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

EL DORADO

CHEMICAL COMPANY

October 24, 2013

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

RE: NPDES Permit AR0000752 Discharge Monitoring Report for period ending September 30, 2013.

Enclosed you will find the Discharge Monitoring Report ending September 30, 2013. The DMR's for Outfall 010-A were entered on the blank DMR forms provided by Amy Schluterman, ADEQ Water Enforcement. See enclosed email correspondence.
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: Sep-13

Type of Violation	Permit Limit	Date of Violation	Cause of Violation	Corrective Action or Other Narrative
Outfall 006 / Zinc Monthly Average (218.0 ug/L)	115.62 ug/L Monthly Average	9/20/2013	Unknown	EDCC continues to monitor and evaluate potential sources of the Zinc excursion.
Outfall 006 / Lead Monthly Average (21.4 ug/L)	3.8 ug/L Monthly Average	9/20/2013	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 006 / Lead Daily Max (21.4 ug/L)	7.62 ug/L Daily Max	9/20/2013	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 007 / Zinc Monthly Average (202.0 ug/L)	115.62 ug/L Monthly Average	9/20/2013	Unknown	EDCC continues to monitor and evaluate potential sources of the Zinc excursion.
Outfall 007 / Lead Monthly Average (53.8 ug/L)	3.8 ug/L Monthly Average	9/20/2013	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.
Outfall 007 / Lead Daily Max (53.8 ug/L)	7.62 ug/L Daily Max	9/20/2013	Unknown	EDCC continues to monitor and evaluate potential sources of the Lead excursion.

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

Signature / Date 10/23/13

Larken Pennington

From: Schluterman, Amy [SCHLUTERMAN@adeq.state.ar.us]
Sent: Wednesday, October 23, 2013 3:28 PM
To: Larken Pennington
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014
Attachments: Blank DMR Form (Fillable).pdf

Larken,

Because the DMRs cannot be generated by our ICIS system the Assistant Chief has given us permission to send you a blank DMR for reporting the necessary permit limits for Outfall 010. Please also include a copy of the lab reports with the DMRs. I apologize for this taking so long to clear up. If there is anything else you need, please let me know.

Thanks,

Amy Schluterman
Water Enforcement, ADEQ
501-682-0633

From: Larken Pennington [mailto:LPennington@edc-ark.com]
Sent: Tuesday, October 22, 2013 3:31 PM
To: Schluterman, Amy
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014

Amy,

Since the government shutdown is over, when can we get the preprinted DMR forms?

Thanks,

Larken Pennington
El Dorado Chemical Company
Environmental Technician
Office: 870-863-1125
Cell: 870-312-1752
Email: lpennington@edc-ark.com

From: Schluterman, Amy [mailto:SCHLUTERMAN@adeq.state.ar.us]
Sent: Wednesday, October 16, 2013 9:21 AM
To: Larken Pennington
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014

Larken,

I do not have any blank forms to send you and we are not able to accept the forms unless they are the preprinted versions that the Department generates. Until the government shutdown is over we will not be able to generate any preprinted forms.

Amy

From: Larken Pennington [mailto:LPennington@edc-ark.com]
Sent: Tuesday, October 15, 2013 3:31 PM
To: Schluterman, Amy
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014

Amy,

Do you have a blank DMR that you can send me? That way I can go ahead and submit all of the data.

Thanks,

Larken Pennington
El Dorado Chemical Company
Environmental Technician
Office: 870-863-1125
Cell: 870-312-1752
Email: lpennington@edc-ark.com

From: Schluterman, Amy [mailto:SCHLUTERMAN@adeq.state.ar.us]
Sent: Wednesday, October 09, 2013 8:58 AM
To: Larken Pennington
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014

Larken,

The system that generates the DMRs is still not operational because of the government shutdown. I would go ahead and submit what you have and hold onto all your data and we can have you submit a corrected DMR once the preprints are have been generated.

Thanks,
Amy

From: Larken Pennington [mailto:LPennington@edc-ark.com]
Sent: Wednesday, October 09, 2013 8:53 AM
To: Schluterman, Amy
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014

Amy,

Just checking back with you to see if anything has been done to correct the DMR's. Since I do not have the correct DMR's, what do you advise me to do for completing Septembers DMR's?

Thanks,

Larken Pennington
El Dorado Chemical Company

Environmental Technician
Office: 870-863-1125
Cell: 870-312-1752
Email: lpennington@edc-ark.com

From: Schluterman, Amy [mailto:SCHLUTERMAN@adeq.state.ar.us]
Sent: Tuesday, October 01, 2013 3:29 PM
To: Larken Pennington
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014

Larken,

We do not have them corrected yet and unfortunately the program that generates the DMRs is currently down because of the government shutdown. As soon as the system is back up we should be able to get corrections made and DMRs generated for you.

Thanks,
Amy

From: Larken Pennington [mailto:LPennington@edc-ark.com]
Sent: Tuesday, October 01, 2013 3:04 PM
To: Schluterman, Amy
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014

Amy,

I am checking to see if you have our DMR's corrected yet.

Thanks,

Larken Pennington
El Dorado Chemical Company
Environmental Technician
Office: 870-863-1125
Cell: 870-312-1752
Email: lpennington@edc-ark.com

From: Schluterman, Amy [mailto:SCHLUTERMAN@adeq.state.ar.us]
Sent: Thursday, September 26, 2013 3:22 PM
To: Larken Pennington
Subject: RE: El Dorado Chemical Co. DMR preprints 2013-2014

Larken,

Yes, I did receive your email. I am just trying to make sure they are correct before making corrections.

Thanks,
Amy

From: Larken Pennington [mailto:LPennington@edc-ark.com]
Sent: Thursday, September 26, 2013 3:12 PM
To: Schluterman, Amy
Subject: FW: El Dorado Chemical Co. DMR preprints 2013-2014

Amy,

I am just making sure you received the email below sent on September 19. Please assist.

Thanks,

Larken Pennington
El Dorado Chemical Company
Environmental Technician
Office: 870-863-1125
Cell: 870-312-1752
Email: lpennington@edc-ark.com

From: Larken Pennington
Sent: Thursday, September 19, 2013 4:35 PM
To: 'schluterman@adeq.state.ar.us'
Subject: El Dorado Chemical Co. DMR preprints 2013-2014

Amy,

Attached are the DMR preprints for September 2013 that were emailed to El Dorado Chemical Co. in April 2013. Will you please check the DMR's against the permit? The parameters for Discharge Number 010-A are not all there. We received DMR preprints until March 2014; these will need to be edited as well. Please advise.

Thanks,

Larken Pennington
El Dorado Chemical Company
Environmental Technician
Office: 870-863-1125
Cell: 870-312-1752
Email: lpennington@edc-ark.com

September 27, 2013

Test Results of
Third Quarter
Chronic 7 day Renewal
Biomonitoring Testing
for
Outfall 010
El Dorado Chemical

Control No. 170605-1

Prepared for:

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

Prepared by:

AMERICAN INTERPLEX CORPORATION
8600 Kanis Road
Little Rock, AR 72204-2322

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

Re: Chronic 7 day Renewal utilizing *Pimephales promelas* (Fathead minnow) and *Ceriodaphnia dubia*
Outfall 010 - El Dorado Chemical
NPDES Permit No.

Dear Ms. Larken Pennington:

This report is the analytical results and supporting information for the samples submitted to American Interplex Corporation (AIC). The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the laboratory director or qualified designee.

Testing procedures and Quality Assurance were in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013, Fourth Edition, October 2002. Test results are summarized below:

Method 1000.0 Chronic *Pimephales promelas* (Fathead minnow) Survival and Growth Test: The No Observable Effects Concentration (NOEC) for survival occurred at 2.1 % effluent, which is above the critical dilution of 1.6 %. The NOEC for growth occurred at 2.1 % effluent, which is above the critical dilution of 1.6 %. **The sample, therefore, PASSED both lethal and sub-lethal effects for the Fathead minnow test.**

Method 1002.0 Chronic *Ceriodaphnia dubia* Survival and Reproduction Test: The No Observable Effects Concentration (NOEC) for survival occurred at 2.1 % effluent, which is above the critical dilution of 1.6 %. Any statistical difference with sublethal effects cannot be considered toxic due to the minimum significant difference (PMSD) calculated result being below the lower PMSD bounds. **The sample, therefore PASSED both lethal and sub-lethal effects for the *Ceriodaphnia dubia* test.**

AMERICAN INTERPLEX CORPORATION

John Overbey
Laboratory Director

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

Table of Contents

I. Control Acceptance Criteria

Pimephales promelas (Fathead minnow) Method 1000.0

CRITERIA	RESULTS	PASS/FAIL
Control Survival > or = 80%	97.5	PASS
Control Growth > or = 0.25 mg per Surviving minnow	0.398	PASS
Control Growth CV < or = 40%	15.0	PASS
Growth Minimum Significant Difference 12 to 30%	17.7	PASS
Critical Dilution CV < or = 40%	7.16	PASS

Ceriodaphnia dubia Method 1002.0

CRITERIA	RESULTS	PASS/FAIL
Control Survival > or = 80%	100	PASS
Control Reproduction > or = 15 per Surviving Female	27.0	PASS
Control CV < or = 40% per Surviving Female	9.56	PASS
Reproduction Minimum Significant Difference 13 to 47%	9.25	BELOW
Critical Dilution CV < or = 40%	7.32	PASS

II. Outlined Report

A. Introduction

1. Permit Number:
2. Test Requirements:

Test Methods 1000.0 and 1002.0

3. Receiving Stream:

B. Source of Effluent/Dilution Water

1. Effluent Samples:
   a. Sampling Point: Outfall 010
   b. Chemical Data:

Analysis	Sample 1	Sample 2	Sample 3
Dissolved oxygen (mg/l)	8.1	7.4	7.8
pH (standard units)	8.0	8.6	7.8
Alkalinity (mg/l as CaCO3)	73	54	62
Hardness (mg/l as CaCO3)	29	29	30
Conductivity (umhos/cm)	320	290	280
Residual Chlorine (mg/l)	0.11	0.070	0.070
Ammonia as N (mg/l)	0.89	0.61	0.70

2. Dilution Water Samples: Natural Receiving Water
   a. Dates Prepared: Sept. 16, 2013 at 0807, 0820 & Sept. 19, 2013 at 0807, 0811
   b. Chemical Data:

Analysis	Sample 1	Sample 2	Sample 3
Dissolved oxygen (mg/l)	8.1	7.4	7.7
pH (standard units)	6.9	7.9	7.2
Alkalinity (mg/l as CaCO3)	15	18	NA
Hardness (mg/l as CaCO3)	19	19	NA
Conductivity (umhos/cm)	63	65	60
Residual Chlorine (mg/l)	0.070	0.080	NA

C. Test Methods

1. Test methods used:
   Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013; test Methods 1000.0 and 1002.0, Fathead Minnow Survival and Growth and *Ceriodaphnia dubia* Survival and Reproduction.
2. Endpoint: No Observable Effects Concentration (NOEC)
3. Test Conditions:

Pimephales promelas (Fathead minnow) Survival and Growth Method 1000.0

Date & Time Test Initiated:	September 17, 2013 at 1815
Date & Time Test Terminated:	September 24, 2013 at 1700
Type & Volume of Test Chamber:	500 ml disposable beaker
Volume of Sample:	250 ml
Number of Organisms per replicate:	8
Number of Replicates per dilution:	5

Ceriodaphnia dubia Survival and Growth Method 1002.0

Date & Time Test Initiated:	September 17, 2013 at 1710
Date & Time Test Terminated:	September 24, 2013 at 1600
Type & Volume of Test Chamber:	30 ml disposable beaker
Volume of Sample:	15 ml
Number of Organisms per replicate:	1
Number of Replicates per dilution:	10

4. Acclimation of test organisms: Obtained from in-house cultures
5. Test Temperature: 25 +/- 1 degree Celsius

D. Test Organisms

1. Scientific Name
   a. Test 1000.0 *Pimephales promelas*
   b. Test 1002.0 *Ceriodaphnia dubia*

III. Data Analysis

The data was analyzed using American Interplex Corporation's Laboratory Information Management Software based on Toxstat.

Pimephales promelas (Fathead minnow) survival data was transformed using the Arc Sine transformation. Normality and homogeneity of variance were checked using Shapiro-Wilk's. The survival data was then analyzed using Steel's Many-One Rank Test to determine the No Observable Effects Concentration (NOEC).

Fathead minnow growth data was analyzed for normality and homogeneity of variance using Shapiro-Wilk's and Bartlett's test. Dunnett's Test was used to determine the No Observable Effects Concentration (NOEC) for growth.

Ceriodaphnia dubia survival data was analyzed with Fisher's Exact Test. Reproduction data was analyzed using Kolmogorov's Test for Normality and Bartlett's test and analyzed with Dunnett's Test to determine the No Observable Effects Concentration (NOEC) for Reproduction.

