 285	27Jan14 0945 by 285		
Total Suspended Solids		174639-1	< 4 mg/l			22Jan14 1518 by 285	23Jan14 1027 by 285		
	Batch: W46396	Duplicate	< 4 mg/l	0.00	20.0	22Jan14 1518 by 285	23Jan14 1027 by 285		
Total Suspended Solids		174642-1	< 4 mg/l			22Jan14 1518 by 285	23Jan14 1027 by 285		
	Batch: W46396	Duplicate	< 4 mg/l	0.00	20.0	22Jan14 1518 by 285	23Jan14 1027 by 285		
Total Dissolved Solids		174653-1	320 mg/l			23Jan14 1624 by 285	24Jan14 1542 by 285		
	Batch: W46417	Duplicate	320 mg/l	0.629	10.0	23Jan14 1624 by 285	24Jan14 1542 by 285		
Total Dissolved Solids		174652-2	480 mg/l			23Jan14 1624 by 285	24Jan14 1542 by 285		
	Batch: W46417	Duplicate	480 mg/l	0.413	10.0	23Jan14 1624 by 285	24Jan14 1542 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	101	80.0-120			W46369	21Jan14 0954 by 93	22Jan14 1409 by 93		
Carbonaceous BOD 5-day	200 mg/l	95.6	84.5-115			W46394	22Jan14 1355 by 285	27Jan14 0942 by 285		
Phosphorus	5 mg/l	103	85.0-115			S36138	21Jan14 1629 by 271	22Jan14 1357 by 305		
Chloride	20 mg/l	94.7	90.0-110			C16402	21Jan14 1616 by 07	21Jan14 1700 by 07		
Sulfate	20 mg/l	99.2	90.0-110			C16402	21Jan14 1616 by 07	21Jan14 1700 by 07		
Oil and Grease	40 mg/l	110	78.0-114			B8758	24Jan14 0839 by 295	24Jan14 1126 by 295		
	40 mg/l	100	78.0-114	9.07	20.0	B8758	24Jan14 0839 by 295	24Jan14 1126 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174611-1	1 mg/l	96.7	80.0-120	W46369	21Jan14 0954 by 93	23Jan14 1116 by 93	5	D
	174611-1	1 mg/l	83.4	80.0-120	W46369	21Jan14 0954 by 93	23Jan14 1118 by 93	5	D
	Relative Percent Difference:		2.95	25.0	W46369				D
Phosphorus	174652-1	5 mg/l	104	75.0-125	S36138	21Jan14 1629 by 271	22Jan14 1400 by 305		
	174652-1	5 mg/l	104	75.0-125	S36138	21Jan14 1629 by 271	22Jan14 1403 by 305		
	Relative Percent Difference:		0.284	20.0	S36138				
Chloride	174655-2	20 mg/l	94.2	80.0-120	C16402	21Jan14 1616 by 07	21Jan14 1727 by 07		
	174655-2	20 mg/l	93.8	80.0-120	C16402	21Jan14 1616 by 07	21Jan14 1754 by 07		
	Relative Percent Difference:		0.366	10.0	C16402				
Sulfate	174655-2	20 mg/l	98.6	80.0-120	C16402	21Jan14 1616 by 07	21Jan14 1727 by 07		
	174655-2	20 mg/l	97.6	80.0-120	C16402	21Jan14 1616 by 07	21Jan14 1754 by 07		
	Relative Percent Difference:		0.693	10.0	C16402				

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	W46417-1	23Jan14 1624 by 285	24Jan14 1542 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46369-1	21Jan14 0954 by 93	22Jan14 1407 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46394-1	22Jan14 1355 by 285	27Jan14 0941 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46396-1	22Jan14 1518 by 285	23Jan14 1027 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36138-1	21Jan14 1629 by 271	22Jan14 1354 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16402-1	21Jan14 1616 by 07	21Jan14 1633 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16402-1	21Jan14 1616 by 07	21Jan14 1633 by 07	
Oil and Grease	< 5 mg/l	5	5	B8758-1	24Jan14 0839 by 295	24Jan14 1126 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4259-1		21Jan14 1323 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: 174654
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 3.6°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	1/20/14-1/21/14 945-945		X	X		1	X			
2	010	1/21/14 945	X		X		1		X		
1	010	1/20/14-1/21/14 945 945		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	1/21/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Steven Pulse	1.21.14 13:15

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: 174654
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.6°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	1/21/14 945	X		X		1	X		
2	010	1/21/14 945	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	1/21/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	1-21-14 13:15

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 January 22, 2014. 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

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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 January 22, 2014
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
174697-1	Outfall 010 1/21/14 945 1/22/14 945	22-Jan-2014 0945	
174697-2	Outfall 010 1/22/14 945	22-Jan-2014 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. 174697-1
Sample Identification: Outfall 010 1/21/14 945 1/22/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**9.5**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 23-Jan-2014 1028 by 93	Analyzed: 23-Jan-2014 1858 by 93		Batch: W46404	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 23-Jan-2014 1031 by 285	Analyzed: 28-Jan-2014 1042 by 285		Batch: W46406	
Total Suspended Solids		**6.8**	4	**mg/l**	
USGS 3765	Prep: 24-Jan-2014 0816 by 285	Analyzed: 27-Jan-2014 0914 by 285		Batch: W46424	
Phosphorus		**0.079**	0.02	**mg/l**	
EPA 200.7	Prep: 22-Jan-2014 1659 by 305	Analyzed: 23-Jan-2014 1550 by 305		Batch: S36143	
Nitrate as N		**24**	0.5	**mg/l**	D
EPA 300.0	Prep: 23-Jan-2014 0852 by 07	Analyzed: 23-Jan-2014 1443 by 07		Batch: C16407	Dil: 10

AIC No. 174697-2
Sample Identification: Outfall 010 1/22/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**2.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 22-Jan-2014 1420 by 295		Batch: M4262	

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		174676-1	< 2 mg/l			23Jan14 1031 by 285	28Jan14 1029 by 285		
	Batch: W46406	Duplicate	< 2 mg/l	0.00	20.0	23Jan14 1031 by 285	28Jan14 1032 by 285		
Total Suspended Solids		174759-1	4.4 mg/l			24Jan14 0816 by 285	24Jan14 0959 by 285		
	Batch: W46424	Duplicate	4.8 mg/l	8.70	20.0	24Jan14 0817 by 285	24Jan14 0959 by 285		
Total Suspended Solids		174706-3	3600 mg/l			24Jan14 0816 by 285	27Jan14 0914 by 285		
	Batch: W46424	Duplicate	3600 mg/l	0.551	20.0	24Jan14 0817 by 285	24Jan14 0959 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	94.8	80.0-120			W46404	23Jan14 1029 by 93	23Jan14 1809 by 93		
Carbonaceous BOD 5-day	200 mg/l	104	84.5-115			W46406	23Jan14 1031 by 285	28Jan14 1027 by 285		
Phosphorus	5 mg/l	105	85.0-115			S36143	22Jan14 1700 by 305	23Jan14 1535 by 305		
Nitrate as N	4 mg/l	95.8	90.0-110			C16407	23Jan14 0853 by 07	23Jan14 1229 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174703-1	1 mg/l	93.8	80.0-120	W46404	23Jan14 1029 by 93	24Jan14 1249 by 93	2	D
	174703-1	1 mg/l	91.8	80.0-120	W46404	23Jan14 1029 by 93	24Jan14 1251 by 93	2	D
	Relative Percent Difference:		0.766	25.0	W46404				D
Phosphorus	174696-2	5 mg/l	104	75.0-125	S36143	22Jan14 1700 by 305	23Jan14 1538 by 305		
	174696-2	5 mg/l	104	75.0-125	S36143	22Jan14 1700 by 305	23Jan14 1541 by 305		
	Relative Percent Difference:		0.840	20.0	S36143				
Nitrate as N	174710-1	4 mg/l	92.1	80.0-120	C16407	23Jan14 0853 by 07	23Jan14 1255 by 07		
	174710-1	4 mg/l	88.9	80.0-120	C16407	23Jan14 0853 by 07	23Jan14 1322 by 07		
	Relative Percent Difference:		3.51	10.0	C16407				

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	W46404-1	23Jan14 1029 by 93	23Jan14 1807 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46406-1	23Jan14 1031 by 285	28Jan14 1026 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46424-1	24Jan14 0817 by 285	24Jan14 0959 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36143-1	22Jan14 1700 by 305	23Jan14 1504 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16407-1	23Jan14 0853 by 07	23Jan14 1202 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4262-1		22Jan14 1333 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: 174697
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.9°C

	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	1/21/14-1/22/14 845-845		X	X			1	X			EPA NS OUTFALL 010
(2)		010	1/22/14 945	X		X			1		X		
(1)		010	1/21/14-1/22/14 945-945		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	1/22/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/22/14 1315

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

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

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Laboratory Director

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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 January 23, 2014
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
174750-1	Outfall 010 1/22/14 945 1/23/14 945	23-Jan-2014 0945	
174750-2	Outfall 010 1/23/14 945	23-Jan-2014 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. 174750-1
Sample Identification: Outfall 010 1/22/14 945 1/23/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**8.8**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 24-Jan-2014 0940 by 93	Analyzed: 28-Jan-2014 2124 by 93		Batch: W46426	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 23-Jan-2014 1525 by 285	Analyzed: 28-Jan-2014 1146 by 285		Batch: W46406	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 27-Jan-2014 1313 by 285	Analyzed: 28-Jan-2014 0858 by 285		Batch: W46442	
Phosphorus		**0.079**	0.02	**mg/l**	
EPA 200.7	Prep: 23-Jan-2014 1649 by 311	Analyzed: 24-Jan-2014 1211 by 305		Batch: S36149	

AIC No. 174750-2
Sample Identification: Outfall 010 1/23/14 945

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**220**	10	**mg/l**	
SM 2540 C 1997	Prep: 28-Jan-2014 1640 by 285	Analyzed: 30-Jan-2014 0857 by 285		Batch: W46464	
Chloride		**16**	0.2	**mg/l**	
EPA 300.0	Prep: 23-Jan-2014 1507 by 07	Analyzed: 23-Jan-2014 1943 by 07		Batch: C16407	
Sulfate		**21**	0.2	**mg/l**	
EPA 300.0	Prep: 23-Jan-2014 1507 by 07	Analyzed: 23-Jan-2014 1943 by 07		Batch: C16407	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 24-Jan-2014 0927 by 295	Analyzed: 24-Jan-2014 1330 by 295		Batch: B8759	
Fecal Coliform		**4.0**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 23-Jan-2014 1525 by 21		Batch: M4265	

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		174676-1	< 2 mg/l			23Jan14 1031 by 285	28Jan14 1029 by 285		
	Batch: W46406	Duplicate	< 2 mg/l	0.00	20.0	23Jan14 1031 by 285	28Jan14 1032 by 285		
Total Suspended Solids		174739-1	48 mg/l			27Jan14 1313 by 285	28Jan14 0858 by 285		
	Batch: W46442	Duplicate	47 mg/l	2.11	20.0	27Jan14 1313 by 285	28Jan14 0858 by 285		
Total Suspended Solids		174740-1	< 4 mg/l			27Jan14 1313 by 285	28Jan14 0858 by 285		
	Batch: W46442	Duplicate	< 4 mg/l	0.00	20.0	27Jan14 1313 by 285	28Jan14 0858 by 285		
Total Dissolved Solids		174746-2	320 mg/l			28Jan14 1640 by 285	30Jan14 0857 by 285		
	Batch: W46464	Duplicate	330 mg/l	1.23	10.0	28Jan14 1641 by 285	30Jan14 0857 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	98.4	80.0-120			W46426	24Jan14 0940 by 93	28Jan14 1921 by 93		
Carbonaceous BOD 5-day	200 mg/l	104	84.5-115			W46406	23Jan14 1031 by 285	28Jan14 1027 by 285		
Phosphorus	5 mg/l	106	85.0-115			S36149	23Jan14 1649 by 311	24Jan14 1138 by 305		
Chloride	20 mg/l	96.7	90.0-110			C16407	23Jan14 0853 by 07	23Jan14 1229 by 07		
Sulfate	20 mg/l	104	90.0-110			C16407	23Jan14 0853 by 07	23Jan14 1229 by 07		
Oil and Grease	40 mg/l	88.0	78.0-114			B8759	24Jan14 0927 by 295	24Jan14 1330 by 295		
	40 mg/l	88.0	78.0-114	0.00	20.0	B8759	24Jan14 0927 by 295	24Jan14 1330 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174753-1	1 mg/l	102	80.0-120	W46426	24Jan14 0940 by 93	28Jan14 1924 by 93		
	174753-1	1 mg/l	96.2	80.0-120	W46426	24Jan14 0940 by 93	28Jan14 1926 by 93		
	Relative Percent Difference:		5.22	25.0	W46426				
Phosphorus	174726-1	5 mg/l	107	75.0-125	S36149	23Jan14 1649 by 311	24Jan14 1141 by 305		
	174726-1	5 mg/l	106	75.0-125	S36149	23Jan14 1649 by 311	24Jan14 1144 by 305		
	Relative Percent Difference:		0.662	20.0	S36149				
Chloride	174710-1	20 mg/l	93.0	80.0-120	C16407	23Jan14 0853 by 07	23Jan14 1255 by 07		
	174710-1	20 mg/l	87.5	80.0-120	C16407	23Jan14 0853 by 07	23Jan14 1322 by 07		
	Relative Percent Difference:		5.75	10.0	C16407				
Sulfate	174710-1	20 mg/l	98.9	80.0-120	C16407	23Jan14 0853 by 07	23Jan14 1255 by 07		
	174710-1	20 mg/l	92.8	80.0-120	C16407	23Jan14 0853 by 07	23Jan14 1322 by 07		
	Relative Percent Difference:		6.15	10.0	C16407				

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	W46464-1	28Jan14 1641 by 285	30Jan14 0857 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46426-1	24Jan14 0940 by 93	28Jan14 1919 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46406-1	23Jan14 1031 by 285	28Jan14 1026 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46442-1	27Jan14 1313 by 285	28Jan14 0858 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36149-1	23Jan14 1649 by 311	24Jan14 1135 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16407-1	23Jan14 0853 by 07	23Jan14 1202 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16407-1	23Jan14 0853 by 07	23Jan14 1202 by 07	
Oil and Grease	< 2 mg/l	2	5	B8759-1	24Jan14 0927 by 295	24Jan14 1330 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4265-1		23Jan14 1525 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: 174750
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.6°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	1/22/14-1/23/14 945-945		X	X			1	X			TDS; Outfall 010
(2)	010	1/23/14 945	X		X			1		X		
(1)	010	1/22/14-1/23/14 945-945		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	1/23/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jeremy Day	1/23/14 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

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	Metal: 2n										AIC CONTROL NO: 174750
																				AIC PROPOSAL NO:
																				Carrier: Gold Star
																				Received Temperature C 0.6 'C
																				Remarks
(2.)	010	1/23/14 945	X		X		1	X	!											EDD AS: Outfall 010
(2)	010	1/23/14 945	X		X		1		X !											1 1 1
(3)	Lake	1/23/14 10:00	X		X		1		.	X										
(4)	3rd	1/23/14 10:05	X		X					X										
(5)	5th	1/23/14 10:10	X		X					X										
(6)	South of Spillway	1/23/14 10:15	X		X					X										
(7)	Lee	1/23/14 10:20	X		X					X										
		Container Type						P	P	P										Field pH calibration
		Preservative						S	NO	N										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	1/23/14 9:10		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/23/14 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 January 24, 2014. 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 January 24, 2014
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
174791-1	Outfall 010 1/23/14 945 1/24/14 945	24-Jan-2014 0945	
174791-2	Outfall 010 1/24/14 945	24-Jan-2014 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. 174791-1
Sample Identification: Outfall 010 1/23/14 945 1/24/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**8.7**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 27-Jan-2014 1035 by 93	Analyzed: 28-Jan-2014 2142 by 93		Batch: W46441	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 24-Jan-2014 1611 by 285	Analyzed: 29-Jan-2014 1034 by 285		Batch: W46423	
Total Suspended Solids		**4.8**	4	**mg/l**	
USGS 3765	Prep: 28-Jan-2014 1057 by 285	Analyzed: 29-Jan-2014 0926 by 285		Batch: W46454	
Phosphorus		**0.092**	0.02	**mg/l**	
EPA 200.7	Prep: 27-Jan-2014 0917 by 271	Analyzed: 27-Jan-2014 1803 by 305		Batch: S36154	
Nitrate as N		**24**	0.5	**mg/l**	D
EPA 300.0	Prep: 24-Jan-2014 1630 by 07	Analyzed: 24-Jan-2014 2218 by 07		Batch: C16413	Dil: 10

AIC No. 174791-2
Sample Identification: Outfall 010 1/24/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**2.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 24-Jan-2014 1537 by 295		Batch: M4266	

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		174733-1	< 2 mg/l			24Jan14 0809 by 285	29Jan14 0931 by 285		
	Batch: W46423	Duplicate	< 2 mg/l	0.00	20.0	24Jan14 0809 by 285	29Jan14 0933 by 285		
Total Suspended Solids		174787-1	< 4 mg/l			28Jan14 1057 by 285	29Jan14 0926 by 285		
	Batch: W46454	Duplicate	< 4 mg/l	0.00	20.0	28Jan14 1058 by 285	29Jan14 0926 by 285		
Total Suspended Solids		174788-1	120 mg/l			28Jan14 1057 by 285	29Jan14 0926 by 285		
	Batch: W46454	Duplicate	120 mg/l	0.851	20.0	28Jan14 1058 by 285	29Jan14 0926 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	110	80.0-120			W46441	27Jan14 1037 by 93	28Jan14 1954 by 93		
Carbonaceous BOD 5-day	200 mg/l	89.4	84.5-115			W46423	24Jan14 0809 by 285	29Jan14 0928 by 285		
Phosphorus	5 mg/l	109	85.0-115			S36154	27Jan14 0917 by 271	27Jan14 1750 by 305		
Nitrate as N	4 mg/l	92.0	90.0-110			C16413	24Jan14 1631 by 07	24Jan14 1844 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174795-1	1 mg/l	114	80.0-120	W46441	27Jan14 1037 by 93	28Jan14 2135 by 93	5	D
	174795-1	1 mg/l	89.0	80.0-120	W46441	27Jan14 1037 by 93	28Jan14 2137 by 93	5	D
	Relative Percent Difference:		7.56	25.0	W46441				D
Phosphorus	174729-1	5 mg/l	110	75.0-125	S36154	27Jan14 0917 by 271	27Jan14 1753 by 305		
	174729-1	5 mg/l	111	75.0-125	S36154	27Jan14 0917 by 271	27Jan14 1756 by 305		
	Relative Percent Difference:		0.499	20.0	S36154				
Nitrate as N	174775-1	4 mg/l	93.0	80.0-120	C16413	24Jan14 1631 by 07	24Jan14 1911 by 07		
	174775-1	4 mg/l	93.0	80.0-120	C16413	24Jan14 1631 by 07	24Jan14 1937 by 07		
	Relative Percent Difference:		0.0269	10.0	C16413				

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	W46441-1	27Jan14 1037 by 93	28Jan14 1953 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46423-1	24Jan14 0809 by 285	29Jan14 0927 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46454-1	28Jan14 1058 by 285	29Jan14 0926 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36154-1	27Jan14 0917 by 271	27Jan14 1746 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16413-1	24Jan14 1631 by 07	24Jan14 1817 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4266-1		24Jan14 1538 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: 174791
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.3°C
Remarks

	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	1/23/14-1/24/14 945-945		X	X			1	X			I.D as: Outfall 010
(2)		010	1/24/14 945	X		X			1		X		
(1)		010	1/23/14-1/24/14 945-945		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	1/24/14 10:00		
Relinquished By:	**Date/Time**	**Received in Lab By:**	**Date/Time**
		Jeremy Day	1/24/14 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 January 25, 2014. 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 January 25, 2014
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
174808-1	Outfall 010 1/24/14 945 1/25/14 945	25-Jan-2014 0945	
174808-2	Outfall 010 1/25/14 945	25-Jan-2014 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. 174808-1
Sample Identification: Outfall 010 1/24/14 945 1/25/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**8.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 27-Jan-2014 1035 by 93	Analyzed: 28-Jan-2014 2155 by 93		Batch: W46441	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 27-Jan-2014 0745 by 285	Analyzed: 01-Feb-2014 1151 by 285		Batch: W46439	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 28-Jan-2014 1057 by 285	Analyzed: 29-Jan-2014 0926 by 285		Batch: W46454	
Phosphorus		**0.071**	0.02	**mg/l**	
EPA 200.7	Prep: 27-Jan-2014 1620 by 271	Analyzed: 28-Jan-2014 1343 by 305		Batch: S36158	

AIC No. 174808-2
Sample Identification: Outfall 010 1/25/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**1.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 25-Jan-2014 1330 by 295		Batch: M4267	

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		174805-1	< 2 mg/l			27Jan14 0745 by 285	01Feb14 1123 by 285		
	Batch: W46439	Duplicate	< 2 mg/l	0.00	20.0	27Jan14 0745 by 285	01Feb14 1125 by 285		
Total Suspended Solids		174787-1	< 4 mg/l			28Jan14 1057 by 285	29Jan14 0926 by 285		
	Batch: W46454	Duplicate	< 4 mg/l	0.00	20.0	28Jan14 1058 by 285	29Jan14 0926 by 285		
Total Suspended Solids		174788-1	120 mg/l			28Jan14 1057 by 285	29Jan14 0926 by 285		
	Batch: W46454	Duplicate	120 mg/l	0.851	20.0	28Jan14 1058 by 285	29Jan14 0926 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	110	80.0-120			W46441	27Jan14 1037 by 93	28Jan14 1954 by 93		
Carbonaceous BOD 5-day	200 mg/l	92.9	84.5-115			W46439	27Jan14 0745 by 285	01Feb14 1122 by 285		
Phosphorus	5 mg/l	107	85.0-115			S36158	27Jan14 1621 by 271	28Jan14 1311 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174795-1	1 mg/l	114	80.0-120	W46441	27Jan14 1037 by 93	28Jan14 2135 by 93	5	D
	174795-1	1 mg/l	89.0	80.0-120	W46441	27Jan14 1037 by 93	28Jan14 2137 by 93	5	D
	Relative Percent Difference:		7.56	25.0	W46441				D
Phosphorus	174801-1	5 mg/l	106	75.0-125	S36158	27Jan14 1621 by 271	28Jan14 1314 by 305		
	174801-1	5 mg/l	106	75.0-125	S36158	27Jan14 1621 by 271	28Jan14 1317 by 305		
	Relative Percent Difference:		0.395	20.0	S36158				

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	W46441-1	27Jan14 1037 by 93	28Jan14 1953 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46439-1	27Jan14 0745 by 285	01Feb14 1121 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46454-1	28Jan14 1058 by 285	29Jan14 0926 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36158-1	27Jan14 1621 by 271	28Jan14 1309 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4267-1		25Jan14 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: 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	1/24/14-1/25/14 945-945		X	X			1	X			2 bottles Outfall 010
(2)	010	1/25/14 945	X		X			1		X		
(1)	010	1/24/14-1/25/14 945-945		X	X			1			X	
		Container Type							P	P	P	
		Preservative							NO	T	S	

AIC CONTROL NO: 174808
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: -0.8

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	1/25/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/25/14 1250

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 January 26, 2014. 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 January 26, 2014
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
174809-1	010 1/25/14 945 - 1/26/14 945	26-Jan-2014 0945	
174809-2	010 1/26/14 945	26-Jan-2014 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. 174809-1
Sample Identification: 010 1/25/14 945 - 1/26/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**8.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 27-Jan-2014 1035 by 93	Analyzed: 28-Jan-2014 2157 by 93		Batch: W46441	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 27-Jan-2014 0745 by 285	Analyzed: 01-Feb-2014 1158 by 285		Batch: W46439	
Total Suspended Solids		**4.8**	4	**mg/l**	
USGS 3765	Prep: 28-Jan-2014 1057 by 285	Analyzed: 29-Jan-2014 0926 by 285		Batch: W46454	
Phosphorus		**0.073**	0.02	**mg/l**	
EPA 200.7	Prep: 27-Jan-2014 1620 by 271	Analyzed: 28-Jan-2014 1345 by 305		Batch: S36158	

AIC No. 174809-2
Sample Identification: 010 1/26/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**1.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 26-Jan-2014 1300 by 295		Batch: M4268	