IV. Standard Reference Toxicants

American Interplex Corporation has an ongoing test organism culturing program. The sensitivity of the offspring is determined by performing a standard reference toxicant test with each effluent test. Sodium chloride in synthetic moderately hard water is used as prescribed in EPA-821-R-02-013.

Pimephales promelas (Fathead minnow)

Chronic reference tests are performed monthly.
A chronic reference test was performed on September 10, 2013 at 1435 to September 17, 2013 at 1316
The results were as follows: (Control No. 170403-1.)
Survival LC-50: 6398.6 mg/l
Growth IC-25: 2808 mg/l
Growth PMSD: 12.9

Ceriodaphnia dubia

Chronic reference tests are performed monthly.
A chronic reference test was performed on August 20, 2013 at 1505 to August 28, 2013 at 1450
The results were as follows: (Control No. 169867-2.)
Survival LC-50: 2125 mg/l
Growth IC-25: 1610 mg/l
Growth PMSD: 18.3

V. Chemical Analysis/Quality Control

Parameter	Method	% Recovery	Relative % Difference
Alkalinity	SM 2320 B	NA	8.09
Hardness	EPA 200.7	100	0.750
pH	SM 4500-H+ B	100	0.939
Conductivity	EPA 120.1	101	6.99

VI. Organism History

Pimephales promelas (Fathead minnow)

Date: September 17, 2013
Age: <24 hours
Source: In-house culture
Water Chemistry Record:
Alkalinity: 57-64 mg/l
Hardness: 80-100 mg/l
Temperature: 25 deg.C

Ceriodaphnia dubia

Date: September 17, 2013
Age: <24 hours
Source: In-house culture
Water Chemistry Record:
Alkalinity: 57-64 mg/l
Hardness: 80-100 mg/l
Temperature: 25 deg.C

VII. Results Summary *Pimephales promelas*, Fathead minnow Larval Survival and Growth Test -- Method 1000.0

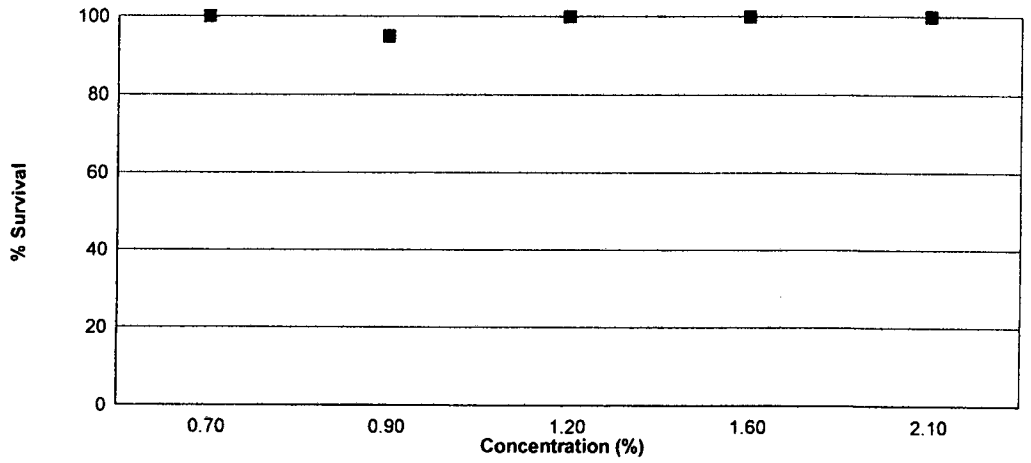
Larvae are exposed in a static renewal system for seven days to different concentrations of effluent with dilution water. Test results are based on the survival and growth (increase in weight) of the larvae.

Effluent dilutions for this test were 0.7 %, 0.9 %, 1.2 %, 1.6 %, 2.1 % in accordance with the NPDES permit.

The low flow or 'critical' dilution is specified in the NPDES permit as 1.6 % effluent.

The test was initiated on September 17, 2013 at 1815 and continued through September 24, 2013 at 1700. Statistical analyses were performed on the observed data and the no observable effects concentrations (NOECs) were as follows:

a.) NOEC survival = 2.1 % effluent
b.) NOEC growth = 2.1 % effluent



Summary of the 7-day Fathead Minnow Survival and Growth		
Concentration	Percent Survival	Mean Growth (mg)
Control	97.5	0.388
0.7 %	100	0.352
0.9 %	95.0	0.330
1.2 %	100	0.325
1.6 %	100	0.338
2.1 %	100	0.348

VII. Results Summary *Ceriodaphnia dubia*, Cladoceran Survival and Reproduction Test -- Method 1002.0

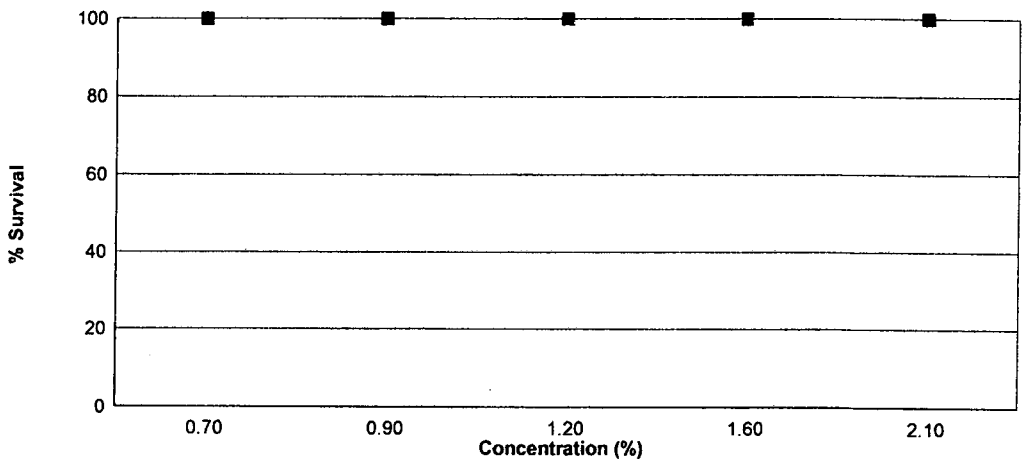
Neonates are exposed in a static renewal system to different concentrations of effluent with dilution water until 60% of surviving control organisms have three broods of offspring with an average of at least 15 young per female.

Effluent dilutions for this test were 0.7 %, 0.9 %, 1.2 %, 1.6 %, 2.1 % in accordance with the NPDES permit.

The low flow or 'critical' dilution is specified in the NPDES permit as 1.6 % effluent.

The test was initiated on September 17, 2013 at 1710 and continued through September 24, 2013 at 1600. Statistical analyses were performed on the observed data and the no observable effects concentrations (NOECs) were as follows:

a.) NOEC survival = 2.1 % effluent
b.) NOEC reproduction = 2.1 % effluent



Summary of the 7-day *Ceriodaphnia dubia* Survival and Reproduction Data		
Concentration	Percent Survival	Mean Reproduction
Control	100	27.0
0.7 %	100	26.6
0.9 %	100	28.0
1.2 %	100	28.5
1.6 %	100	27.5
2.1 %	100	27.6

Appendix A1: Test 1000.0

Pimephales promelas (Fathead Minnow) 7-Day Survival

Date and Time Test Initiated: September 17, 2013 at 1815
Date and Time Test Terminated: September 24, 2013 at 1700

Concentration	Replicate	Number of Survivors						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Control	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	7
	E	8	8	8	8	8	8	8
0.7 %	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8
0.9 %	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	7	7	7
	D	8	8	8	8	7	7	7
	E	8	8	8	8	8	8	8
1.2 %	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8
1.6 %	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8
2.1 %	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8

Appendix A1: Test 1000.0

Pimephales promelas (Fathead Minnow) 7-Day Growth

Test Initiated: September 17, 2013 at 1815
Test Terminated: September 24, 2013 at 1700
Drying Started: September 22, 2013 at 1323
Drying Ended: September 25, 2013 at 1345

Concentration	Replicate	Weight of pan	Weight of pan + fish	Total weight of fish (g)	Original # of fish	Mean dry weight (mg)
Control	A	.94397	.94751	0.00354	8	0.442
	B	.94582	.94821	0.00239	8	0.299
	C	.94473	.94765	0.00292	8	0.365
	D	.94503	.94850	0.00347	8	0.434
	E	.94985	.95306	0.00321	8	0.401
0.7 %	A	.94999	.95250	0.00251	8	0.314
	B	.96146	.96432	0.00286	8	0.358
	C	.96124	.96442	0.00318	8	0.398
	D	.95946	.96255	0.00309	8	0.386
	E	.96022	.96264	0.00242	8	0.302
0.9 %	A	.95691	.95956	0.00265	8	0.331
	B	.95529	.95801	0.00272	8	0.340
	C	.95602	.95861	0.00259	8	0.324
	D	.95213	.95463	0.00250	8	0.312
	E	.95117	.95391	0.00274	8	0.342
1.2 %	A	.95292	.95542	0.00250	8	0.312
	B	.95266	.95559	0.00293	8	0.366
	C	.95602	.95881	0.00279	8	0.349
	D	.95625	.95905	0.00280	8	0.350
	E	.95509	.95706	0.00197	8	0.246
1.6 %	A	.95523	.95785	0.00262	8	0.328
	B	.95243	.95541	0.00298	8	0.372
	C	.95178	.95423	0.00245	8	0.306
	D	.95098	.95368	0.00270	8	0.338
	E	.94777	.95054	0.00277	8	0.346
2.1 %	A	.95043	.95230	0.00187	8	0.234
	B	.94873	.95160	0.00287	8	0.359
	C	.95195	.95477	0.00282	8	0.352
	D	.96525	.96841	0.00316	8	0.395
	E	.96229	.96548	0.00319	8	0.399

Appendix A1: Test 1002.0

Ceriodaphnia dubia Survival and Reproduction

Date and Time Test Initiated: September 17, 2013 at 1710
Date and Time Test Terminated: September 24, 2013 at 1600

Concentration: Control													
Day	Replicate										No. of Young	No. of Adults	Young per Adult
	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	0	0	0	0	0	0	10	0.00
4	5	3	4	5	4	4	3	5	4	4	41	10	4.10
5	0	8	8	0	0	8	0	10	8	0	42	10	4.20
6	8	0	0	10	8	0	8	0	0	10	44	10	4.40
7	15	14	14	15	12	16	12	15	14	16	143	10	14.3
8													
TOTAL	28	25	26	30	24	28	23	30	26	30	270	10	27.0

Concentration: 0.7 %													
Day	Replicate										No. of Young	No. of Adults	Young per Adult
	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	0	0	0	0	0	0	10	0.00
4	4	4	4	3	3	3	3	4	3	4	35	10	3.50
5	9	0	0	0	0	8	8	10	8	0	43	10	4.30
6	0	9	10	8	11	1	0	0	0	9	48	10	4.80
7	16	13	16	12	14	15	13	13	14	14	140	10	14.0
8													
TOTAL	29	26	30	23	28	27	24	27	25	27	266	10	26.6

Concentration: 0.9 %													
Day	Replicate										No. of Young	No. of Adults	Young per Adult
	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	0	0	0	0	0	0	10	0.00
4	4	3	4	3	4	4	3	4	2	3	34	10	3.40
5	9	0	8	0	0	8	0	9	9	0	43	10	4.30
6	0	10	3	11	8	0	8	0	0	10	50	10	5.00
7	17	15	15	19	12	16	14	14	15	16	153	10	15.3
8													
TOTAL	30	28	30	33	24	28	25	27	26	29	280	10	28.0

Appendix A1: Test 1002.0

Ceriodaphnia dubia Survival and Reproduction

Date and Time Test Initiated: September 17, 2013 at 1710
Date and Time Test Terminated: September 24, 2013 at 1600

Concentration: 1.2 %													
Day	Replicate										No. of Young	No. of Adults	Young per Adult
	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	0	0	0	0	0	0	10	0.00
4	4	3	4	4	4	3	4	4	3	3	36	10	3.60
5	9	0	0	0	0	0	8	11	0	0	28	10	2.80
6	0	8	11	10	10	10	0	0	10	10	69	10	6.90
7	16	12	18	15	15	16	15	15	14	16	152	10	15.2
8													
TOTAL	29	23	33	29	29	29	27	30	27	29	285	10	28.5

Concentration: 1.6 %													
Day	Replicate										No. of Young	No. of Adults	Young per Adult
	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	0	0	0	0	0	0	10	0.00
4	4	3	4	3	4	4	2	3	3	3	33	10	3.30
5	9	0	0	11	0	8	8	9	9	0	54	10	5.40
6	0	8	10	0	12	0	0	0	0	10	40	10	4.00
7	15	16	15	13	16	15	14	15	15	14	148	10	14.8
8													
TOTAL	28	27	29	27	32	27	24	27	27	27	275	10	27.5