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		174805-1	< 2 mg/l			27Jan14 0745 by 285	01Feb14 1123 by 285		
	Batch: W46439	Duplicate	< 2 mg/l	0.00	20.0	27Jan14 0745 by 285	01Feb14 1125 by 285		
Total Suspended Solids		174787-1	< 4 mg/l			28Jan14 1057 by 285	29Jan14 0926 by 285		
	Batch: W46454	Duplicate	< 4 mg/l	0.00	20.0	28Jan14 1058 by 285	29Jan14 0926 by 285		
Total Suspended Solids		174788-1	120 mg/l			28Jan14 1057 by 285	29Jan14 0926 by 285		
	Batch: W46454	Duplicate	120 mg/l	0.851	20.0	28Jan14 1058 by 285	29Jan14 0926 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	110	80.0-120			W46441	27Jan14 1037 by 93	28Jan14 1954 by 93		
Carbonaceous BOD 5-day	200 mg/l	92.9	84.5-115			W46439	27Jan14 0745 by 285	01Feb14 1122 by 285		
Phosphorus	5 mg/l	107	85.0-115			S36158	27Jan14 1621 by 271	28Jan14 1311 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174795-1	1 mg/l	114	80.0-120	W46441	27Jan14 1037 by 93	28Jan14 2135 by 93	5	D
	174795-1	1 mg/l	89.0	80.0-120	W46441	27Jan14 1037 by 93	28Jan14 2137 by 93	5	D
	Relative Percent Difference:		7.56	25.0	W46441				D
Phosphorus	174801-1	5 mg/l	106	75.0-125	S36158	27Jan14 1621 by 271	28Jan14 1314 by 305		
	174801-1	5 mg/l	106	75.0-125	S36158	27Jan14 1621 by 271	28Jan14 1317 by 305		
	Relative Percent Difference:		0.395	20.0	S36158				

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	W46441-1	27Jan14 1037 by 93	28Jan14 1953 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46439-1	27Jan14 0745 by 285	01Feb14 1121 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46454-1	28Jan14 1058 by 285	29Jan14 0926 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36158-1	27Jan14 1621 by 271	28Jan14 1309 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4268-1		26Jan14 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: W A T E R | S O I L

NO OF BOTTLES

ANALYSES REQUESTED: CBOD, TSS | Coli. F | NH3N, Total Phosphorus

AIC CONTROL NO: 174809
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: -1.3°

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	1/25/14-1/26/14 945-945		X	X			1	X			
2	010	1/26/14 945	X		X			1		X		
1	010	1/25/14-1/26/14 945-945		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	1/26/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Shawn Wom	1-26-14 (1235)

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 January 27, 2014. 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

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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 January 27, 2014
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
174827-1	Outfall 010 1/26/14 945 1/27/14 945	27-Jan-2014 0945	
174827-2	Outfall 010 1/27/14 945	27-Jan-2014 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. 174827-1
Sample Identification: Outfall 010 1/26/14 945 1/27/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**8.4**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 28-Jan-2014 0945 by 93	Analyzed: 28-Jan-2014 2208 by 93		Batch: W46452	Dil: 5
Carbonaceous BOD 5-day		**3.1**	2	**mg/l**	
SM 5210 B 2001	Prep: 27-Jan-2014 1555 by 285	Analyzed: 01-Feb-2014 1216 by 285		Batch: W46439	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 29-Jan-2014 1402 by 285	Analyzed: 30-Jan-2014 0842 by 285		Batch: W46475	
Phosphorus		**0.068**	0.02	**mg/l**	
EPA 200.7	Prep: 27-Jan-2014 1620 by 271	Analyzed: 28-Jan-2014 1403 by 305		Batch: S36158	
Nitrate as N		**24**	0.5	**mg/l**	D
EPA 300.0	Prep: 27-Jan-2014 1410 by 07	Analyzed: 27-Jan-2014 2006 by 07		Batch: C16415	Dil: 10

AIC No. 174827-2
Sample Identification: Outfall 010 1/27/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**1.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 27-Jan-2014 1529 by 295		Batch: M4269	

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		174805-1	< 2 mg/l			27Jan14 0745 by 285	01Feb14 1123 by 285		
	Batch: W46439	Duplicate	< 2 mg/l	0.00	20.0	27Jan14 0745 by 285	01Feb14 1125 by 285		
Total Suspended Solids		174822-1	< 4 mg/l			29Jan14 1402 by 285	30Jan14 0842 by 285		
	Batch: W46475	Duplicate	< 4 mg/l	0.00	20.0	29Jan14 1402 by 285	30Jan14 0842 by 285		
Total Suspended Solids		174823-1	7.2 mg/l			29Jan14 1402 by 285	30Jan14 0842 by 285		
	Batch: W46475	Duplicate	6.8 mg/l	5.71	20.0	29Jan14 1402 by 285	30Jan14 0842 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			W46452	28Jan14 0945 by 93	28Jan14 2038 by 93		
Carbonaceous BOD 5-day	200 mg/l	92.9	84.5-115			W46439	27Jan14 0745 by 285	01Feb14 1122 by 285		
Phosphorus	5 mg/l	107	85.0-115			S36158	27Jan14 1621 by 271	28Jan14 1311 by 305		
Nitrate as N	4 mg/l	99.2	90.0-110			C16415	27Jan14 1341 by 07	27Jan14 1537 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174824-1	1 mg/l	96.9	80.0-120	W46452	28Jan14 0945 by 93	28Jan14 2158 by 93	5	D
	174824-1	1 mg/l	87.2	80.0-120	W46452	28Jan14 0945 by 93	28Jan14 2204 by 93	5	D
	Relative Percent Difference:		3.39	25.0	W46452				D
Phosphorus	174801-1	5 mg/l	106	75.0-125	S36158	27Jan14 1621 by 271	28Jan14 1314 by 305		
	174801-1	5 mg/l	106	75.0-125	S36158	27Jan14 1621 by 271	28Jan14 1317 by 305		
	Relative Percent Difference:		0.395	20.0	S36158				
Nitrate as N	174820-1	4 mg/l	94.8	80.0-120	C16415	27Jan14 1341 by 07	27Jan14 1604 by 07		
	174820-1	4 mg/l	96.0	80.0-120	C16415	27Jan14 1341 by 07	27Jan14 1631 by 07		
	Relative Percent Difference:		1.18	10.0	C16415				

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	W46452-1	28Jan14 0945 by 93	28Jan14 2036 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46439-1	27Jan14 0745 by 285	01Feb14 1121 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46475-1	29Jan14 1402 by 285	30Jan14 0842 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36158-1	27Jan14 1621 by 271	28Jan14 1309 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16415-1	27Jan14 1341 by 07	27Jan14 1349 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4269-1		27Jan14 1529 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 No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS,NO3N	ANALYSES REQUESTED: Coli. F	ANALYSES REQUESTED: NH3N, Total Phosphorus	Remarks
(1)	010	1/26/14-1/27/14 945-945		X	X			1	X			ED AS: OUTFALL 010
(2)	010	1/27/14 945	X		X			1		X		
(1)	010	1/26/14-1/27/14 945-945		X	X			1			X	
		Container Type							P	P	P	
		Preservative							NO	T	S	

AIC CONTROL NO: 174827
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.2 C
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	1/27/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/27/14 1315

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 January 28, 2014. 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 January 28, 2014
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
174864-1	010 1/27/14 9:45 1/28/14 9:45	28-Jan-2014 0945	
174864-2	010 1/28/14 9:45	28-Jan-2014 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. 174864-1
Sample Identification: 010 1/27/14 9:45 1/28/14 9:45

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**8.0**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 29-Jan-2014 0826 by 302	Analyzed: 31-Jan-2014 1555 by 308		Batch: W46469	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 29-Jan-2014 0820 by 285	Analyzed: 03-Feb-2014 0957 by 285		Batch: W46467	
Total Suspended Solids		**4.8**	4	**mg/l**	
USGS 3765	Prep: 29-Jan-2014 1402 by 285	Analyzed: 30-Jan-2014 0842 by 285		Batch: W46475	
Phosphorus		**0.088**	0.02	**mg/l**	
EPA 200.7	Prep: 29-Jan-2014 0952 by 271	Analyzed: 29-Jan-2014 1547 by 305		Batch: S36167	

AIC No. 174864-2
Sample Identification: 010 1/28/14 9:45

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**260**	10	**mg/l**	
SM 2540 C 1997	Prep: 29-Jan-2014 1619 by 285	Analyzed: 30-Jan-2014 1601 by 285		Batch: W46477	
Chloride		**18**	0.2	**mg/l**	
EPA 300.0	Prep: 28-Jan-2014 1410 by 07	Analyzed: 28-Jan-2014 1910 by 07		Batch: C16417	
Sulfate		**23**	0.2	**mg/l**	
EPA 300.0	Prep: 28-Jan-2014 1410 by 07	Analyzed: 28-Jan-2014 1910 by 07		Batch: C16417	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 29-Jan-2014 0850 by 295	Analyzed: 29-Jan-2014 1124 by 295		Batch: B8767	
Fecal Coliform		**< 1**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 28-Jan-2014 1450 by 295		Batch: M4271	

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		174864-1	< 2 mg/l			29Jan14 0820 by 285	03Feb14 0957 by 285		
	Batch: W46467	Duplicate	< 2 mg/l	0.00	20.0	29Jan14 0821 by 285	03Feb14 0958 by 285		
Total Suspended Solids		174822-1	< 4 mg/l			29Jan14 1402 by 285	30Jan14 0842 by 285		
	Batch: W46475	Duplicate	< 4 mg/l	0.00	20.0	29Jan14 1402 by 285	30Jan14 0842 by 285		
Total Suspended Solids		174823-1	7.2 mg/l			29Jan14 1402 by 285	30Jan14 0842 by 285		
	Batch: W46475	Duplicate	6.8 mg/l	5.71	20.0	29Jan14 1402 by 285	30Jan14 0842 by 285		
Total Dissolved Solids		174820-1	1300 mg/l			29Jan14 1619 by 285	30Jan14 1601 by 285		
	Batch: W46477	Duplicate	1300 mg/l	0.230	10.0	29Jan14 1619 by 285	30Jan14 1601 by 285		
Total Dissolved Solids		174820-2	1300 mg/l			29Jan14 1619 by 285	30Jan14 1601 by 285		
	Batch: W46477	Duplicate	1300 mg/l	0.618	10.0	29Jan14 1619 by 285	30Jan14 1601 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	96.7	80.0-120			W46469	29Jan14 0826 by 302	31Jan14 1400 by 308		
Carbonaceous BOD 5-day	200 mg/l	100	84.5-115			W46467	29Jan14 0821 by 285	03Feb14 0955 by 285		
Phosphorus	5 mg/l	102	85.0-115			S36167	29Jan14 0952 by 271	29Jan14 1539 by 305		
Chloride	20 mg/l	104	90.0-110			C16417	28Jan14 1410 by 07	28Jan14 1629 by 07		
Sulfate	20 mg/l	105	90.0-110			C16417	28Jan14 1410 by 07	28Jan14 1629 by 07		
Oil and Grease	40 mg/l	92.0	78.0-114			B8767	29Jan14 0851 by 295	29Jan14 1124 by 295		
	40 mg/l	91.0	78.0-114	1.09	20.0	B8767	29Jan14 0851 by 295	29Jan14 1124 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174867-1	1 mg/l	108	80.0-120	W46469	29Jan14 0826 by 302	31Jan14 1552 by 308	5	D
	174867-1	1 mg/l	86.6	80.0-120	W46469	29Jan14 0826 by 302	31Jan14 1554 by 308	5	D
	Relative Percent Difference:		8.76	25.0	W46469				D
Phosphorus	174864-1	5 mg/l	102	75.0-125	S36167	29Jan14 0952 by 271	29Jan14 1542 by 305		
	174864-1	5 mg/l	102	75.0-125	S36167	29Jan14 0952 by 271	29Jan14 1545 by 305		
	Relative Percent Difference:		0.145	20.0	S36167				
Chloride	174841-1	20 mg/l	90.7	80.0-120	C16417	28Jan14 1410 by 07	28Jan14 1722 by 07		
	174841-1	20 mg/l	91.7	80.0-120	C16417	28Jan14 1410 by 07	28Jan14 1749 by 07		
	Relative Percent Difference:		0.544	10.0	C16417				
Sulfate	174841-1	20 mg/l	98.7	80.0-120	C16417	28Jan14 1410 by 07	28Jan14 1722 by 07		
	174841-1	20 mg/l	99.0	80.0-120	C16417	28Jan14 1410 by 07	28Jan14 1749 by 07		
	Relative Percent Difference:		0.225	10.0	C16417				