Concentration: 2.1 %													
Day	Replicate										No. of Young	No. of Adults	Young per Adult
	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	0	0	0	0	0	0	10	0.00
4	4	5	4	3	3	3	4	3	2	2	33	10	3.30
5	9	9	0	0	8	9	9	8	0	0	52	10	5.20
6	0	0	8	8	0	0	0	0	8	12	36	10	3.60
7	14	19	14	16	15	16	14	17	14	16	155	10	15.5
8													
TOTAL	27	33	26	27	26	28	27	28	24	30	276	10	27.6

Appendix A2: Statistics

Pimephales promelas (Fathead minnow) Survival

Transformation of Data — Transform: Arc Sin(Square Root(Y))

Group	Identification	Rep	Value	Transformed
1	Control	1	1.00000	1.39310
1	Control	2	1.00000	1.39310
1	Control	3	1.00000	1.39310
1	Control	4	0.87500	1.20940
1	Control	5	1.00000	1.39310
2	0.7 %	1	1.00000	1.39310
2	0.7 %	2	1.00000	1.39310
2	0.7 %	3	1.00000	1.39310
2	0.7 %	4	1.00000	1.39310
2	0.7 %	5	1.00000	1.39310
3	0.9 %	1	1.00000	1.39310
3	0.9 %	2	1.00000	1.39310
3	0.9 %	3	0.87500	1.20940
3	0.9 %	4	0.87500	1.20940
3	0.9 %	5	1.00000	1.39310
4	1.2 %	1	1.00000	1.39310
4	1.2 %	2	1.00000	1.39310
4	1.2 %	3	1.00000	1.39310
4	1.2 %	4	1.00000	1.39310
4	1.2 %	5	1.00000	1.39310
5	1.6 %	1	1.00000	1.39310
5	1.6 %	2	1.00000	1.39310
5	1.6 %	3	1.00000	1.39310
5	1.6 %	4	1.00000	1.39310
5	1.6 %	5	1.00000	1.39310
6	2.1 %	1	1.00000	1.39310
6	2.1 %	2	1.00000	1.39310
6	2.1 %	3	1.00000	1.39310
6	2.1 %	4	1.00000	1.39310
6	2.1 %	5	1.00000	1.39310

Appendix A2: Statistics

Pimephales promelas (Fathead minnow) Survival

Shapiro - Wilk's Test for Normality		Transform: Arc Sin(Square Root(Y))
D = 0.06749		
W = 0.7138		
Critical W = 0.9	(alpha = 0.01, N = 30)	
Critical W = 0.927	(alpha = 0.05, N = 30)	

Data FAIL normality test (alpha = 0.01).

Steel's Many-One Rank Test — Transform: Arc Sin(Square Root(Y))

Ho:Control<Treatment

Group	Identification	Rank Sum	Critical Value	DF	Sig 0.05
1	Control				
2	0.7 %	30.00	16.00	5.00	
3	0.9 %	25.00	16.00	5.00	
4	1.2 %	30.00	16.00	5.00	
5	1.6 %	30.00	16.00	5.00	
6	2.1 %	30.00	16.00	5.00	

Critical values are 1 tailed (k=5)

Appendix A2: Statistics

Pimephales promelas (Fathead minnow) Growth

Shapiro - Wilk's Test for Normality		No Transformation
D = 0.05108		
W = 0.9128		
Critical W = 0.9	(alpha = 0.01, N = 30)	
Critical W = 0.927	(alpha = 0.05, N = 30)	
Data PASS normality test (alpha = 0.01).		

Bartlett's Test for Homogeneity of Variance		No Transformation
Calculated B1 statistic = 10.17		
Critical B = 15.086	(alpha = 0.01, df = 5)	
Data PASS B1 homogeneity test at 0.01 level.		

Appendix A2: Statistics

Pimephales promelas (Fathead minnow) Growth

ANOVA Table				No Transformation
SOURCE	DF	SS	MS	F
Between	5	0.01299	0.002598	1.221
Within (Error)	24	0.05108	0.002128	
Total	29	0.06407		

Critical F = 3.9 (alpha = 0.01, df = 5,24)
2.62 (alpha = 0.05, df = 5,24)

Since F < Critical F FAIL TO REJECT Ho: All equal (alpha = 0.05)

Dunnett's Test - Table 1 of 2					No Transformation
Ho:Control<Treatment					
Group	Identification	Transformed Mean	Mean In Original Units	T Stat	Sig 0.05
1	Control	0.3882	0.3882		
2	0.7 %	0.3516	0.3516	1.254	
3	0.9 %	0.3298	0.3298	2.002	
4	1.2 %	0.3246	0.3246	2.18	
5	1.6 %	0.338	0.338	1.721	
6	2.1 %	0.3478	0.3478	1.385	

Dunnett's critical value = 2.36 (1 Tailed, alpha = 0.05, df = 5,24)

Dunnett's Test - Table 2 of 2					No Transformation
Ho:Control<Treatment					
Group	Identification	Num of Reps	Min Sig Diff (In Orig. Units)	% of Control	Difference From Control
1	Control	5			
2	0.7 %	5	0.06885	17.7	0.0366
3	0.9 %	5	0.06885	17.7	0.0584
4	1.2 %	5	0.06885	17.7	0.0636
5	1.6 %	5	0.06885	17.7	0.0502
6	2.1 %	5	0.06885	17.7	0.0404

Appendix A2: Statistics

Ceriodaphnia dubia Survival

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
0.7 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) (alpha=0.05) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
0.9 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) (alpha=0.05) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
1.2 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) (alpha=0.05) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
1.6 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) (alpha=0.05) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Appendix A2: Statistics

Ceriodaphnia dubia Survival

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
2.1 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) (alpha=0.05) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Summary of Fisher's Exact Test				
Group	Identification	Exposed	Dead	Sig 0.05
0	Control	10	0	
1	0.7 %	10	0	
2	0.9 %	10	0	
3	1.2 %	10	0	
4	1.6 %	10	0	
5	2.1 %	10	0	

Appendix A2: Statistics

Ceriodaphnia dubia Reproduction

Kolmogorov Test for Normality	No Transformation
D = 0.1129 D* = 0.8858 Critical D* = 1.035 (alpha = 0.01, N = 60)	
Data PASS normality test (alpha = 0.01).	

Bartlett's Test for Homogeneity of Variance	No Transformation
Calculated B1 statistic = 1.010 Critical B = 15.086 (alpha = 0.01, df = 5)	
Data PASS B1 homogeneity test at 0.01 level.	

Appendix A2: Statistics

Ceriodaphnia dubia Reproduction

ANOVA Table				No Transformation
SOURCE	DF	SS	MS	F
Between	5	23.13	4.626	0.791
Within (Error)	54	315.8	5.848	
Total	59	338.9		

Critical F = 3.38 (alpha = 0.01, df = 5,54)
2.38 (alpha = 0.05, df = 5,54)

Since F < Critical F FAIL TO REJECT Ho: All equal (alpha = 0.05)

Dunnett's Test - Table 1 of 2					No Transformation
Ho:Control<Treatment					
Group	Identification	Transformed Mean	Mean In Original Units	T Stat	Sig 0.05
1	Control	27	27		
2	0.7 %	26.6	26.6	0.3699	
3	0.9 %	28	28	-0.9247	
4	1.2 %	28.5	28.5	-1.387	
5	1.6 %	27.5	27.5	-0.4623	
6	2.1 %	27.6	27.6	-0.5548	

Dunnett's critical value = 2.31 (1 Tailed, alpha = 0.05, df [used] = 5,40) (Actual df = 5,54)

Dunnett's Test - Table 2 of 2					No Transformation
Ho:Control<Treatment					
Group	Identification	Num of Reps	Min Sig Diff (In Orig. Units)	% of Control	Difference From Control
1	Control	10			
2	0.7 %	10	2.498	9.25	0.4
3	0.9 %	10	2.498	9.25	-1
4	1.2 %	10	2.498	9.25	-1.5
5	1.6 %	10	2.498	9.25	-0.5
6	2.1 %	10	2.498	9.25	-0.6

Appendix A3: Water Chemistry

Routine Chemical and Physical Data

Date and Time Test Initiated: September 17, 2013 at 0812
Date and Time Test Terminated: September 24, 2013 at 1700

Effluent Conc.: Control		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.1	8.2	7.4	8.0	7.7	7.7	7.6
	Final *1	7.4	7.4	6.8	7.3	7.2	5.8	7.9
	Final *2	8.5	7.6	7.9	7.8	7.8	6.4	7.2
pH, units	Initial	6.9	7.0	7.9	7.4	7.2	7.0	7.9
	Final *1	8.1	7.5	6.9	7.2	7.0	7.0	6.9
	Final *2	7.5	8.2	7.6	7.2	7.8	7.7	7.7
Alkalinity, mg CaCO3/l		15	NA	18	NA	NA	NA	NA
Hardness, mg CaCO3/l		19	NA	19	NA	NA	NA	NA
Conductivity, umhos/cm		63	70	65	50	60	55	58
Res. Chlorine, mg/l		0.070	NA	0.080	NA	NA	NA	NA

Effluent Conc.: 0.7 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.1	8.2	7.5	8.0	7.7	7.7	7.8
	Final *1	7.5	7.0	7.0	7.4	7.1	5.8	7.8
	Final *2	8.4	7.4	7.8	7.9	7.8	6.3	7.2
pH, units	Initial	6.9	7.0	7.9	7.5	7.3	7.1	7.3
	Final *1	7.8	7.4	6.9	7.2	7.1	7.0	6.9
	Final *2	7.6	8.3	7.6	7.3	7.8	7.7	7.7

Effluent Conc.: 0.9 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.0	8.2	7.6	7.9	7.7	7.6	7.8
	Final *1	7.5	7.2	6.6	7.4	7.1	5.9	7.6
	Final *2	8.4	7.4	7.9	7.9	7.7	6.2	7.4
pH, units	Initial	6.9	7.1	7.9	7.5	7.3	7.1	7.2
	Final *1	7.7	7.5	6.8	7.2	7.1	7.1	6.9
	Final *2	7.6	8.3	7.6	7.4	7.8	7.7	7.8

Appendix A3: Water Chemistry

Routine Chemical and Physical Data

Date and Time Test Initiated: September 17, 2013 at 0812
Date and Time Test Terminated: September 24, 2013 at 1700

Effluent Conc.: 1.2 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	7.6	8.2	7.7	7.8	7.9	7.7	7.8
	Final *1	7.1	6.9	6.8	7.2	7.1	5.7	7.6
	Final *2	8.4	7.7	8.0	7.6	7.8	6.0	7.2
pH, units	Initial	6.9	7.1	8.0	7.6	7.3	7.2	7.3
	Final *1	7.8	7.4	6.9	7.2	7.0	7.0	6.9
	Final *2	7.5	8.3	7.6	7.4	7.8	7.6	7.8

Effluent Conc.: 1.6 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.0	8.2	7.4	8.0	7.9	7.8	7.8
	Final *1	7.4	7.4	6.8	7.0	7.2	5.8	8.1
	Final *2	8.4	7.7	8.0	7.7	7.6	6.3	7.1
pH, units	Initial	6.9	7.1	8.0	7.6	7.4	7.2	7.3
	Final *1	7.8	7.5	6.8	7.1	7.1	7.1	7.0
	Final *2	7.6	8.4	7.7	7.4	7.8	7.7	7.8
Alkalinity, mg CaCO3/l		17	NA	20	NA	14	NA	NA
Hardness, mg CaCO3/l		19	NA	18	NA	19	NA	NA
Conductivity, umhos/cm		66	80	72	56	78	60	58
Res. Chlorine, mg/l		0.050	NA	0.080	NA	0.080	NA	NA