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	W46477-1	29Jan14 1619 by 285	30Jan14 1601 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46469-1	29Jan14 0826 by 302	31Jan14 1358 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46467-1	29Jan14 0821 by 285	03Feb14 0954 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46475-1	29Jan14 1402 by 285	30Jan14 0842 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36167-1	29Jan14 0952 by 271	29Jan14 1537 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16417-1	28Jan14 1410 by 07	28Jan14 1508 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16417-1	28Jan14 1410 by 07	28Jan14 1508 by 07	
Oil and Grease	< 2 mg/l	2	5	B8767-1	29Jan14 0851 by 295	29Jan14 1124 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4271-1		28Jan14 1451 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: 174864
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.6

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli, F	NH3N, Total Phosphorus	Remarks
1	010	1/27/14-1/28/14 9:45-9:45		X	X			1	X			
2	010	1/28/14 9:45	X		X			1		X		
1	010	1/27/14-1/28/14 9:45-9:45		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	1/28/14 10:00		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	1-28-14 13:10

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

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)
2	010	1/28/14 ~~1000~~ 945	X		X		1	X	
2	010	1/28/14 945	X		X		1		X
		Container Type						P	P
		Preservative						S	NO

ANALYSES REQUESTED

AIC CONTROL NO:
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.6
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	1/28/14 1000		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Diana Parker	1-28-14 13:18pm

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 January 29, 2014. 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 January 29, 2014
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
174897-1	Outfall 010 1/28/14 945 1/29/14 945	29-Jan-2014 0945	
174897-2	Outfall 010 1/29/14 945	29-Jan-2014 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. 174897-1
Sample Identification: Outfall 010 1/28/14 945 1/29/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**7.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 29-Jan-2014 1351 by 302	Analyzed: 31-Jan-2014 1601 by 308		Batch: W46469	Dil: 5
Carbonaceous BOD 5-day		**2.4**	2	**mg/l**	
SM 5210 B 2001	Prep: 30-Jan-2014 1026 by 285	Analyzed: 04-Feb-2014 0910 by 285		Batch: W46482	
Total Suspended Solids		**9.6**	4	**mg/l**	
USGS 3765	Prep: 31-Jan-2014 1507 by 285	Analyzed: 03-Feb-2014 1329 by 285		Batch: W46498	
Phosphorus		**0.16**	0.02	**mg/l**	
EPA 200.7	Prep: 29-Jan-2014 1700 by 305	Analyzed: 30-Jan-2014 1425 by 305		Batch: S36172	
Nitrate as N		**23**	0.5	**mg/l**	D
EPA 300.0	Prep: 29-Jan-2014 1352 by 07	Analyzed: 29-Jan-2014 1834 by 07		Batch: C16423	Dil: 10

AIC No. 174897-2
Sample Identification: Outfall 010 1/29/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**< 1**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 29-Jan-2014 1517 by 21		Batch: M4272	

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		174895-1	2.4 mg/l			30Jan14 1026 by 285	04Feb14 1130 by 302		
	Batch: W46482	Duplicate	2.2 mg/l	7.86	20.0	30Jan14 1026 by 285	04Feb14 0906 by 285		
Total Suspended Solids		174867-1	7.2 mg/l			31Jan14 1507 by 285	03Feb14 1329 by 285		
	Batch: W46498	Duplicate	6.8 mg/l	5.71	20.0	31Jan14 1507 by 285	03Feb14 1329 by 285		
Total Suspended Solids		174868-1	7.2 mg/l			31Jan14 1507 by 285	03Feb14 1329 by 285		
	Batch: W46498	Duplicate	7.2 mg/l	0.00	20.0	31Jan14 1507 by 285	03Feb14 1329 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	96.7	80.0-120			W46469	29Jan14 0826 by 302	31Jan14 1400 by 308		
Carbonaceous BOD 5-day	200 mg/l	86.7	84.5-115			W46482	30Jan14 1026 by 285	04Feb14 0902 by 285		
Phosphorus	5 mg/l	105	85.0-115			S36172	29Jan14 1701 by 305	30Jan14 1411 by 305		
Nitrate as N	4 mg/l	92.5	90.0-110			C16423	29Jan14 1353 by 07	29Jan14 1807 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174867-1	1 mg/l	108	80.0-120	W46469	29Jan14 0826 by 302	31Jan14 1552 by 308	5	D
	174867-1	1 mg/l	86.6	80.0-120	W46469	29Jan14 0826 by 302	31Jan14 1554 by 308	5	D
	Relative Percent Difference:		8.76	25.0	W46469				D
Phosphorus	174902-2	5 mg/l	102	75.0-125	S36172	29Jan14 1701 by 305	30Jan14 1414 by 305		
	174902-2	5 mg/l	103	75.0-125	S36172	29Jan14 1701 by 305	30Jan14 1416 by 305		
	Relative Percent Difference:		0.394	20.0	S36172				
Nitrate as N	174897-1	4 mg/l	87.0	80.0-120	C16423	29Jan14 1353 by 07	29Jan14 1714 by 07		
	174897-1	4 mg/l	90.6	80.0-120	C16423	29Jan14 1353 by 07	29Jan14 1741 by 07		
	Relative Percent Difference:		2.47	10.0	C16423				

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	W46469-1	29Jan14 0826 by 302	31Jan14 1358 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46482-1	30Jan14 1026 by 285	04Feb14 0901 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46498-1	31Jan14 1507 by 285	03Feb14 1329 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36172-1	29Jan14 1701 by 305	30Jan14 1408 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16423-1	29Jan14 1353 by 07	29Jan14 1647 by 07	
Fecal Coliform	< 1 /100ml	1	1	M4272-1		29Jan14 1531 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.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 174897
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.8C

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	1/28/14-1/29/14 9:45-9:45		X	X			1	X			10 DS Outfall 010
(2)	010	1/29/14 9:45	X		X			1		X		
(1)	010	1/28/14-1/29/14 9:45-9:45		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	1/29/14 1000		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1/29/14 1315

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

February 5, 2014
Control No. 174935

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 January 30, 2014. 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 January 30, 2014
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
174935-1	Outfall 010 1/29/14 945 1/30/14 945	30-Jan-2014 0945	
174935-2	Outfall 010 1/30/14 945	30-Jan-2014 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. 174935-1
Sample Identification: Outfall 010 1/29/14 945 1/30/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**7.7**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 31-Jan-2014 0810 by 302	Analyzed: 31-Jan-2014 1615 by 308		Batch: W46489	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 31-Jan-2014 0819 by 285	Analyzed: 05-Feb-2014 0849 by 285		Batch: W46491	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 03-Feb-2014 1433 by 285	Analyzed: 04-Feb-2014 0827 by 285		Batch: W46513	
Phosphorus		**0.075**	0.02	**mg/l**	
EPA 200.7	Prep: 30-Jan-2014 1650 by 305	Analyzed: 31-Jan-2014 1318 by 305		Batch: S36180	
Nitrate as N		**21**	0.5	**mg/l**	D
EPA 300.0	Prep: 30-Jan-2014 1418 by 07	Analyzed: 30-Jan-2014 1950 by 07		Batch: C16425	Dil: 10

AIC No. 174935-2
Sample Identification: Outfall 010 1/30/14 945

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**220**	10	**mg/l**	
SM 2540 C 1997	Prep: 31-Jan-2014 1303 by 302	Analyzed: 03-Feb-2014 1526 by 302		Batch: W46494	
Chloride		**18**	0.2	**mg/l**	
EPA 300.0	Prep: 30-Jan-2014 1542 by 07	Analyzed: 30-Jan-2014 2044 by 07		Batch: C16425	
Sulfate		**22**	0.2	**mg/l**	
EPA 300.0	Prep: 30-Jan-2014 1542 by 07	Analyzed: 30-Jan-2014 2044 by 07		Batch: C16425	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 03-Feb-2014 1307 by 295	Analyzed: 04-Feb-2014 0844 by 295		Batch: B8773	
Fecal Coliform		**2.0**	1	**/100ml**	
SM 9222 D 1997		Analyzed: 30-Jan-2014 1507 by 295		Batch: M4273	

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		174935-1	< 2 mg/l			31Jan14 0819 by 285	05Feb14 0849 by 285		
	Batch: W46491	Duplicate	< 2 mg/l	0.00	20.0	31Jan14 0819 by 285	05Feb14 0851 by 285		
Total Dissolved Solids		174911-1	770 mg/l			31Jan14 1303 by 302	03Feb14 1526 by 302		
	Batch: W46494	Duplicate	780 mg/l	0.515	10.0	31Jan14 1303 by 302	03Feb14 1526 by 302		
Total Dissolved Solids		174912-1	250 mg/l			31Jan14 1303 by 302	03Feb14 1526 by 302		
	Batch: W46494	Duplicate	250 mg/l	0.00	10.0	31Jan14 1303 by 302	03Feb14 1526 by 302		
Total Suspended Solids		174913-1	120 mg/l			03Feb14 1433 by 285	04Feb14 0827 by 285		
	Batch: W46513	Duplicate	110 mg/l	9.61	20.0	03Feb14 1433 by 285	04Feb14 0827 by 285		
Total Suspended Solids		174922-2	21 mg/l			03Feb14 1433 by 285	04Feb14 0827 by 285		
	Batch: W46513	Duplicate	23 mg/l	7.27	20.0	03Feb14 1433 by 285	04Feb14 0827 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	99.6	80.0-120			W46489	31Jan14 0810 by 302	31Jan14 1440 by 308		
Carbonaceous BOD 5-day	200 mg/l	97.3	84.5-115			W46491	31Jan14 0819 by 285	05Feb14 0848 by 285		
Phosphorus	5 mg/l	106	85.0-115			S36180	30Jan14 1651 by 305	31Jan14 1307 by 305		
Chloride	20 mg/l	103	90.0-110			C16425	30Jan14 1418 by 07	30Jan14 1455 by 07		
Nitrate as N	4 mg/l	96.9	90.0-110			C16425	30Jan14 1418 by 07	30Jan14 1455 by 07		
Sulfate	20 mg/l	109	90.0-110			C16425	30Jan14 1418 by 07	30Jan14 1455 by 07		
Oil and Grease	40 mg/l	101	78.0-114			B8773	03Feb14 1307 by 295	04Feb14 0844 by 295		
	40 mg/l	105	78.0-114	3.88	20.0	B8773	03Feb14 1307 by 295	04Feb14 0844 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	174941-1	1 mg/l	89.4	80.0-120	W46489	31Jan14 0810 by 302	03Feb14 0921 by 302	5	D
	174941-1	1 mg/l	86.9	80.0-120	W46489	31Jan14 0810 by 302	03Feb14 0923 by 302	5	D
	Relative Percent Difference:		0.692	25.0	W46489				D
Phosphorus	174930-1	5 mg/l	105	75.0-125	S36180	30Jan14 1651 by 305	31Jan14 1310 by 305		
	174930-1	5 mg/l	105	75.0-125	S36180	30Jan14 1651 by 305	31Jan14 1313 by 305		
	Relative Percent Difference:		0.00454	20.0	S36180				
Chloride	174915-1	20 mg/l	94.4	80.0-120	C16425	30Jan14 1418 by 07	30Jan14 1522 by 07		
	174915-1	20 mg/l	94.2	80.0-120	C16425	30Jan14 1418 by 07	30Jan14 1549 by 07		
	Relative Percent Difference:		0.188	10.0	C16425				
Nitrate as N	174915-1	4 mg/l	90.5	80.0-120	C16425	30Jan14 1418 by 07	30Jan14 1522 by 07		
	174915-1	4 mg/l	90.1	80.0-120	C16425	30Jan14 1418 by 07	30Jan14 1549 by 07		
	Relative Percent Difference:		0.471	10.0	C16425				
Sulfate	174915-1	20 mg/l	99.3	80.0-120	C16425	30Jan14 1418 by 07	30Jan14 1522 by 07		
	174915-1	20 mg/l	99.4	80.0-120	C16425	30Jan14 1418 by 07	30Jan14 1549 by 07		
	Relative Percent Difference:		0.107	10.0	C16425				

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	W46494-1	31Jan14 1303 by 302	03Feb14 1526 by 302	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W46489-1	31Jan14 0810 by 302	31Jan14 1435 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46491-1	31Jan14 0819 by 285	05Feb14 0847 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46513-1	03Feb14 1433 by 285	04Feb14 0827 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36180-1	30Jan14 1651 by 305	31Jan14 1305 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16425-1	30Jan14 1418 by 07	30Jan14 1428 by 07	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16425-1	30Jan14 1418 by 07	30Jan14 1428 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16425-1	30Jan14 1418 by 07	30Jan14 1428 by 07	
Oil and Grease	< 2 mg/l	2	5	B8773-1	03Feb14 1307 by 295	04Feb14 0844 by 295	
Fecal Coliform	< 1 /100ml	1	1	M4273-1		30Jan14 1508 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: 174935
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.6°C