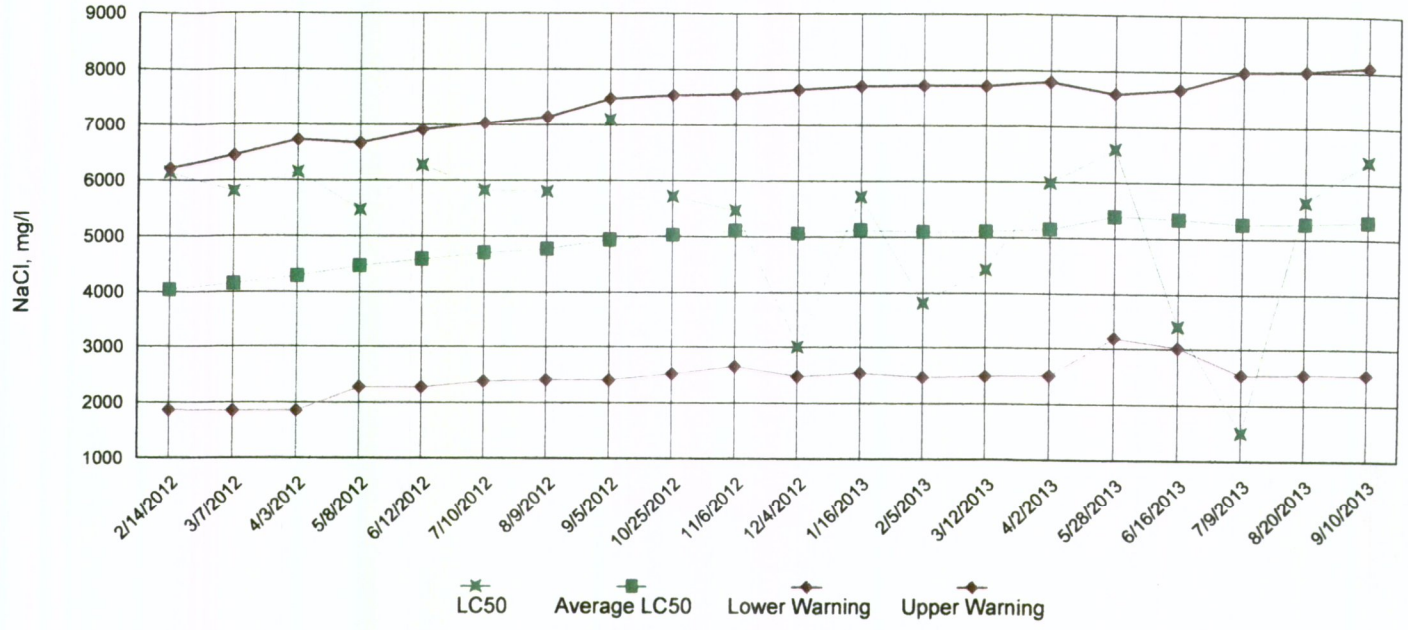
Effluent Conc.: 2.1 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.0	8.2	7.5	7.9	7.7	7.6	7.8
	Final *1	7.4	7.1	7.3	7.3	7.2	5.5	7.7
	Final *2	8.4	7.6	8.0	7.7	7.8	6.2	7.3
pH, units	Initial	6.9	7.1	8.0	7.6	7.3	7.2	7.3
	Final *1	7.8	7.4	7.0	7.2	7.1	7.1	6.9
	Final *2	7.6	8.4	7.6	7.4	7.8	7.6	7.8

*1 = data from the *Pimephales promelas* (Fathead Minnow) test *2 = data from the *Ceriodaphnia dubia* test

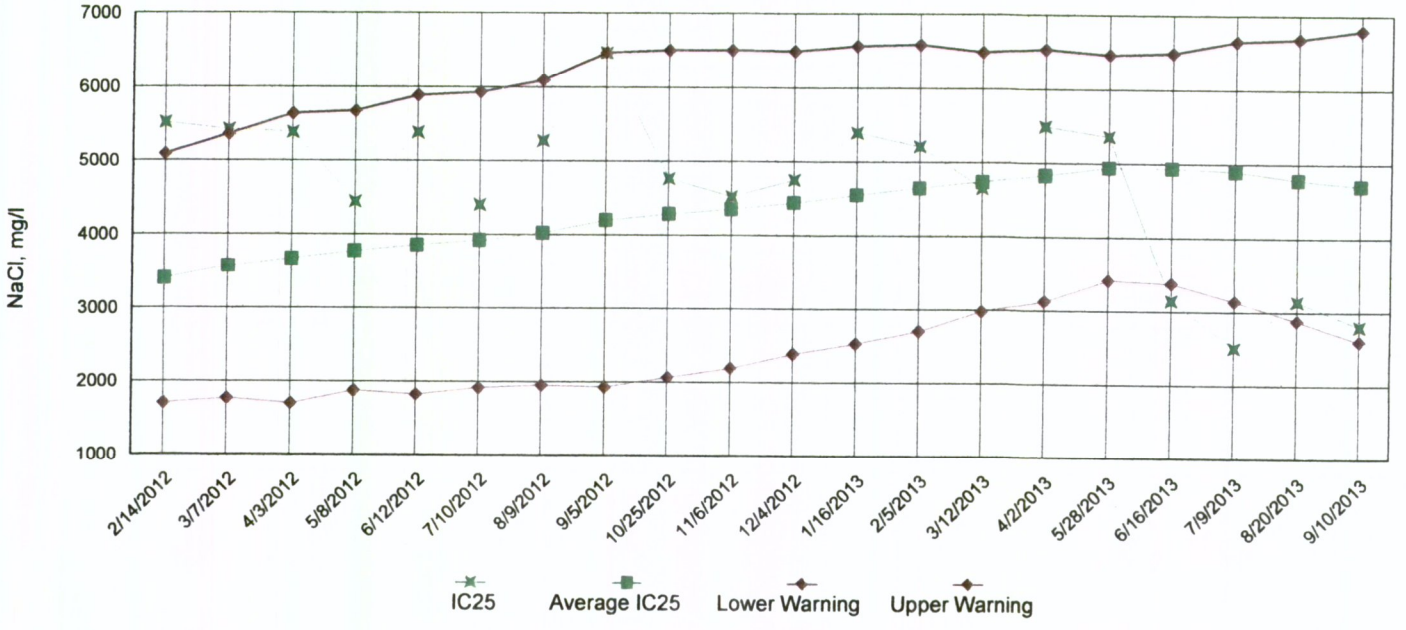
Appendix A4: Test 1000.0

Chronic Reference Toxicant, *Pimephales promelas* (Fathead Minnow)

LC50 Survival Data



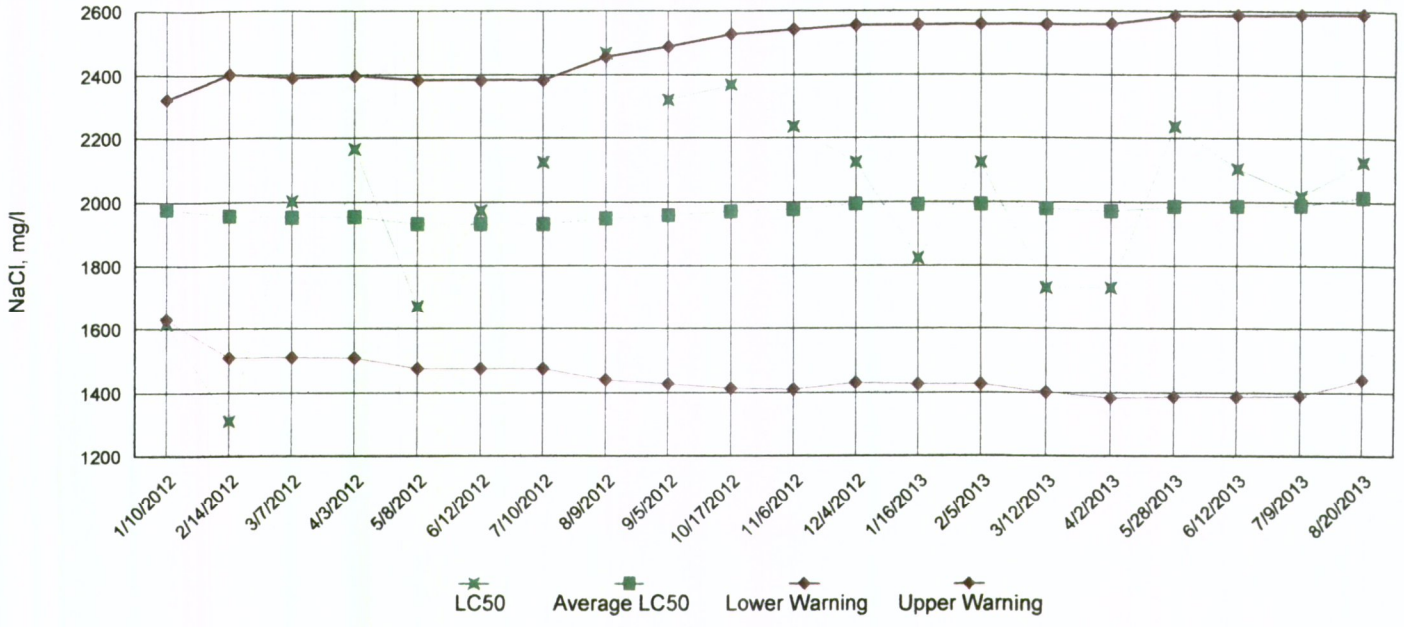
IC25 Growth Data



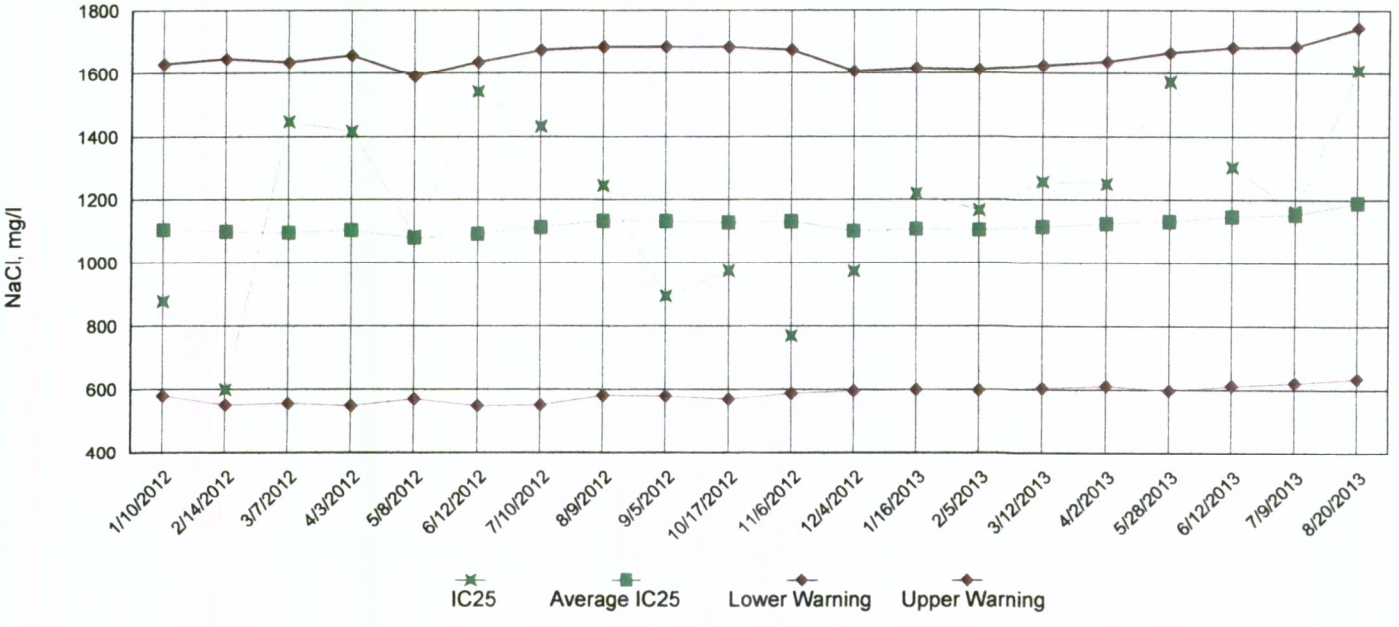
Appendix A4: Test 1002.0

Chronic Reference Toxicant, *Ceriodaphnia dubia*

LC50 Survival Data



IC25 Reproduction Data



Appendix B: Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead Minnow)
SURVIVAL AND GROWTH

Permittee: El Dorado Chemical Company

NPDES No.:

Date and Time Test Initiated: September 17, 2013 at 1815
Date and Time Test Terminated: September 24, 2013 at 1700
Dilution water used: Natural Receiving Water

DATA TABLE FOR SURVIVAL

Effluent Conc. %	Percent Survival in replicate chambers A	B	C	D	E	Mean percent survival 24 hr	48 hr	7 days	CV%
Control	100	100	100	87.5	100	100	100	97.5	5.73
0.7 %	100	100	100	100	100	100	100	100	0.00
0.9 %	100	100	87.5	87.5	100	100	100	95.0	7.21
1.2 %	100	100	100	100	100	100	100	100	0.00
1.6 %	100	100	100	100	100	100	100	100	0.00
2.1 %	100	100	100	100	100	100	100	100	0.00

DATA TABLE FOR GROWTH

Effluent Conc. %	Average dry weight, mg replicate chambers A	B	C	D	E	Mean dry weight, mg	CV%
Control	0.442	0.299	0.365	0.434	0.401	0.388	15.0
0.7 %	0.314	0.358	0.398	0.386	0.302	0.352	12.1
0.9 %	0.331	0.340	0.324	0.312	0.342	0.33	3.73
1.2 %	0.312	0.366	0.349	0.350	0.246	0.325	14.8
1.6 %	0.328	0.372	0.306	0.338	0.346	0.338	7.16
2.1 %	0.234	0.359	0.352	0.395	0.399	0.348	19.3

CV = Coefficient of variation = standard deviation * 100 / mean

Appendix B: Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead Minnow)
SURVIVAL AND GROWTH

1. Steel's Many-One Rank Test:

   Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

a.) LOW FLOW OR CRITICAL DILUTION	(1.6 %)	____YES	X NO
b.) 1/2 LOW FLOW DILUTION	(NA)	____YES	____NO

2. Dunnett's Test:

   Is the mean dry weight (growth) significantly different (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION	(1.6 %)	____YES	X NO
b.) 1/2 LOW FLOW DILUTION	(NA)	____YES	____NO

3. If you answered NO to 1.a) enter [0] otherwise enter [1]: 0 (TLP6C)

4. If you answered NO to 2.a) enter [0] otherwise enter [1]: 0 (TGP6C)

5. NOEC Pimephales Lethality: 2.1 % (TOP6C)

6. LOEC Pimephales Lethality: 2.1 % (TXP6C)

7. NOEC Pimephales Sublethality: 2.1 % (TPP6C)

8. LOEC Pimephales Sublethality: 2.1 % (TYP6C)

9. Coefficient of variation for Pimephales growth: 15 (TQP6C)

Appendix B: Test 1000.0

CHRONIC TOXICITY SUMMARY FORM
Pimephales promelas (Fathead minnow)
CHEMICAL PARAMETERS CHART

PERMITTEE: El Dorado Chemical Company
NPDES NO.:
CONTACT: Ms. Larken Pennington
ANALYST: 280, 298, 304, 307

SAMPLE No. 1 COLLECTED ending: DATE: September 16, 2013 TIME: 0955
SAMPLE No. 3 COLLECTED ending: DATE: September 20, 2013 TIME: 0955
Test Initiated: DATE: September 17, 2013 TIME: 1815
Test Terminated: DATE: September 24, 2013 TIME: 1700

DILUTION Control	DAY 1	2	3	4	5	6	7
D.O. Initial	8.1	8.2	7.4	8.0	7.7	7.7	7.6
Final	7.4	7.4	6.8	7.3	7.2	5.8	7.9
pH Initial	6.9	7.0	7.9	7.4	7.2	7.0	7.9
Final	8.1	7.5	6.9	7.2	7.0	7.0	6.9
Alkalinity	15	NA	18	NA	NA	NA	NA
Hardness	19	NA	19	NA	NA	NA	NA
Conductivity	63	70	65	50	60	55	58
Chlorine	0.070	NA	0.080	NA	NA	NA	NA

DILUTION 0.7 %	DAY 1	2	3	4	5	6	7
D.O. Initial	8.1	8.2	7.5	8.0	7.7	7.7	7.8
Final	7.5	7.0	7.0	7.4	7.1	5.8	7.8
pH Initial	6.9	7.0	7.9	7.5	7.3	7.1	7.3
Final	7.8	7.4	6.9	7.2	7.1	7.0	6.9
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	64	71	66	54	73	60	68
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 0.9 %	DAY 1	2	3	4	5	6	7
D.O. Initial	8.0	8.2	7.6	7.9	7.7	7.6	7.8
Final	7.5	7.2	6.6	7.4	7.1	5.9	7.6
pH Initial	6.9	7.1	7.9	7.5	7.3	7.1	7.2
Final	7.7	7.5	6.8	7.2	7.1	7.1	6.9
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	65	69	63	54	64	61	60
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 1.2 %	DAY 1	2	3	4	5	6	7
D.O. Initial	7.6	8.2	7.7	7.8	7.9	7.7	7.8
Final	7.1	6.9	6.8	7.2	7.1	5.7	7.6
pH Initial	6.9	7.1	8.0	7.6	7.3	7.2	7.3
Final	7.8	7.4	6.9	7.2	7.0	7.0	6.9
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	66	69	65	56	60	62	57
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 1.6 %	DAY 1	2	3	4	5	6	7
D.O. Initial	8.0	8.2	7.4	8.0	7.9	7.8	7.8
Final	7.4	7.4	6.8	7.0	7.2	5.8	8.1
pH Initial	6.9	7.1	8.0	7.6	7.4	7.2	7.3
Final	7.8	7.5	6.8	7.1	7.1	7.1	7.0
Alkalinity	17	NA	20	NA	14	NA	NA
Hardness	19	NA	18	NA	19	NA	NA
Conductivity	66	80	72	56	78	60	58
Chlorine	0.050	NA	0.080	NA	0.080	NA	NA

DILUTION 2.1 %	DAY 1	2	3	4	5	6	7
D.O. Initial	8.0	8.2	7.5	7.9	7.7	7.6	7.8
Final	7.4	7.1	7.3	7.3	7.2	5.5	7.7
pH Initial	6.9	7.1	8.0	7.6	7.3	7.2	7.3
Final	7.8	7.4	7.0	7.2	7.1	7.1	6.9
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	68	77	69	58	61	66	56
Chlorine	NA	NA	NA	NA	NA	NA	NA

Appendix B: Test 1002.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Ceriodaphnia dubia
SURVIVAL AND REPRODUCTION

Permittee: El Dorado Chemical Company

NPDES No.:

Date and Time Test Initiated: September 17, 2013 at 1710
Date and Time Test Terminated: September 24, 2013 at 1600
Dilution water used: Natural Receiving Water

PERCENT SURVIVAL

		Percent Effluent				
Time of Reading	Control	0.7 %	0.9 %	1.2 %	1.6 %	2.1 %
24 hour	100	100	100	100	100	100
48 hour	100	100	100	100	100	100
7 day	100	100	100	100	100	100

NUMBER OF YOUNG PRODUCED PER FEMALE @ 7 DAYS

		Percent Effluent				
Replicates	Control	0.7 %	0.9 %	1.2 %	1.6 %	2.1 %
A	28	29	30	29	28	27
B	25	26	28	23	27	33
C	26	30	30	33	29	26
D	30	23	33	29	27	27
E	24	28	24	29	32	26
F	28	27	28	29	27	28
G	23	24	25	27	24	27
H	30	27	27	30	27	28
I	26	25	26	27	27	24
J	30	27	29	29	27	30
Mean per Adult	27.0	26.6	28.0	28.5	27.5	27.6
Mean per Surviving Adult	27.0	26.6	28.0	28.5	27.5	27.6
CV %	9.56	8.16	9.52	8.95	7.32	8.91

CV = Coefficient of variation = standard deviation * 100 / mean
(calculated based on young produced by surviving females)

Appendix B: Test 1002.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Ceriodaphnia dubia
SURVIVAL AND REPRODUCTION

1. Fisher's Exact Test:

   Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

a.) LOW FLOW OR CRITICAL DILUTION	(1.6 %)	_____YES	__X__ NO
b.) 1/2 LOW FLOW DILUTION	(NA)	_____YES	_____ NO

2. Dunnett's Test:

   Is the mean number of young produced per female significantly different (p=0.05) than the control's number of young per female for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION	(1.6 %)	_____YES	__X__ NO
b.) 1/2 LOW FLOW DILUTION	(NA)	_____YES	_____ NO

3. If you answered NO to 1.a) enter [0] otherwise enter [1]: __0__ (TLP3B)

4. If you answered NO to 2.a) enter [0] otherwise enter [1]: __0__ (TGP3B)

5. NOEC Ceriodaphnia Lethality: __2.1 %__ (TOP3B)

6. LOEC Ceriodaphnia Lethality: __2.1 %__ (TXP3B)

7. NOEC Ceriodaphnia Sublethality: __2.1 %__ (TPP3B)

8. LOEC Ceriodaphnia Sublethality: __2.1 %__ (TYP3B)

9. Coefficient of variation for Ceriodaphnia Reproduction: __9.56__ (TQP3B)

Appendix B: Test 1002.0

CHRONIC TOXICITY SUMMARY FORM
Ceriodaphnia dubia
CHEMICAL PARAMETERS CHART

PERMITTEE: El Dorado Chemical Company
NPDES NO.:
CONTACT: Ms. Larken Pennington
ANALYST: 280, 298, 304, 307

SAMPLE No. 1 COLLECTED ending: DATE: September 16, 2013 TIME: 0955
SAMPLE No. 3 COLLECTED ending: DATE: September 20, 2013 TIME: 0955
Test Initiated: DATE: September 17, 2013 TIME: 1710
Test Terminated: DATE: September 24, 2013 TIME: 1600

DILUTION Control	DAY 1	2	3	4	5	6	7
D.O. Initial	8.1	8.2	7.4	8.0	7.7	7.7	7.6
Final	8.5	7.6	7.9	7.8	7.8	6.4	7.2
pH Initial	6.9	7.0	7.9	7.4	7.2	7.0	7.9
Final	7.5	8.2	7.6	7.2	7.8	7.7	7.7
Alkalinity	15	NA	18	NA	NA	NA	NA
Hardness	19	NA	19	NA	NA	NA	NA
Conductivity	63	70	65	50	60	55	58
Chlorine	0.070	NA	0.080	NA	NA	NA	NA

DILUTION 0.7 %	DAY 1	2	3	4	5	6	7
D.O. Initial	8.1	8.2	7.5	8.0	7.7	7.7	7.8
Final	8.4	7.4	7.8	7.9	7.8	6.3	7.2
pH Initial	6.9	7.0	7.9	7.5	7.3	7.1	7.3
Final	7.6	8.3	7.6	7.3	7.8	7.7	7.7
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	64	71	66	54	73	60	68
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 0.9 %	DAY 1	2	3	4	5	6	7
D.O. Initial	8.0	8.2	7.6	7.9	7.7	7.6	7.8
Final	8.4	7.4	7.9	7.9	7.7	6.2	7.4
pH Initial	6.9	7.1	7.9	7.5	7.3	7.1	7.2
Final	7.6	8.3	7.6	7.4	7.8	7.7	7.8
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	65	69	63	54	64	61	60
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 1.2 %	DAY 1	2	3	4	5	6	7
D.O. Initial	7.6	8.2	7.7	7.8	7.9	7.7	7.8
Final	8.4	7.7	8.0	7.6	7.8	6.0	7.2
pH Initial	6.9	7.1	8.0	7.6	7.3	7.2	7.3
Final	7.5	8.3	7.6	7.4	7.8	7.6	7.8
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	66	69	65	56	60	62	57
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 1.6 %	DAY 1	2	3	4	5	6	7
D.O. Initial	8.0	8.2	7.4	8.0	7.9	7.8	7.8
Final	8.4	7.7	8.0	7.7	7.6	6.3	7.1
pH Initial	6.9	7.1	8.0	7.6	7.4	7.2	7.3
Final	7.6	8.4	7.7	7.4	7.8	7.7	7.8
Alkalinity	17	NA	20	NA	14	NA	NA
Hardness	19	NA	18	NA	19	NA	NA
Conductivity	66	80	72	56	78	60	58
Chlorine	0.050	NA	0.080	NA	0.080	NA	NA

DILUTION 2.1 %	DAY 1	2	3	4	5	6	7
D.O. Initial	8.0	8.2	7.5	7.9	7.7	7.6	7.8
Final	8.4	7.6	8.0	7.7	7.8	6.2	7.3
pH Initial	6.9	7.1	8.0	7.6	7.3	7.2	7.3
Final	7.6	8.4	7.6	7.4	7.8	7.6	7.8
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	68	77	69	58	61	66	56
Chlorine	NA	NA	NA	NA	NA	NA	NA

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

AIC CONTROL NO: 170605
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	ANALYSES REQUESTED: Chronic - CD, FH	Remarks
1	010	9:55am-9:55am 9/15/13-9/16/13		X	X		1	X	
		Container Type						P	
		Preservative						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 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	9/16/13 10:20am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Larken Pennington	9-16-13 13:15

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

AIC CONTROL NO: 170605
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	ANALYSES REQUESTED: Chronic - CD, FH	Remarks
2	Receiving	0807 9-16-13	X		X		6	X	
		Container Type						P	Field pH calibration
		Preservative						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
John M. Rogers	0930 9-16-13	GOLDSTAR	1000 9-16-13
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Rolanda Lee	9-16-13 13:15

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

AIC CONTROL NO: 170605
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	ANALYSES REQUESTED: Chronic - CD, FH	Remarks
2	Receiving	0850 9-16-13	X		X		6	X	
		Container Type						P	
		Preservative						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 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
[signature]	0925 9-16-13	GOLD STAR	1000
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Rowlanda Allen	9-16-13 13:15

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

AIC CONTROL NO: 170605
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	ANALYSES REQUESTED: Chronic - CD, FH	Remarks
3	010	9-18-13 0955		X	X		1	X	
		Container Type						P	
		Preservative						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 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
	9-18-13		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9-18-13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: RIVER PARTNERS
Project Reference: RECEIVING STREAM
Project Manager:
Sampled By:

PO No.