	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	1/29/14-1/30/14 945-945		X	X			1	X			EQ at OUTFALL 010
(2)		010	1/30/14 945	X		X			1		X		
(1)		010	1/29/14-1/30/14 945-945		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	1/30/14 1000		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jeremy Day	1/30/14 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

ANALYSES REQUESTED

AIC CONTROL NO: 174935
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.6°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	Remarks
(3)	010	1/30/14 945	X		X		1	X		EDDS Outfall 010
(2)	010	1/30/14 945	X		X		1		X	1 1 1
		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	1/30/14 1000		
Relinquished By:	Date/Time	Received in Lab By: Jimmy Day	Date/Time 1/30/14 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 January 31, 2014. 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 January 31, 2014
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
174998-1	010 1/30/14 945 1/31/14 945	31-Jan-2014 0945	
174998-2	010 1/31/14 945	31-Jan-2014 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. 174998-1
Sample Identification: 010 1/30/14 945 1/31/14 945

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**7.6**	0.5	**mg/l**	D
SM 4500-NH3 B,G 1997	Prep: 03-Feb-2014 0756 by 302	Analyzed: 06-Feb-2014 0859 by 302		Batch: W46506	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B 2001	Prep: 31-Jan-2014 1604 by 285	Analyzed: 05-Feb-2014 1005 by 285		Batch: W46491	
Total Suspended Solids		**< 4**	4	**mg/l**	
USGS 3765	Prep: 04-Feb-2014 0932 by 302	Analyzed: 04-Feb-2014 1627 by 302		Batch: W46519	
Phosphorus		**0.076**	0.02	**mg/l**	
EPA 200.7	Prep: 03-Feb-2014 0910 by 305	Analyzed: 03-Feb-2014 1634 by 305		Batch: S36189	

AIC No. 174998-2
Sample Identification: 010 1/31/14 945

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**9.0**	1	**/100ml**	
SM 9222 D 1997	Analyzed: 31-Jan-2014 1541 by 295		Batch: M4276	

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		174935-1	< 2 mg/l			31Jan14 0819 by 285	05Feb14 0849 by 285		
	Batch: W46491	Duplicate	< 2 mg/l	0.00	20.0	31Jan14 0819 by 285	05Feb14 0851 by 285		
Total Suspended Solids		174944-3	130 mg/l			04Feb14 0932 by 302	04Feb14 1627 by 302		
	Batch: W46519	Duplicate	120 mg/l	8.26	20.0	04Feb14 0932 by 302	04Feb14 1627 by 302		
Total Suspended Solids		174946-3	3600 mg/l			04Feb14 0932 by 302	04Feb14 1627 by 302		
	Batch: W46519	Duplicate	3600 mg/l	1.12	20.0	04Feb14 0932 by 302	04Feb14 1627 by 302		

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	99.6	80.0-120			W46506	03Feb14 0756 by 302	05Feb14 1914 by 302		
Carbonaceous BOD 5-day	200 mg/l	97.3	84.5-115			W46491	31Jan14 0819 by 285	05Feb14 0848 by 285		
Phosphorus	5 mg/l	104	85.0-115			S36189	03Feb14 0910 by 305	03Feb14 1616 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	175001-1	1 mg/l	105	80.0-120	W46506	03Feb14 0756 by 302	06Feb14 0823 by 302	5	D
	175001-1	1 mg/l	108	80.0-120	W46506	03Feb14 0756 by 302	06Feb14 0825 by 302	5	D
	Relative Percent Difference:		0.841	25.0	W46506				D
Phosphorus	174997-2	5 mg/l	104	75.0-125	S36189	03Feb14 0910 by 305	03Feb14 1619 by 305		
	174997-2	5 mg/l	103	75.0-125	S36189	03Feb14 0910 by 305	03Feb14 1623 by 305		
	Relative Percent Difference:		0.571	20.0	S36189				

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	W46506-1	03Feb14 0756 by 302	05Feb14 1912 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W46491-1	31Jan14 0819 by 285	05Feb14 0847 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W46519-1	04Feb14 0932 by 302	04Feb14 1627 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S36189-1	03Feb14 0910 by 305	03Feb14 1613 by 305	
Fecal Coliform	< 1 /100ml	1	1	M4276-1		31Jan14 1541 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: 174998
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 0.8

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	1/30/14 945 - 1/31/14 945		X	X			1	X			
2	010	1/31/14 945	X		X			1		X		
1	010	1/30/14 945 - 1/31/14 945		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	1/31/14 1000		
1			
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			1-31-14 13:19

Comments:

FORM 0060

Bio-Analytical Laboratories (BAL)
ADEQ#88-0630
Project X5316

Bio-Analytical Laboratories' Executive Summary

Permittee: El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731
Project #: X5316
Outfall: Outfall 006 (contaminated storm water)
Permit #: AR0000752/ AFIN #70-00040
Contact: Ms. Larken Pennington
Test Dates: January 10 - 12, 2014
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 - 0.00%.

This report contains a total of 29 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 X5316

Test Dates: January 10 - 12, 2014
Report Date: February 17, 2014

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 X5316

TABLE OF CONTENTS

BAL
ADEQ #88-0630
Project X5316

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),"Standard Methods for The Examination of Water and Wastewater. 20th Edition" (APHA 1998. Chemical results using this edition are listed in the report as SM 1997), and BAL's standard operating procedures.

2.2 Test Organisms

The fathead minnows were raised in-house at test temperature and were approximately three 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, 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 fathead minnow test were 100.0, 75.0, 56.0, 42.0, 32.0 and 22.0 percent effluent and a reconstituted water control. Due to the lack of available *Daphnia pulex* neonates, the test concentrations used in the daphnid test were 100.0 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 January 9, 2014. Upon completion of collection, the sample was packed in ice and delivered to the laboratory by BAL personnel. The temperature upon arrival was 3.0^0 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 (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. 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 ± 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 X5316

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 critical dilution in either test 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 tests. 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	100.0
22.0	100.0	-----
32.0	100.0	-----
42.0	100.0	-----
56.0	100.0	-----
75.0	100.0	-----
100.0	100.0	100.0

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 X5316

4.0 Conclusions

The sample of Outfall 006 collected from El Dorado Chemical Company, El Dorado, Arkansas, on January 9, 2014, was not found to be lethally toxic to the fathead minnow test organisms nor the *Daphnia pulex* test organisms in any of the effluent dilutions after 48 hours of exposure (p=.05). The 48-hour LC_{50} values for the tests could not be determined (p=.05).

BAL
ADEQ #88-0630
Project X5316

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
1-800-259-1248
Fax: (318) 746-2776

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

Laboratory Use Only:

Company: El Dorado Chemical Company				**Phone:** (870) 863-1484	**Analysis:**								Project Number: X5316	
Address: 4500 Norwest Ave., El Dorado, AR 71731				**Fax:** (870) 863-7499									Temp. upon arrival:	
Permit #: AR0000752/AFIN 70-00040				**Purchase Order:**									Temperature upon arrival: 3.0°C Thermometer #: 89 Tech: DH Date: 1/10/14	
Sampler's Signature/Printed Name/Affiliation: Larken Pennington/Larken Pennington/EDCC													Lab Control Number:	Preservative: (below)
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		
1/9/14-1/9/14	8:45am-2:45pm	X		6 half gallon	006			X	X				C8494	ICE

Relinquished by/Affiliation: Larken Pennington/EDCC	**Date:** 1/10/14	**Time:** 0945	**Received by/Affiliation:**	**Date:** 1/10/14	**Time:** 0945
Relinquished by/Affiliation:	**Date:**	**Time:**	**Received by/Affiliation:**	**Date:**	**Time:**
Relinquished by/Affiliation:	**Date:** 1/10/14	**Time:** 1210	**Received by/Affiliation:**	**Date:** 1/10/14	**Time:** 1210

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# X5316

Client: EDCC/El Dorado Chemical Company

Address: 4500 Northwest Ave El Dorado AR 71731

NPDES#AR0000752 Outfall 006

Technicians: EGB/AH/RC

Test initiated: Date 1/10/14 Time 1350

Test terminated: Date 1/12/14 Time 1345

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 1003	Alkalinity 1003	Tech
C8494	11.7/1353	Y/25'/8.0/93.9%	LO.01	NO	1.0	N/A	208.0	440.6	AH
↓	11.2/1346	Y/25/7.6/89.6%	↓	↓	↓	↓	↓	↓	↓
				↓		↓			

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
		NA	NA	NA	NA				
Soft H2O	3577					7.3	48.0	32.0	EGB
↓									

Test Species Information

Test Species Info.	Species: D.pulex ID#: BAI 50-To	Species: C.dubia ID#: BAI 1714	Species: ID#:	Species: ID#:
Age	<24h	3 d		
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 AH 1/10/14			

Comments: pH→7.0

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

Project# X5316

Client El Dorado Chemical

Sample Description 0016

Test started: Date 1/10/14 Time 1350

Test ended: Date 1/12/14 Time 1325

Test Species D. pulex ID# BAL/So-To

		24hour	48hour	72hour	96hour
Technician:	Ohour AH	24hour AH	48hour AH	72hour	96hour
Time:	Ohour 1360	24hour 1505	48hour 1325	72hour	96hour
Temperature (°C):	Ohour 24.8	24hour 24.7	48hour 24.6	72hour	96hour

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		N/A	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			7.9	8.0/8.1	8.1			7.5	7.5/7.5	7.5			181	248/250	248		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
100 ~~100~~ ADDITIONS	A		8	8	8			7.9	7.1/7.4	7.9			7.8	7.8/7.7	7.2			143	134/144	194		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AH	AH/AH	AH			AH	AH/AH	AH			AH	AH/AH	AH		

ACUTE2 Rev 1.0

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

Project# X5316

Client El Dorado Chemical

Sample Description 0016

Test started: Date 1/10/14 Time 1425

Test ended: Date 1/12/14 Time 1345

Test Species P. promelas ID# BAL1714

Technician:	Ohour RC	24hour RH	48hour RH	72hour ____	96hour ____
Time:	Ohour 1425	24hour 1535	48hour 1345	72hour ____	96hour ____
Temperature (°C):	Ohour 24.0	24hour 24.1	48hour 24.6	72hour ____	96hour ____

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		N/A	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			7.9	7.8/8.1	8.0			7.5	7.2/7.5	7.4			181,7	192/180	RH		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
22	A		8	8	8			7.9	7.8/8.0	7.8			7.5	7.4	7.2			305	315/309	323		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								RC	RH/RH	RH			RC	RH/RH	RH			RC	RH/RH	RH		

ACUTE2 Rev 1.0

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

Project# X5316

Client El Dorado Chemical

Sample Description ODo

Test started: Date 1/10/14 Time 1425

Test ended: Date 1/12/14 Time 1345

Test Species P. promelas ID# BAL 1714

		24hour	48hour	72hour	96hour
Technician:	Ohour RC	AH	AH		
Time:	Ohour 1425	1535	1345		
Temperature (°C):	Ohour 24.7	24.7	24.6		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		N/A	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			7.9	7.6/7.9	7.7			7.6	7.3/7.5	7.2			361	346/359	340		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
42	A		8	8	8			7.9	7.6/7.8	7.6			7.6	7.2/7.6	7.3			419	429/419	434		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								RC	AH/AH	AH			RC	AH/AH	AH			RC	AH/AH	AH		

ACUTE2 Rev 1.0

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

Project# X5316

Client El Dorado Chemical

Sample Description 0016

Test started: Date 1/10/14 Time 1425

Test ended: Date 1/12/14 Time 1345

Test Species P. promelas ID# BAL 1714

Technician:	Ohour RC	24hour AH	48hour AH	72hour	96hour
Time:	Ohour 1425	24hour 1535	48hour 1345	72hour	96hour
Temperature (°C):	Ohour 24.7	24hour 24.7	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
56	A		8	8	8			7.9	7.4/7.7	7.5			7.7	7.3/7.4	7.4			492	499/497	513		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
75	A		8	8	8			7.9	7.3/7.4	7.4			7.7	7.3/7.4	7.4			603	599/602	624		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								RC 1/10/14 RC	AH/AH	AH			RC	AH/AH	AH			RC	AH/AH	AH		

ACUTE2 Rev 1.0

RC

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

Project# X5316

Client El Dorado Chemical

Sample Description 006

Test started: Date 1/10/14 Time 1425

Test ended: Date 1/12/14 Time 1345

Test Species P. promelas ID# BIO 1/7/14

Technician:	Ohour RC	24hour AH	48hour AH	72hour	96hour
Time:	Ohour 1425	24hour 1535	48hour 1345	72hour	96hour
Temperature (°C):	Ohour 24.7	24hour 24.7	48hour 24.6	72hour	96hour

Test Dilution %	Replicate	Test Salinity N/A	# 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
100	A		8	8	8			7.9	7.1/7.4	7.2			7.8	7.3/7.7	7.4			743	731/744	709		
	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								RC	AH/AH	AH			RC	AH/AH	AH			RC	AH/AH	AH		

ACUTE2 Rev 1.0

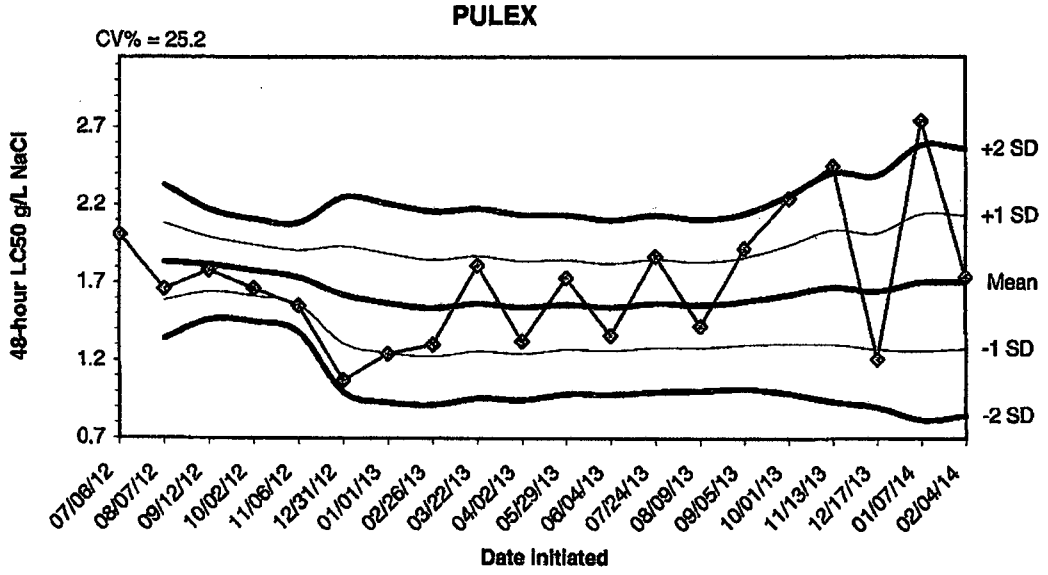
APPENDIX C
STATISTICAL ANALYSIS

All alive, so %CV = 0

EGB
2/14/14

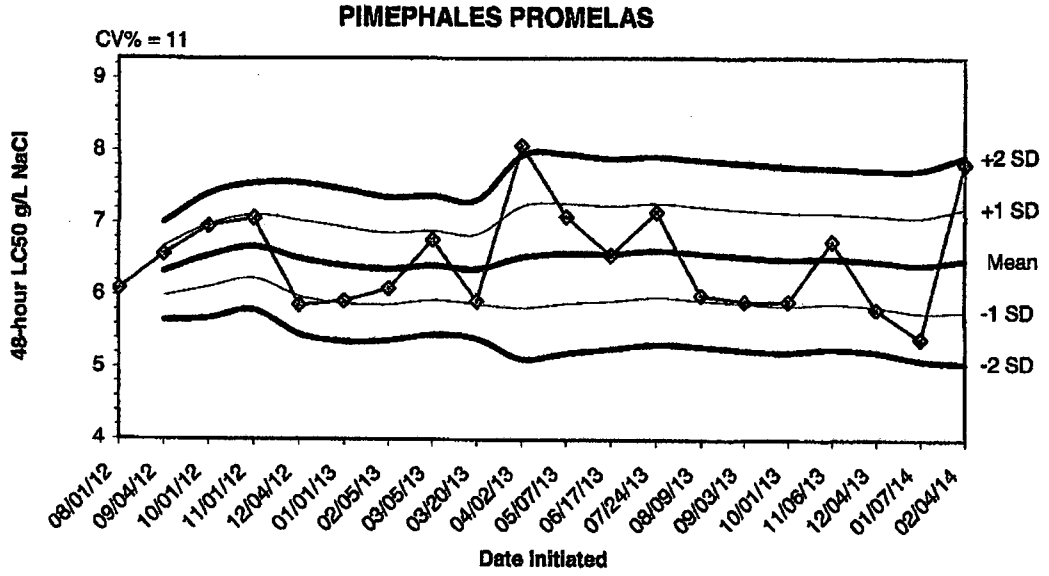
APPENDIX D
QUALITY ASSURANCE CHARTS

2014 48-HOUR REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
07/06/12	2.0100					
08/07/12	1.6600	1.8350	1.5875	1.3400	2.0825	2.3300
09/12/12	1.7800	1.8167	1.6388	1.4610	1.9945	2.1724
10/02/12	1.6600	1.7775	1.6125	1.4475	1.9425	2.1075
11/06/12	1.5500	1.7320	1.5566	1.3812	1.9074	2.0828
12/31/12	1.0700	1.6217	1.3092	0.9967	1.9342	2.2467
01/01/13	1.2400	1.5671	1.2475	0.9278	1.8868	2.2065
02/26/13	1.3000	1.5338	1.2231	0.9124	1.8444	2.1551
03/22/13	1.8100	1.5644	1.2596	0.9548	1.8693	2.1741
04/02/13	1.3200	1.5400	1.2424	0.9448	1.8376	2.1352
05/29/13	1.7300	1.5573	1.2692	0.9811	1.8454	2.1335
06/04/13	1.3600	1.5408	1.2603	0.9798	1.8214	2.1019
07/24/13	1.8700	1.5662	1.2825	0.9988	1.8498	2.1335
08/09/13	1.4200	1.5557	1.2804	1.0050	1.8311	2.1064
09/05/13	1.9200	1.5800	1.2985	1.0170	1.8615	2.1430
10/01/13	2.2400	1.6213	1.3032	0.9851	1.9393	2.2574
11/13/13	2.4500	1.6700	1.3022	0.9344	2.0378	2.4056
12/17/13	1.2100	1.6444	1.2715	0.8986	2.0174	2.3903
01/07/14	2.7400	1.7021	1.2611	0.8200	2.1431	2.5842
02/04/14	1.7400	1.7040	1.2747	0.8453	2.1333	2.5627

2014 48-HOUR ACUTE REFERNCE TOXICANT TEST RESULTS FOR PIMEPHALES PROMELAS



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
08/01/12	6.0900					
09/04/12	6.5700	6.3300	5.9906	5.6512	6.6694	7.0088
10/01/12	6.9500	6.5367	6.1057	5.6747	6.9676	7.3986
11/01/12	7.0600	6.6675	6.2290	5.7905	7.1060	7.5445
12/04/12	5.8600	6.5060	5.9819	5.4579	7.0301	7.5541
01/01/13	5.9200	6.4083	5.8821	5.3558	6.9346	7.4608
02/05/13	6.0900	6.3629	5.8676	5.3724	6.8581	7.3533
03/05/13	6.7700	6.4138	5.9332	5.4526	6.8943	7.3749
03/20/13	5.9200	6.3589	5.8802	5.4015	6.8376	7.3163
04/02/13	8.0700	6.5300	5.8254	5.1208	7.2346	7.9392
05/07/13	7.0900	6.5809	5.8915	5.2020	7.2704	7.9598
06/17/13	6.5600	6.5792	5.9218	5.2644	7.2366	7.8940
07/24/13	7.1600	6.6238	5.9741	5.3244	7.2735	7.9232
08/09/13	6.0000	6.5793	5.9332	5.2871	7.2254	7.8715
09/03/13	5.9200	6.5353	5.8899	5.2444	7.1808	7.8262
10/01/13	5.9200	6.4969	5.8546	5.2124	7.1391	7.7814
11/06/13	6.7500	6.5118	5.8869	5.2620	7.1366	7.7615
12/04/13	5.8100	6.4728	5.8444	5.2160	7.1012	7.7295
01/07/14	5.4000	6.4163	5.7579	5.0995	7.0747	7.7331
02/04/14	7.8200	6.4865	5.7729	5.0593	7.2001	7.9137

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: 1/9/14** **To: 1/9/14**
From: **To:**
Test Initiated: 1/10/14
Dilution Water Used: **Receiving Water** **X Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	100.0					
24-hour	A	100.0	100.0					
	B	100.0	100.0					
	C	100.0	100.0					
	D	100.0	100.0					
	E	100.0	100.0					
48-hour	A	100.0	100.0					
	B	100.0	100.0					
	C	100.0	100.0					
	D	100.0	100.0					
	E	100.0	100.0					
	Mean	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 (100.0%) **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 pulex 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
Sample Collected **From:** **Date 1/9/14** **Time 0845**
To: **Date 1/9/14** **Time 1445**
Test Begin **Date 1/10/14** **Time 1425**
Test End **Date 1/12/14** **Time 1345**

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	7.9	8.1	8.1	24.8	24.7	24.6	32.0			48.0			7.5	7.5	7.5
100.0	7.9	7.4	7.9	24.8	24.7	24.6	440.0			208.0			7.8	7.7	7.2

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

Acute Forms
Pimephales promelas Survival

Permittee: El Dorado Chemical - Outfall 006
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 1/9/14** **To: 1/9/14**
From: **To:**
Test Initiated: 1/10/14
Dilution Water Used: **Receiving Water** **X Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	22.0	32.0	42.0	56.0	75.0	100.0
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	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	100.0	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 (100.0%) **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, Callahan
Sample Collected **From:** **Date 1/9/14** **Time 0845**
To: **Date 1/9/14** **Time 1445**
Test Begin **Date 1/10/14** **Time 1425**
Test End **Date 1/12/14** **Time 1345**

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	7.9	8.1	8.0	24.7	24.7	24.6	32.0			48.0			7.5	7.5	7.4
22.0	7.9	8.0	7.8	24.7	24.7	24.6							7.5	7.4	7.2
32.0	7.9	7.9	7.7	24.7	24.7	24.6							7.6	7.5	7.2
42.0	7.9	7.8	7.6	24.7	24.7	24.6							7.6	7.6	7.3
56.0	7.9	7.7	7.5	24.7	24.7	24.6							7.7	7.7	7.4
75.0	7.9	7.6	7.4	24.7	24.7	24.6							7.7	7.7	7.4
100.0	7.9	7.4	7.2	24.7	24.7	24.6	440.0			208.0			7.8	7.7	7.4

*This Form is to be submitted with each DMR.
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 ODC

Project#: X5316

Chain of Custody Documents Checked by: AH 1/29/14
Technician/Date

Raw Data Documents Checked by: AH 1/29/14
Technician/Date

Statistical Analysis Package Checked by: EGB 2/4/14
Quality Manager/Date

Quality Control Data Checked by: EGB 2/4/14
Quality Manager/Date

Report Checked by: EGB 2/17/14
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.

Eric G. Bruggi, BS — 2/17/14
Quality Manager — Date

Report Rev. 3.0

Bio-Analytical Laboratories (BAL)
ADEQ#88-0630
Project X5317

Bio-Analytical Laboratories' Executive Summary

Permittee: El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731
Project #: X5317
Outfall: Outfall 007 (contaminated storm water)
Permit #: AR0000752/ AFIN #70-00040
Contact: Ms. Larken Pennington
Test Dates: January 10 - 12, 2014
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 - 32.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM6C - 0.00%.

-100.0 % survival occurred when the pH in the 100% effluent concentration was adjusted to a range of 6.0-9.0.

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 -0.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D - 6.06%.

-100.0 % survival occurred when the pH in the 100% effluent concentration was adjusted to a range of 6.0-9.0.

This report contains a total of 32 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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Fax: (318) 745-2773

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 X5317

Test Dates: January 10 - 12, 2014
Report Date: February 17, 2014

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 X5317

TABLE OF CONTENTS

BAL
ADEQ #88-0630
Project X5317

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),"Standard Methods for The Examination of Water and Wastewater. 20th Edition" (APHA 1998. Chemical results using this edition are listed in the report as SM 1997), and BAL's standard operating procedures.