SAMPLE MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	ANALYSES REQUESTED: RECEIVING STREAM
(4)		9-19-13 0811	✓		✓		4	
		Container Type					P	
		Preservative					NO	

AIC CONTROL NO: 178605
AIC PROPOSAL NO:
Carrier:
Received Temperature C: 2'2
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:_____ Fax:
Report Attention to:_____
Report Address to:

Relinquished By:	Date/Time	Received By:	Date/Time
JOHN M PEPPERS	0920 9-19-13	GOLDSTAR	0945 9-19-13
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9/19/13 1345

Comments: RIVER WATER

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

PAGE OF

Client: RIVER PARTNERS
Project Reference: RECEIVING STREAM
Project Manager:
Sampled By:

PO No.

SAMPLE MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	ANALYSES REQUESTED[1] RECEIVING STREAM
(4)		0807 9-19-13	✓		✓		4	
		Container Type					P	
		Preservative					NO	

AIC CONTROL NO: 170605
AIC PROPOSAL NO:
Carrier:/Tracking No.
Received Temperature C: 2°C
Remarks

Field pH calibration on _____ @ _____ Buffer:

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

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions: _____
Phone: _____ Fax: _____
Report Attention to:
Report Address to:

Relinquished By:	Date/Time	Received By:	Date/Time
John M. Peters	0920 9-19-13	GOLDSTAR	0945 9-19-13
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Tommy Day	9/19/13 1345

Comments: RECEIVING STREAM

19-Oct-09

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: Chronic - CD, FH
5	010	9/19/13-9/20/13 9:55am-9:55am		X	X			1	X
		Container Type							P
		Preservative							NO

AIC CONTROL NO: 170605
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2
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 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	9/20/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By: Tyra Hopton	Date/Time 9-20-13 1330

Comments:

FORM 0060

Bio-Analytical Laboratories (BAL)
ADEQ#88-0630
Project X5214

Bio-Analytical Laboratories' Executive Summary

Permittee: El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731
Project #: X5214
Outfall: Outfall 006 (contaminated storm water)
Permit #: AR0000752/ AFIN #70-00040
Contact: Ms. Larken Pennington
Test Dates: September 21 - 23, 2013
Test Type: 48-hour acute toxicity test using *Pimephales promelas* (EPA 2000.0).
48-hour acute toxicity test using *Daphnia pulex* (EPA 2021.0)
Results:

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

For *Daphnia pulex:*
1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D- 0 **(Pass)**.
2. Report the NOEC for survival, Parameter TOM3D -100.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D - 14.20%.

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

Bio-Analytical Laboratories

3240 Spurgin Road
Post Office Box 527
Doyline, LA 71023

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

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

EL DORADO CHEMICAL COMPANY
El Dorado, Arkansas

NPDES #AR0000752
AFIN #70-00040

EPA Methods 2000.0 and 2021.0

Project X5214

Test Dates: September 21 - 23, 2013
Report Date: October 3, 2013

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

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

BAL
ADEQ #88-0630
Project X5214

TABLE OF CONTENTS

BAL
ADEQ #88-0630
Project X5214

1.0 Introduction

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

2.0 Methods and Materials

2.1 Test Methods

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

2.2 Test Organisms

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

BAL
ADEQ #88-0630
Project X5214

2.3 Dilution Water

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

2.4 Test Concentrations

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

2.5 Sample Collection

One sample of Outfall 006 was collected by El Dorado Chemical personnel on September 20, 2013. Upon completion of collection, the sample was chilled and personally delivered to Bio-Analytical Laboratories. The sample 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 was measured with a Capital Controls^R amperometric titrator and recorded if present. Dissolved oxygen, pH and conductivity measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity and hardness levels were measured on the control and the highest effluent concentration.

2.7 Monitoring of the Tests

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

BAL
ADEQ #88-0630
Project X5214

2.8 Data Analysis

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

3.0 Results and Discussion

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

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

Percent Effluent	Percent Survival	
Test Organism	*Pimephales promelas* (Fathead Minnow)	*Daphnia pulex*
Control	100.0	97.5
22.0	100.0	95.0
32.0	100.0	87.5
42.0	100.0	85.0
56.0	100.0	87.5
75.0	100.0	92.5
100.0	100.0	87.5

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 X5214

4.0 Conclusions

The sample of Outfall 006 collected from El Dorado Chemical Company, El Dorado, Arkansas, on September 20, 2013, was not found to be lethally toxic to the *Daphnia pulex* test organisms nor the fathead minnow test organisms in the 100.0 percent critical dilution after 48 hours of exposure (p=.05).

BAL
ADEQ #88-0630
Project X5214

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
1-800-259-1249
Fax: (318) 746-2773

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

Laboratory Use Only:

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

Date Start / Date End	Time Start / Time End	C	G	# and type of container	Sample Identification	Chronic Ceriodaphnia	Chronic minnow	Acute minnow(fresh/marine)	Acute Daphnia species	Acute Mysid	Acute Ceriodaphnia	Fecal Coliform	Lab Control Number:	Preservative: (below)
9/20/13-9/20/13	1:40pm-9:40pm	✓		6 half gallon	outfall 006			X	X				C7947	ice

Project Number: X5214

Temp. upon arrival:

Temperature upon arrival: 0.7c
Thermometer #: 29
Tech: LC
Date: 9/21/13

Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:
Larken Pennington/EDCC	9/21/13	1300	L Coffey	9/21/13	1300
Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:
Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:

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# X5214

Client: EDCC/El Dorado Chemical Company

Address: 4500 Northwest Ave El Dorado AR 71731

NPDES#AR0000752 Outfall 006

Technicians: EGB/AH/LC/GW

Test initiated: Date 9/21/13 Time 1405

Test terminated: Date 9/23/13 Time 1310

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 100%	Alkalinity 100%	Tech
C7941	9.1/102.3%	Y/10/ 8.3/97.2	<0.01	NO	6.0	N/A	116.0	20.0	LC
↓	8.1/102.1%	Y/30 8.2/96.5%	↓	↓	↓	↓			LC
				↓		↓			

Dilution Water Information

Dilution Water	ID#	Initial D.O (mg/L & %)	Aerate? Minutes/D.O (mg/L & %)	Total Residual Chlorine (mg/L)	Ammonia (NH3) mg/L	pH	Hardness	Alkalinity	Tech
		N/A	N/A	N/A	N/A				
Soft H2O	3540					7.4	48.0	36.0	LC
↓									

Test Species Information

Test Species Info.	Species: Daphnia ID#: BAL Ke+Mic	Species: Pimephales ID#: BAL 9/9/13	Species: ID#:	Species: ID#:
Age	<24h	2Dday		
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 9/23/13	Good 9/23/13		

Comments:

LC

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

Project# X5214

Client El Dorado Chemical

Sample Description OD16

Test started: Date 9/21/13 Time 1405

Test ended: Date 9/23/13 Time 1310

Test Species D. pulex ID# BAI/K10YM10

Technician: 0hour LC 24hour LC 48hour AH 72hour ___ 96hour ___

Time: 0hour 1405 24hour 1305 48hour ~~1410~~ 1310 (9/23/13) 72hour ___ 96hour ___

Temperature (°C): 0hour 24.9 24hour 24.7 48hour 24.5 72hour ___ 96hour ___

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0	A	NA	8	8	8			8.2	8.4/8.3	8.5			7.3	7.4/7.6	7.7			169	219/221	367		
	B		8	8	8																	
	C		8	7	7																	
	D		8	8	8																	
	E		8	8	8																	
22	A		8	7	7			8.2	8.4/8.3	8.5			7.1	7.0/7.2	7.5			274	300/278	408		
	B		8	8	8																	
	C		8	8	8																	
	D		8	7	7																	
	E		8	~~6~~ 8 (LC 9/22/13)	8																	
Chemistry Tech prerenewal/postrenewal								LC	LC/LC	AH			LC	LC/LC	AH			LC	LC/LC	AH		

ACUTE2 Rev 1.0

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

Project# XS214 Test started: Date 9/21/14 Time 1405

Client El Dorado Chemical Test ended: Date 9/23/13 Time 1310

Sample Description 006 Test Species D. pulex ID# BAUK10+M10

Technician: 0hour JC 24hour JC 48hour AH 72hour — 96hour —

Time: 0hour 1405 24hour 1305 48hour 1310 72hour — 96hour —

Temperature (°C): 0hour 24.9 24hour 24.7 48hour 24.5 72hour — 96hour —

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
32	A		8	7	7			8.3	8.4/8.3	8.5			7.1	7.0/7.1	7.4			314	321/322	440		
	B		8	6	6																	
	C		8	7	7																	
	D		8	8	8																	
	E		8	7	7																	
42	A		8	8	8			8.3	8.4/8.2	8.5			7.1	7.0/7.1	7.4			368	385/368	508		
	B		8	8	8																	
	C		8	7 8 JC 9/23/13	8																	
	D		8	6	6																	
	E		8	4	4																	
Chemistry Tech prerenewal/postrenewal								JC	JC/JC	AH			JC	JC/JC	AH			JC	JC/JC	AH		

ACUTE2 Rev 1.0

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

Project# X5214

Client El Dorado Chemical

Sample Description DD6

Test started: Date 9/21/13 Time 1425

Test ended: Date 9/23/13 Time 1310

Test Species D. pulex ID# BAL/K10TM10

Technician:	Ohour JC	24hour JC	48hour AH	72hour	96hour
Time:	Ohour 1405	24hour 1395	48hour 1310	72hour	96hour
Temperature (°C):	Ohour 24.9	24hour 24.7	48hour 24.5	72hour	96hour

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		NA	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
56	A		8	8	8			8.3	8.4/8.2	8.5			7.1	7.0/7.1	7.4			*433/311	454/436	549		
	B		8	6	6																	
	C		8	10	7																	
	D		8	8	6																	
	E		8	8	8																	
75	A		8	7	7			8.3	8.4/8.2	8.5			7.1	7.9/7.1	7.3			*526/368	550/530	545		
	B		8	8	8																	
	C		8	10	7																	
	D		8	7	8																	
	E		8	7	7																	
Chemistry Tech prerenewal/postrenewal								JC	JC/JC	AH			JC	JC/JC	AH			LC	LC/JC	AH		

* JC 9/21/13

ACUTE2 Rev 1.0

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

Project# X5214

Client El Dorado Chemical

Sample Description 0016

Test started: Date 9/21/13 Time 1405

Test ended: Date 9/23/13 Time 1310

Test Species D. pulex ID# BAL K. ovamio

	0hour	24hour	48hour	72hour	96hour
Technician:	LC	LC	AH		
Time:	1405	1305	1310		
Temperature (^{0}C):	20.9	24.7	24.5		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100	A	NA	8	8/7	8		9/21/13 8	8.3	8.4/8.1	8.5			7.0	6.8/7.0	7.2			665	663/655	709		
	B		8	6	6																	
	C		8	8/7	8																	
	D		8	7/6	7																	
	E		8	8	6																	
100 pH Adj	A								/					/					/			
	B																					
	C																					
	D																					
	E																					
Chemistry Tech prerenewal/postrenewal								LC	LC/LC	AH			LC	LC/LC	AH			LC	LC/LC	AH		

ACUTE2 Rev 1.0

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

Project# X5214

Client El Dorado Chemical

Sample Description 001g

Test started: Date 9/21/13 Time 1425

Test ended: Date 9/23/13 Time 1245

Test Species P. promelas ID# BAL 91913

	0hour	24hour	48hour	72hour	96hour
Technician:	JC	JC	JC		
Time:	1425	1230	1245		
Temperature (°C):	24.9	25.0	25.0		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0	A	NA	8	8	8			8.2	7.8/8.3	7.7			7.3	7.5/7.4	7.3			1082	201/191	214		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
22	A		8	8	8			8.2	7.7/8.3	7.6			7.1	7.1/7.2	7.2			274	299/278	329		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								JC	JC/JC	JC			JC	JC/JC	JC			JC	JC/JC	JC		