2.2 Test Organisms

The fathead minnows were raised in-house at test temperature and were approximately three 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, 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 fathead minnow test were 100.0, 75.0, 56.0, 50.0, 42.0 and 32.0 percent effluent and a reconstituted water control. Due to the lack of available *Daphnia pulex* neonates, the test concentrations used in the daphnid test were 100.0 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 January 9, 2014. Upon completion of collection, the sample was packed in ice and delivered to the laboratory by BAL personnel. The temperature upon arrival was 0.7^0 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 (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 pH of the effluent was adjusted from an initial pH of 4.3 to a pH range of 6.0-9.0, using 1.0 Normal Sodium Hydroxide solution (NaOH). An extra pH-adjusted 100.0 percent concentration was added to each 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 ± 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 X5317

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 24 hours of exposure (p=.05). The NOEC value for the *Daphnia pulex* and the fathead minnow test was zero and 32.0 percent effluent, respectively (p=.05). The 48-hour LC_{50} value for the *Daphnia pulex* and the fathead minnow test was 50.0 and 36.87 percent effluent, respectively. Adjusting the pH to neutral significantly reduced the mortality in both tests. 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	97.5
32.0	100.0	-----
42.0	25.0	-----
50.0	0.0	-----
56.0	0.0	-----
75.0	0.0	-----
100.0	0.0	0.0
100.0 pH adjusted	100.0	100.0

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 X5317

4.0 Conclusions

The sample of Outfall 007 collected from El Dorado Chemical Company, El Dorado, Arkansas, on January 9, 2014, was found to be lethally toxic to the fathead minnow test organisms and the *Daphnia pulex* test organisms in the 100.0 percent critical dilution after 48 hours of exposure (p=.05). The 48-hour LC_{50} values for the *Daphnia pulex* and fathead minnow tests was 50.0 and 36.87 percent effluent, respectively (p=.05). Adjusting the pH to a range of 6.0-9.0 significantly reduced the toxicity of the sample.

BAL
ADEQ #88-0630
Project X5317

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 527
Doyline, LA 71023

(318) 746-2772
1-800-259-1246
Fax: (318) 746-2773

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

Laboratory Use Only:

Company: El Dorado Chemical Company
Phone: (870) 863-1484

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: Karken Pennington | Karken Pennington | EDCC

Analysis:

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)
1/9/14-1/9/14	8:50am-2:50pm	X		6 half gallon	007			X	X				08495	ICE

Project Number: X5317

Temp. upon arrival:

Temperature upon arrival: 0.7°c
Thermometer #: 89
Tech: DH
Date: 1/10/14

Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:
Karken Pennington | EDCC	1/10/14	0945	[signature]	1/10/14	0945
Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:
Relinquished by/Affiliation: [signature]	Date: 1/10/14	Time: 1210	Received by/Affiliation: [signature]	Date: 1/10/14	Time: 1210

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# X5317

Client: EDCC/El Dorado Chemical Company

Address: 4500 Northwest Ave El Dorado AR 71731

NPDES#AR0000752 Outfall 007

Technicians: EGB/AH/RC

Test initiated: Date 1/10/14 Time 1400

Test terminated: Date 1/12/14 Time 1350

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 100ml	Alkalinity 100ml	Tech
C8495	11.7/137.5%	Y/25'/ 79/93.5%	20.01	NO	3.0	N/A	264.0	0	AH
↓	11.9/142.9%	Y/25' 81/96.1%	↓	↓	↓	↓	↓		↓
				↓		↓			

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
		N/A	N/A	N/A	N/A				
Soft H2O	3577					7.3	48.0	32.0	EGB
↓									

Test Species Information

Test Species Info.	Species: Daphnia ID#: EGB/30-To	Species: Pimephales ID#: EGB/1714	Species: ID#:	Species: ID#:
Age	<24h	~30days		
Test Container Size	30ml	250ml		
Test volume	25ml	200ml		
Feeding: Type	YCT: Algae	Artemia		
Amount	Fed 2hrs prior to test initiation			
Aeration?	N/A	N/A		
Amount				
Condition of survivors	Good AH 1/12/14			

Comments: pH → 4.3

pH Adjusted → 7.7

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

Project# X5317

Client El Dorado Chemical

Sample Description 007

Test started: Date 1/10/14 Time 1400

Test ended: Date 1/12/14 Time 1330

Test Species Daphnia ID# BAL/SO-TO

	Ohour	24hour	48hour	72hour	96hour
Technician:	AH	AH	AH		
Time:	1400	1510	1330		
Temperature (°C):	24.8	24.7	24.6		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		N/A	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	7			7.9	7.9/8.0	8.0			7.3	7.9/7.6				183.4	3.12/1.3215			
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
100 ~~30~~ AH 1/10/14	A		8	0				7.9 7.6 AH 1/10/14	8.1				4.6	4.9				1092	1044			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								AH	AH/AH	AH			AH	AH/AH				AH	AH/AH	AH		

ACUTE2 Rev 1.0

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

Project# X5317

Client El Dorado Chemical

Sample Description 007

Test started: Date 1/10/14 Time 1400

Test ended: Date 1/12/14 Time 1330

Test Species Daphnia ID# BAL/So-To

		24hour	48hour	72hour	96hour
Technician:	AH	AH	AH		
Time:	1400	1510	1330		
Temperature (°C):	24.8	24.7	24.6		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		N/A	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100 pH Adj	A		8	8	8			7.0	8.0/7.9	8.0			7.0	7.0/7.1	7.2			1154	1099/1145	1238		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
	A		8	0					/					/					/			
	B		8																			
	C		8																			
	D		8																			
	E		8																			
Chemistry Tech prerenewal/postrenewal								AH	AH/AH	AH			AH	AH/AH	AH			AH	AH/AH	AH		

ACUTE2 Rev 1.0

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

Project# X5317

Client El Dorado Chemical

Sample Description 007

Test started: Date 1/10/14 Time 1435

Test ended: Date 1/12/14 Time 1350

Test Species P. promelas ID# BNL 1714.

	Ohour	24hour	48hour	72hour	96hour
Technician:	AH	AH	AH		
Time:	1435	1550	1350		
Temperature (°C):	24.8	24.7	24.6		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		N/A	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			7.9	7.9/8.0	8.0			7.3	7.4/7.5	7.5			183	203/181	197.8		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
32	A		8	8	8			7.9	7.9/8.0	8.0			6.7	7.0/7.1	7.1			483	490/508			
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AH	AH/AH	AH			AH	AH/AH	AH			AH	AH/AH	AH		

ACUTE2 Rev 1.0

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

Project# X5317

Client El Dorado Chemical

Sample Description 007

Test started: Date 1/10/14 Time 1435

Test ended: Date 1/12/14 Time 1350

Test Species P. promelas ID# BNL 1714

	Ohour	24hour	48hour	72hour	96hour
Technician:	AH	AH	AH		
Time:	1435	1550	1350		
Temperature (°C):	24.8	24.7	24.6		

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
42	A		8	4	0			7.9	8.0	8.0			5.8	6.4	6.5			571	579	594		
	B		8	0	–																	
	C		8	1	0																	
	D		8	0	–																	
	E		8	5	1																	
50	A		8	0				7.9	8.0				5.1	5.2				641	662			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								AH	AH/AH	AH			AH	AH/AH	AH			AH	AH/AH			

ACUTE2 Rev 1.0

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

Project# X5317

Client El Dorado Chemical

Sample Description 007

Test started: Date 1/10/14 Time 1435

Test ended: Date 1/12/14 Time 1350

Test Species P. promelas ID# BIO 1/7/14

	Ohour	24hour	48hour	72hour	96hour
Technician:	AH	AH	AH		
Time:	1435	1550	1350		
Temperature (°C):	24.8	24.7	24.6		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		N/A	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
56	A		8	0				7.9	8.1				4.8	4.8				701	718			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
75	A		8	0				7.9	8.1				4.7	4.6		4.8 Initial		865	882			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								AH/AH					AH/AH					AH	AH			

ACUTE2 Rev 1.0

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

Project# X5317

Client El Dorado Chemical

Sample Description 007

Test started: Date 1/10/14 Time 1435

Test ended: Date 1/12/14 Time 1350

Test Species P.promelas ID# BAL 1714

Technician:	Ohour AH	24hour AH	48hour AH	72hour	96hour
Time:	Ohour 1435	24hour 1550	48hour 1350	72hour	96hour
Temperature (°C):	Ohour 24.8	24hour 24.7	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
100	A		8	0				7.9	8.0				4.0	4.5				1093	1142 T			
	B		8	0															pH adjust			
	C		8	0																		
	D		8	0																		
	E		8	0																		
100 PH Adj.	A		8	8	8			7.6	7.7 / 7.9	7.6			7.6	7.6 / 7.1	7.0			1154	1049 / 1145	1189		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								AH	AH / AH	AH			AH	AH / AH	AH			AH	AH / AH	KMT		

ACUTE2 Rev 1.0

APPENDIX C
STATISTICAL ANALYSIS

Daphnid Acute Test-48 Hr Survival

Start Date:	1/10/2014	Test ID:	X5317DP	Sample ID:	AR0000752-007
End Date:	1/12/2014	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	1/9/2014	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	DP-Daphnia pulex

Comments:

Conc-%	1	2	3	4	5
D-Control	0.8750	1.0000	1.0000	1.0000	1.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100 PH	1.0000	1.0000	1.0000	1.0000	1.0000

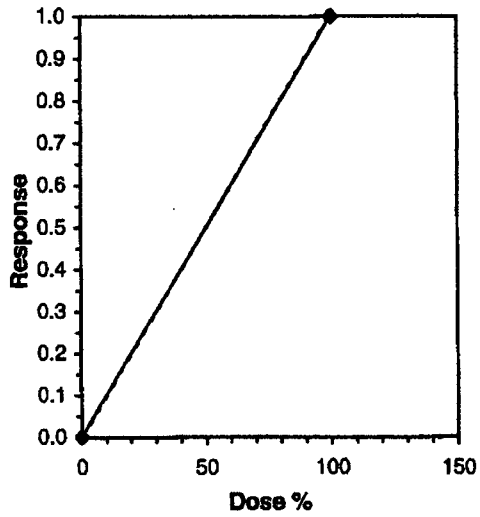
			Transform: Arcsin Square Root					Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Mean	N-Mean
D-Control	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	0.9750	1.0000
100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	0.0000	0.0000
100 PH	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.62485	0.842	-2.5156	7.15179
Equality of variance cannot be confirmed				

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	5.000	0.000	5.000	5.000	1.2120
IC10*	10.000	0.000	10.000	10.000	0.8037
IC15*	15.000	0.000	15.000	15.000	-0.5841
IC20*	20.000	0.000	20.000	20.000	-4.2963
IC25*	25.000	0.000	25.000	25.000	1.0364
IC40*	40.000	0.000	40.000	40.000	#DIV/0!
IC50*	50.000	0.000	50.000	50.000	#DIV/0!

* indicates IC estimate less than the lowest concentration



Reviewed by: EGB 2/4/14

Acute Fish Test-48 Hr Survival

Start Date:	1/10/2014	Test ID:	X5317PP	Sample ID:	AR0000752-007
End Date:	1/12/2014	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	1/9/2014	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	1.0000	1.0000	1.0000	1.0000	1.0000
42	0.0000	0.0000	0.0000	0.0000	0.1250
50	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	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		
32	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	17.00
*42	0.0250	0.0250	0.2144	0.1777	0.3614	38.301	5	15.00	17.00
50	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	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	17.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.4971	0.905	3.24893	13.4118
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates no significant differences
Treatments vs D-Control

ToxCalc v5.0.23

Reviewed by: EQB 2/4/14

Acute Fish Test-48 Hr Survival

Start Date:	1/10/2014	Test ID:	X5317PP	Sample ID:	AR0000752-007
End Date:	1/12/2014	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	1/9/2014	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas

Comments:

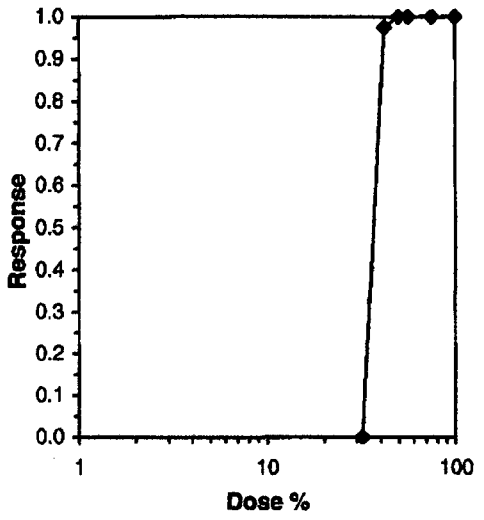
Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000
32	1.0000	1.0000	1.0000	1.0000	1.0000
42	0.0000	0.0000	0.0000	0.0000	0.1250
50	0.0000	0.0000	0.0000	0.0000	0.0000
56	0.0000	0.0000	0.0000	0.0000	0.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100 PH	1.0000	1.0000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Number	Total
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
D-Control	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	0	40
32	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	0	40
42	0.0250	0.0250	0.2144	0.1777	0.3614	38.301	5	39	40
50	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	40	40
56	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	40	40
75	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	40	40
100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	40	40
100 PH	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.4971	0.905	3.24893	13.4118
Equality of variance cannot be confirmed				

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	36.866	36.462	37.274
5.0%	36.789	36.530	37.049
10.0%	36.789	36.530	37.049
20.0%	36.789	36.530	37.049
Auto-0.0%	36.866	36.462	37.274

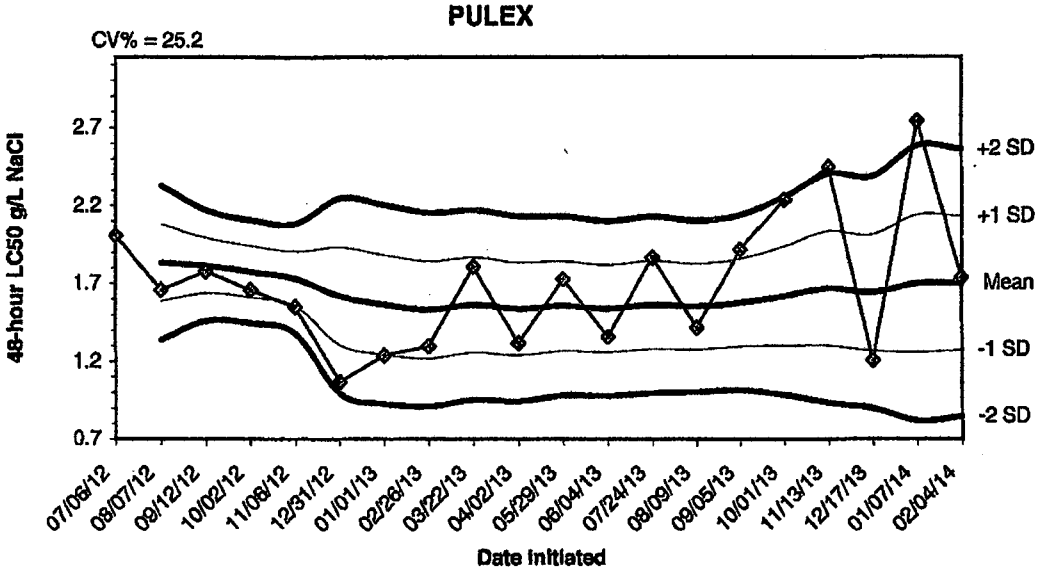


ToxCalc v5.0.23

Reviewed by: ECB 2/4/14

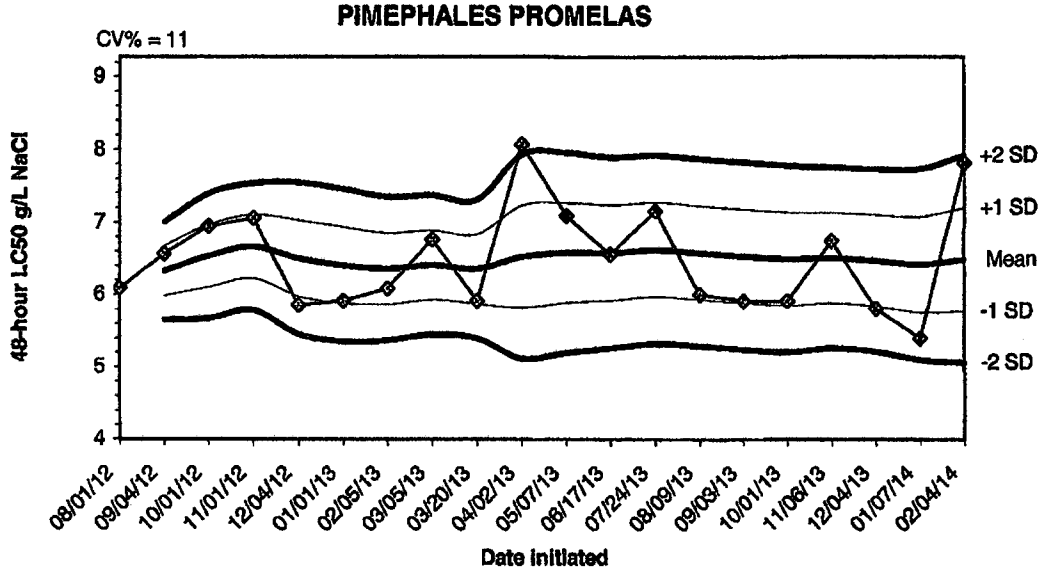
APPENDIX D
QUALITY ASSURANCE CHARTS

2014 48-HOUR REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
07/06/12	2.0100					
08/07/12	1.6600	1.8350	1.5875	1.3400	2.0825	2.3300
09/12/12	1.7800	1.8167	1.6388	1.4610	1.9945	2.1724
10/02/12	1.6600	1.7775	1.6125	1.4475	1.9425	2.1075
11/06/12	1.5500	1.7320	1.5566	1.3812	1.9074	2.0828
12/31/12	1.0700	1.6217	1.3092	0.9967	1.9342	2.2467
01/01/13	1.2400	1.5671	1.2475	0.9278	1.8868	2.2065
02/26/13	1.3000	1.5338	1.2231	0.9124	1.8444	2.1551
03/22/13	1.8100	1.5644	1.2596	0.9548	1.8693	2.1741
04/02/13	1.3200	1.5400	1.2424	0.9448	1.8376	2.1352
05/29/13	1.7300	1.5573	1.2692	0.9811	1.8454	2.1335
06/04/13	1.3600	1.5408	1.2603	0.9798	1.8214	2.1019
07/24/13	1.8700	1.5662	1.2825	0.9988	1.8498	2.1335
08/09/13	1.4200	1.5557	1.2804	1.0050	1.8311	2.1064
09/05/13	1.9200	1.5800	1.2985	1.0170	1.8615	2.1430
10/01/13	2.2400	1.6213	1.3032	0.9851	1.9393	2.2574
11/13/13	2.4500	1.6700	1.3022	0.9344	2.0378	2.4056
12/17/13	1.2100	1.6444	1.2715	0.8986	2.0174	2.3903
01/07/14	2.7400	1.7021	1.2611	0.8200	2.1431	2.5842
02/04/14	1.7400	1.7040	1.2747	0.8453	2.1333	2.5627

2014 48-HOUR ACUTE REFERNCE TOXICANT TEST RESULTS FOR PIMEPHALES PROMELAS



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
08/01/12	6.0900					
09/04/12	6.5700	6.3300	5.9906	5.6512	6.6694	7.0088
10/01/12	6.9500	6.5367	6.1057	5.6747	6.9676	7.3986
11/01/12	7.0600	6.6675	6.2290	5.7905	7.1060	7.5445
12/04/12	5.8600	6.5060	5.9819	5.4579	7.0301	7.5541
01/01/13	5.9200	6.4083	5.8821	5.3558	6.9346	7.4608
02/05/13	6.0900	6.3629	5.8676	5.3724	6.8581	7.3533
03/05/13	6.7700	6.4138	5.9332	5.4526	6.8943	7.3749
03/20/13	5.9200	6.3589	5.8802	5.4015	6.8376	7.3163
04/02/13	8.0700	6.5300	5.8254	5.1208	7.2346	7.9392
05/07/13	7.0900	6.5809	5.8915	5.2020	7.2704	7.9598
06/17/13	6.5600	6.5792	5.9218	5.2644	7.2366	7.8940
07/24/13	7.1600	6.6238	5.9741	5.3244	7.2735	7.9232
08/09/13	6.0000	6.5793	5.9332	5.2871	7.2254	7.8715
09/03/13	5.9200	6.5353	5.8899	5.2444	7.1808	7.8262
10/01/13	5.9200	6.4969	5.8546	5.2124	7.1391	7.7814
11/06/13	6.7500	6.5118	5.8869	5.2620	7.1366	7.7615
12/04/13	5.8100	6.4728	5.8444	5.2160	7.1012	7.7295
01/07/14	5.4000	6.4163	5.7579	5.0995	7.0747	7.7331
02/04/14	7.8200	6.4865	5.7729	5.0593	7.2001	7.9137

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: 1/9/14** **To: 1/9/14**
From: **To:**
Test Initiated: 1/10/14
Dilution Water Used: **Receiving Water** **X Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	100.0	100.0 pH adj				
24-hour	A	100.0	0.0	100.0				
	B	100.0	0.0	100.0				
	C	100.0	0.0	100.0				
	D	100.0	0.0	100.0				
	E	100.0	0.0	100.0				
48-hour	A	87.5	0.0	100.0				
	B	100.0	0.0	100.0				
	C	100.0	0.0	100.0				
	D	100.0	0.0	100.0				
	E	100.0	0.0	100.0				
	Mean	97.5	0.0	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 (100.0%) 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} = 50.0% 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 pulex 48 hour Acute Static Renewal
Chemical Parameters Chart*

Permittee: El Dorado Chemical - Outfall 007
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Haughton
Sample Collected **From:** **Date 1/9/14** **Time 0850**
To: **Date 1/9/14** **Time 1450**
Test Begin **Date 1/10/14** **Time 1400**
Test End **Date 1/12/14** **Time 1330**

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	7.9	7.9	8.0	24.8	24.7	24.6	32.0			48.0			7.3	7.5	7.6
100.0	7.9	8.1		24.8	24.7		0.0			264.0			4.6	4.9	
100.0 pH adj	7.6	7.9	8.0	24.8	24.7	24.6							7.6	7.1	7.2

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

Acute Forms
Pimephales promelas Survival

Permittee: El Dorado Chemical - Outfall 007
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 1/9/14** **To: 1/9/14**
From: **To:**
Test Initiated: 1/10/14
Dilution Water Used: **Receiving Water** **X Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	32.0	42.0	50.0	56.0	75.0	100.0	100.0 pH
24-hour	A	100.0	100.0	50.0	0.0	0.0	0.0	0.0	100.0
	B	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	C	100.0	100.0	12.5	0.0	0.0	0.0	0.0	100.0
	D	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	E	100.0	100.0	62.5	0.0	0.0	0.0	0.0	100.0
48-hour	A	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	B	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	C	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	D	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	E	100.0	100.0	12.5	0.0	0.0	0.0	0.0	100.0
	Mean	100.0	100.0	25.0	0.0	0.0	0.0	0.0	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 (100.0%) 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} = 36.87% effluent
95 % confidence limits: 36.46 - 37.275
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: Haughton

Sample Collected	**From:**	**Date 1/9/14**	**Time 0850**
	To:	**Date 1/9/14**	**Time 1450**
Test Begin		**Date 1/10/14**	**Time 1435**
Test End		**Date 1/12/14**	**Time 1350**

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	7.9	8.0	8.0	24.8	24.7	24.6	32.0			48.0			7.3	7.5	7.5
32.0	7.9	8.0	8.0	24.8	24.7	24.6							6.7	7.0	7.1
42.0	7.9	8.0	8.0	24.8	24.7	24.6							5.8	6.4	6.5
50.0	7.9	8.0		24.8	24.7								5.1	5.2	
56.0	7.9	8.1		24.8	24.7								4.8	4.8	
75.0	7.9	8.1		24.8	24.7								4.7	4.6	
100.0	7.9	8.0		24.8	24.7		0.0			264.0			4.6	4.5	
100.0 pH	7.6	7.9	7.6	24.8	24.7	24.6							7.6	7.1	7.0

*This Form is to be submitted with each DMR.
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, 001

Project#: X5317

Chain of Custody Documents Checked by: AH 1/29/14
Technician/Date

Raw Data Documents Checked by: AH 1/29/14
Technician/Date

Statistical Analysis Package Checked by: EGB 2/4/14
Quality Manager/Date

Quality Control Data Checked by: EGB 2/4/14
Quality Manager/Date

Report Checked by: EGB 2/17/14
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 L. Braggs, BS — 2/17/14
Quality Manager — Date

Report Rev. 3.0

From: (870) 863-1125 Origin ID: ELDA
Larken Pennington
EL DORADO CHEMICAL COMPANY
4500 Northwest Ave.

El Dorado, AR 71730

J14101402070328

Ship Date: 19FEB14
ActWgt: 4.0 LB
CAD: 5887030/NET3490

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 - 20 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 7979 6477 0562
0201

72118
AR-US
LIT

X2 LITA

522G1562F/F220

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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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