ACUTE2 Rev 1.0

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

Project# XS214

Client El Dorado Chemical

Sample Description 006

Test started: Date 9/21/13 Time ~~1425~~ 1425

Test ended: Date 9/23/13 Time 1245 9/21/13 JC

Test Species P. promelas ID# BAL 91913

Technician: 0hour JC 24hour JC 48hour JC 72hour — 96hour —

Time: 0hour ~~1433~~ ~~1425~~ 9/21/13 24hour 1230 48hour 1245 72hour — 96hour —

Temperature (°C): 0hour 24.9 24hour 25.0 48hour 25.0 72hour — 96hour —

Test Dilution %	Replicate	Test Salinity	# Live Organisms 0 hr	24	48	72	96	Dissolved Oxygen 0	24	48	72	96	pH 0	24	48	72	96	Conductivity 0	24	48	72	96
32	A	NA	8	8	8			83	7.7/83	7.6			7.1	7.1/7.1	7.2			314	341/322	378		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
42	A		8	8	8			83	7.7/8.2	7.6			7.1	7.1/7.1	7.1			368	395/368	432		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								JC	JC/JC	JC			JC	JC/JC	JC			JC	JC/JC	JC		

ACUTE2 Rev 1.0

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

Project# X5214

Client El Dorado Chemical

Test started: Date 9/21/13 Time ~~1425~~ 1425 9/21/13 JC

Test ended: Date 9/23/13 Time 1245

Test Species P. promelas ID# BAL91913

Sample Description 0016

Technician: 0hour JC 24hour JC 48hour JC 72hour ____ 96hour ____

Time: 0hour ~~1425~~ 1425 24hour 1230 48hour 1245 72hour ____ 96hour ____

Temperature (°C): 0hour 24.9 24hour 25.0 48hour 25.0 72hour ____ 96hour ____

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
56	A		8	8	8			8.3	7.0 / 8.2	7.5			7.1	7.0 / 7.1	7.1			433	400 / 436	511		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
75	A		8	8	8			8.3	7.0 / 8.8	7.5			7.0	7.0 / 7.1	7.0			526	558 / 530	620		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								JC	JC / JC	JC			JC	JC / JC	JC			JC	JC / JC	JC		

ACUTE2 Rev 1.0

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

Project# X5214

Client El Dorado Chemical

Test started: Date 9/21/13 Time 1425

Test ended: Date 9/23/13 Time 1245

Test Species P. promelas ID# BAL91913

Sample Description 006

Technician:	0hour LC	24hour LC	48hour LC	72hour	96hour		
Time:	0hour 1425	24hour 1230	48hour 1245	72hour	96hour		
Temperature (°C):	0hour 25.0	24hour 25.0	48hour 25.0	72hour	96hour		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
100	A		8	8	8			8.3	7.5/8.1	7.4			7.0	6.9/7.0	6.9			645	681/655	768		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
100 DH Adj.	A								/					/					/			
	B																					
	C																					
	D																					
	E																					
Chemistry Tech prerenewal/postrenewal								LC	LC/LC	LC			LC	LC/LC	LC			LC	LC/LC	LC		

ACUTE2 Rev 1.0

APPENDIX C
STATISTICAL ANALYSIS

Daphnid Acute Test-48 Hr Survival

Start Date:	9/21/2013	Test ID:	X5214DP	Sample ID:	6
End Date:	9/23/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	9/21/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	DP-Daphnia pulex
Comments:					

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	0.8750	1.0000	1.0000
22	0.8750	1.0000	1.0000	0.8750	1.0000
32	0.8750	0.7500	0.8750	1.0000	0.8750
42	1.0000	1.0000	1.0000	0.7500	0.5000
56	1.0000	0.7500	0.8750	0.7500	1.0000
75	0.8750	1.0000	0.8750	1.0000	0.8750
100	1.0000	0.7500	1.0000	0.8750	0.7500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5		
22	0.9500	0.9744	1.3196	1.2094	1.3931	7.623	5	25.00	16.00
32	0.8750	0.8974	1.2137	1.0472	1.3931	10.087	5	19.50	16.00
42	0.8500	0.8718	1.2024	0.7854	1.3931	23.043	5	24.00	16.00
56	0.8750	0.8974	1.2180	1.0472	1.3931	14.204	5	21.50	16.00
75	0.9250	0.9487	1.2829	1.2094	1.3931	7.841	5	22.50	16.00
100	0.8750	0.8974	1.2180	1.0472	1.3931	14.204	5	21.50	16.00

Auxiliary Tests					Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)					0.92568	0.934	-0.5705	0.29139
Bartlett's Test indicates equal variances (p = 0.21)					8.3674	16.8119		
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**				
Steel's Many-One Rank Test	100	>100		1				
Treatments vs D-Control								

ToxCalc v5.0.23

Reviewed by: EGB 10/1/13

Acute Fish Test-48 Hr Survival

Start Date:	9/21/2013	Test ID:	X5214PP	Sample ID:	6
End Date:	9/23/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	9/21/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas

Comments:

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

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

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

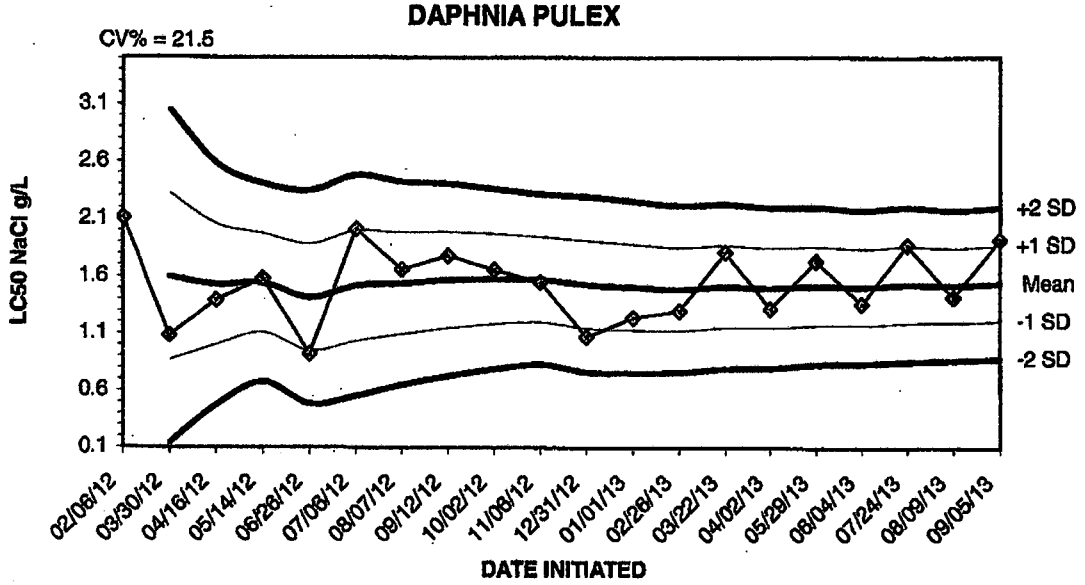
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1
Treatments vs D-Control				

ToxCalc v5.0.23

Reviewed by: EGB 10/1/13

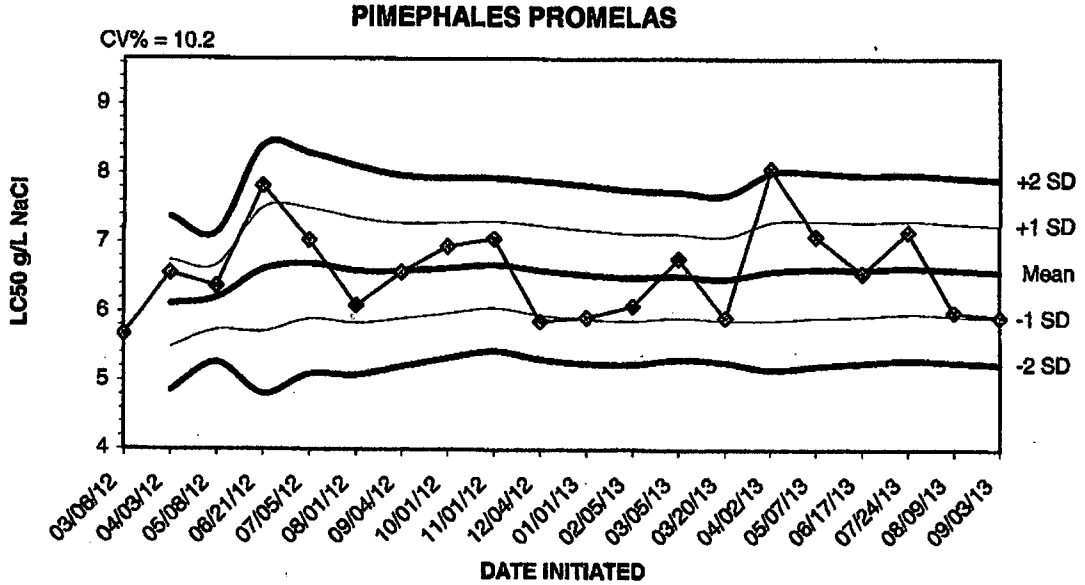
APPENDIX D
QUALITY ASSURANCE CHARTS

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



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
02/06/12	2.1100					
03/30/12	1.0800	1.5950	0.8667	0.1384	2.3233	3.0516
04/16/12	1.3900	1.5267	0.9982	0.4698	2.0551	2.5835
05/14/12	1.5800	1.5400	1.1077	0.6754	1.9723	2.4046
06/26/12	0.9200	1.4160	0.9501	0.4843	1.8819	2.3477
07/06/12	2.0100	1.5150	1.0329	0.5508	1.9971	2.4792
08/07/12	1.6600	1.5357	1.0922	0.6487	1.9792	2.4227
09/12/12	1.7800	1.5663	1.1467	0.7271	1.9858	2.4054
10/02/12	1.6600	1.5767	1.1829	0.7892	1.9704	2.3641
11/06/12	1.5500	1.5740	1.2027	0.8314	1.9453	2.3166
12/31/12	1.0700	1.5282	1.1445	0.7609	1.9118	2.2955
01/01/13	1.2400	1.5042	1.1290	0.7539	1.8793	2.2544
02/26/13	1.3000	1.4885	1.1249	0.7613	1.8521	2.2156
03/22/13	1.8100	1.5114	1.1517	0.7919	1.8712	2.2309
04/02/13	1.3200	1.4987	1.1485	0.7983	1.8488	2.1990
05/29/13	1.7300	1.5131	1.1699	0.8267	1.8563	2.1995
06/04/13	1.3600	1.5041	1.1698	0.8354	1.8385	2.1728
07/24/13	1.8700	1.5244	1.1888	0.8531	1.8601	2.1957
08/09/13	1.4200	1.5189	1.1919	0.8648	1.8460	2.1731
09/05/13	1.9200	1.5390	1.2083	0.8775	1.8697	2.2005

2013 48-HOUR REFERENCE TOXICANT TEST RESULTS FOR PIMEPHALES PROMELAS



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/06/12	5.6700					
04/03/12	6.5600	6.1150	5.4857	4.8563	6.7443	7.3737
05/08/12	6.3700	6.2000	5.7313	5.2626	6.6687	7.1374
06/21/12	7.8200	6.6050	5.7091	4.8133	7.5009	8.3967
07/05/12	7.0300	6.6900	5.8912	5.0924	7.4888	8.2876
08/01/12	6.0900	6.5900	5.8347	5.0795	7.3453	8.1005
09/04/12	6.5700	6.5871	5.8976	5.2081	7.2767	7.9662
10/01/12	6.9500	6.6325	5.9814	5.3302	7.2836	7.9348
11/01/12	7.0600	6.6800	6.0545	5.4290	7.3055	7.9310
12/04/12	5.8600	6.5980	5.9538	5.3095	7.2422	7.8865
01/01/13	5.9200	6.5364	5.8919	5.2474	7.1808	7.8253
02/05/13	6.0900	6.4992	5.8713	5.2435	7.1270	7.7548
03/05/13	6.7700	6.5200	5.9142	5.3084	7.1258	7.7316
03/20/13	5.9200	6.4771	5.8734	5.2697	7.0808	7.6845
04/02/13	8.0700	6.5833	5.8709	5.1585	7.2958	8.0082
05/07/13	7.0900	6.6150	5.9152	5.2153	7.3148	8.0147
06/17/13	6.5600	6.6118	5.9340	5.2563	7.2895	7.9673
07/24/13	7.1600	6.6422	5.9721	5.3020	7.3123	7.9824
08/09/13	6.0000	6.6084	5.9408	5.2731	7.2761	7.9438
09/03/13	5.9200	6.5740	5.9062	5.2383	7.2418	7.9097

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: 9/20/13** **To: 9/20/13**
From: **To:**
Test Initiated: 9/21/13
Dilution Water Used: **Receiving Water** **Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	22	32	42	56	75	100
24-hour	A	100.0	87.5	87.5	100.0	100.0	87.5	100.0
	B	100.0	100.0	75.0	100.0	75.0	100.0	75.0
	C	87.5	100.0	87.5	100.0	87.5	87.5	100.0
	D	100.0	87.5	100.0	75.0	75.0	100.0	87.5
	E	100.0	100.0	87.5	50.0	100.0	87.5	75.0
48-hour	A	100.0	87.5	87.5	100.0	100.0	87.5	100.0
	B	100.0	100.0	75.0	100.0	75.0	100.0	75.0
	C	87.5	100.0	87.5	100.0	87.5	87.5	100.0
	D	100.0	87.5	100.0	75.0	75.0	100.0	87.5
	E	100.0	100.0	87.5	50.0	100.0	87.5	75.0
	Mean	97.5	95.0	87.5	85.0	87.5	92.5	87.5

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

Biomonitoring
Daphnia 48 hour Acute Static Renewal
Chemical Parameters Chart*

Permittee: El Dorado Chemical - Outfall 006
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Cotty, Haughton
Sample Collected **From:** **Date 9/20/13** **Time 1340**
To: **Date 9/20/13** **Time 2140**
Test Begin **Date 9/21/13** **Time 1405**
Test End **Date 9/23/13** **Time 1310**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut./Time	0hrs.	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.2	8.3	8.5	24.9	24.7	24.5	36.0			48.0			7.3	7.6	7.7
22	8.2	8.3	8.5	24.9	24.7	24.5							7.1	7.2	7.5
32	8.3	8.3	8.5	24.9	24.7	24.5							7.1	7.1	7.4
42	8.3	8.2	8.5	24.9	24.7	24.5							7.1	7.1	7.4
56	8.3	8.2	8.5	24.9	24.7	24.5							7.1	7.1	7.4
75	8.3	8.2	8.5	24.9	24.7	24.5							7.1	7.1	7.3
100	8.3	8.1	8.5	24.9	24.7	24.5	20.0			116.0			7.0	7.0	7.2

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

Acute Forms
Pimephales promelas (Fathead minnow) Survival

Permittee: El Dorado Chemical - Outfall 006
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 9/20/13** **To: 9/20/13**
From: **To:**
Test Initiated: 9/21/13
Dilution Water Used: **Receiving Water** **Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	22	32	42	56	75	100
24-hour	A	100.0	100.0	100.0	100.0	100.0	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%) **YES** **X NO**
b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%) **YES** **NO**
2. Enter percent effluent corresponding to the LC_{50} below:
LC_{50} = N/A% effluent
95 % confidence limits: N/A
Method of LC_{50} calculation: N/A
3. If you answered NO to 1.a) enter (P) otherwise enter (F): P
4. Enter response to item 3 on DMR Form, parameter TEM3D
5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
6. Enter response to item 5 on DMR Form, parameter TFM3D

Biomonitoring
Daphnia 48 hour Acute Static Renewal
Chemical Parameters Chart*

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

Sample Collected	**From:**	**Date 9/20/13**	**Time 1340**
	To:	**Date 9/20/13**	**Time 2140**
Test Begin		**Date 9/21/13**	**Time 1425**
Test End		**Date 9/23/13**	**Time 1245**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut./Time	0hrs.	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.2	8.3	7.7	24.9	25.0	25.0	36.0			48.0			7.3	7.6	7.3
22	8.2	8.3	7.6	24.9	25.0	25.0							7.1	7.2	7.2
32	8.3	8.3	7.6	24.9	25.0	25.0							7.1	7.1	7.2
42	8.3	8.2	7.6	24.9	25.0	25.0							7.1	7.1	7.1
56	8.3	8.2	7.5	24.9	25.0	25.0							7.1	7.1	7.1
75	8.3	8.2	7.5	24.9	25.0	25.0							7.1	7.1	7.0
100	8.3	8.1	7.4	24.9	25.0	25.0	20.0			116.0			7.0	7.0	6.9

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

APPENDIX F
REPORT QUALITY ASSURANCE FORM

Bio-Analytical Laboratories

3240 Spurgin Road
Post Office Box 627
Doyline, LA 71023

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

REPORT QUALITY ASSURANCE FORM

Client: El Dorado Chemical - 006

Project#: X5214

Chain of Custody Documents Checked by: AH 10/1/13
Technician/Date

Raw Data Documents Checked by: AH 10/1/13
Technician/Date

Statistical Analysis Package Checked by: EGB | 10-1-13
Quality Manager/Date

Quality Control Data Checked by: EGB | 9-16-13
Quality Manager/Date

Report Checked by: EGB 10/3/13
Quality Manager/Date

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

Erin L. Briggs BS — 10/3/13

Quality Manager — **Date**

Report Rev. 3.0

Bio-Analytical Laboratories (BAL)
ADEQ#88-0630
Project X5215

Bio-Analytical Laboratories' Executive Summary

Permittee: El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731
Project #: X5215
Outfall: Outfall 007 (contaminated storm water)
Permit #: AR0000752/ AFIN #70-00040
Contact: Ms. Larken Pennington
Test Dates: September 21 - 23, 2013
Test Type: 48-hour acute toxicity test using *Pimephales promelas* (EPA 2000.0).
48-hour acute toxicity test using *Daphnia pulex* (EPA 2021.0)
Results:

For *Pimephales promelas:*
1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C- 1 **(Fail).**
2. Report the NOEC for survival, Parameter TOM6C - 56.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM6C - 6.06%.
Note: Toxicity was removed when the 100% effluent concentration's pH level was maintained at a range of 7.1-7.6.

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 - 56.0%.
3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D - 12.12%.
Note: Toxicity was removed when the 100% effluent concentration's pH level was maintained at a range of 7.1-7.6.

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

Bio-Analytical Laboratories

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1-800-259-1246
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 X5215

Test Dates: September 21 - 23, 2013
Report Date: October 3, 2013

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

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

BAL
ADEQ #88-0630
Project X5215

TABLE OF CONTENTS

BAL
ADEQ #88-0630
Project X5215

1.0 Introduction

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

2.0 Methods and Materials

2.1 Test Methods

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

2.2 Test Organisms

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

BAL
ADEQ #88-0630
Project X5215

2.3 Dilution Water

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

2.4 Test Concentrations

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

2.5 Sample Collection

One sample of Outfall 007 was collected by El Dorado Chemical personnel on September 20, 2013. Upon completion of collection, the sample was chilled and personally delivered to Bio-Analytical Laboratories. The sample temperature upon arrival was 1.0^0 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 was measured with a Capital Controls^R amperometric titrator and recorded if present. The initial pH of the sample was 4.6; therefore, an aliquot was adjusted to a range of 7.1-7.6 using 1.0 Normal Sodium Hydroxide solution. A pH-adjusted 100.0 percent effluent concentration was then run with the test in order to document toxicity due to low pH. Dissolved oxygen, pH and conductivity measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity and hardness levels were measured on the control and the highest effluent concentration.

2.7 Monitoring of the Tests

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

BAL
ADEQ #88-0630
Project X5215

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 100 percent critical dilution after 48 hours of exposure (p=.05). The NOEC value for both the *Daphnia pulex* test and the fathead minnow test was 56.0 percent effluent (p=.05). The 48-hour LC_{50} value for the *Daphnia pulex* test and the fathead minnow test was 64.16 and 64.71 percent effluent, respectively (p=.05).

Adjusting the pH of the sample removed the toxicity in both tests.

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

Percent Effluent	Percent Survival	
Test Organism	*Pimephales promelas* (Fathead Minnow)	*Daphnia pulex*
Control	97.5	92.5
32.0	100.0	97.5
42.0	100.0	92.5
50.0	97.5	92.5
56.0	100.0	95.0
75.0	0.0	0.0
100.0	0.0	0.0
100.0 pH	100.0	72.5

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 X5215

4.0 Conclusions

The sample of Outfall 007 collected from El Dorado Chemical Company, El Dorado, Arkansas, on September 20, 2013, was found to be lethally toxic to the *Daphnia pulex* test organisms and the fathead minnow test organisms in the 100.0 percent critical dilution after 48 hours of exposure (p=.05). Adjusting the pH from 4.6, and maintaining it in a range of 7.1-7.6 reduced the toxicity at the 100.0 percent critical dilution.

BAL
ADEQ #88-0630
Project X5215

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) 745-2772
1-800-259-1248
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: Larken Pennington/Larken 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
9/20/13-9/20/13	1:45pm-9:45pm	✓		6 half gallon	Outfall 007			X	X			

Lab Control Number: C7948
Project Number: X5215
Temperature upon arrival: ~1.0°C
Thermometer #: 29
Tech: LC
Date: 9/21/13
Preservative: (below) ice

Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:
Larken Pennington/EDCC	9/21/13	1300	L Cotty	9/21/13	1300
Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:
Relinquished by/Affiliation:	Date:	Time:	Received by/Affiliation:	Date:	Time:

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# X5215

Client: EDCC/El Dorado Chemical Company

Address: 4500 Northwest Ave El Dorado AR 71731

NPDES#AR0000752 Outfall 007

Technicians: EGB/AH/LC/GW

Test initiated: Date 9/21/13 Time 1410

Test terminated: Date 9/23/13 Time 1315

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 100%	Alkalinity 100%	Tech
C7948	9.6/109.3%	9/12 8.5/99.3%	<0.01	NO	1.0	N/A	188.0	0.0	LC
↓	9.8/112.6%	9/20 8.2/96.6%	↓	↓	↓	↓			LC

Dilution Water Information

Dilution Water	ID#	Initial D.O (mg/L & %)	Aerate? Minutes/D.O (mg/L & %)	Total Residual Chlorine (mg/L)	Ammonia (NH3) mg/L	pH	Hardness	Alkalinity	Tech
		NA	NA	NA	NA				
Soft H20	3540					7.4	48.0	36.0	LC
↓									

Test Species Information

Test Species Info.	Species: D.pulex ID#: BAL K10/PMo	Species: P.promelas ID#: BAL 91913	Species: ID#:	Species: ID#:
Age	<24h	2days		
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 9/23/13	Good 9/23/13		

Comments:

LC

Acute1 Rev. 1.0

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

Project# X5215
Client El Dorado Chemical
Sample Description 007

Test started: Date 9/21/13 Time 1410
Test ended: Date 9/23/13 Time 1315
Test Species D. pulex ID# BAL K10+M10

Technician: 0hour LC 24hour LC 48hour AH 72hour ___ 96hour ___
Time: 0hour 1410 24hour 1255 48hour 1315 72hour ___ 96hour ___
Temperature (°C): 0hour 22.4 (LC 9/21/13) 24hour 24.7 48hour 24.5 72hour ___ 96hour ___

Test Dilution %	Replicate	Test Salinity	# 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
		NA																				
0	A			8	7	6		8.2	8.4/8.4	8.5			7.4	7.3/7.2	7.7			1146	205/1013	362		
	B			8	8	8																
	C			8	8	8																
	D			8	8	8																
	E			8	8	7																
					LC 9/22/13																	
32	A			8	~~7~~ 8	8		8.3	8.4/8.3	8.5			6.9	7.1/6.8	7.6			332	341/335	529		
	B			8	8	8																
	C			8	8	8																
	D			8	8	8																
	E			8	7	7																
Chemistry Tech prerenewal/postrenewal								LC	LC/LC	AH			LC	LC/LC	AH			LC	LC/LC	AH		

ACUTE2 Rev 1.0

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

Project# X5215

Client El Dorado Chemical

Test started: Date 9/21/13 Time 1410

Test ended: Date 9/23/13 Time 1315

Test Species D. pulex ID# BAL K10 + M10

Sample Description OD7

Technician:	0hour JC	24hour JC	48hour AH	72hour		96hour	
Time:	0hour 1410	24hour 1355	48hour 1315	72hour		96hour	
Temperature (°C):	0hour 24.8	24hour 24.7	48hour 24.5	72hour		96hour	

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
		NA	0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
42	A		8	8	8			8.3	8.4/8.2	8.4			6.7	6.9/6.6	7.5			379	389/380	550		
	B		8	8	7																	
	C		8	7	7																	
	D		8	8/7	8																	
	E		8	6	7																	
50	A		8	8	8			8.4	8.4/8.2	8.4			6.5	6.9/6.5	7.4			422	488/488	576		
	B		8	8	8																	
	C		8	6	6																	
	D		8	6	7																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								JC	JC/JC	AH			JC	JC/JC	AH			JC	JC/JC	AH		

ACUTE2 Rev 1.0

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

Project# X5215

Client El Dorado Chemical

Test started: Date 9/21/13 Time 1410

Test ended: Date 9/23/13 Time 1315

Test Species D. pulex ID# BAL 100411.10

Sample Description OD7

Technician:	0hour JC	24hour JC	48hour AH	72hour	96hour		
Time:	0hour 1410	24hour 1355	48hour 1315	72hour	96hour		
Temperature (°C):	0hour 24.9	24hour 24.7	48hour 24.5	72hour	96hour		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24 JC 9/22/13	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
56	A		8	8	8			8.4	8.2	8.5			6.3	7.3	7.3			450	449	435		
	B		8	7	7																	
	C		8	7	7																	
	D		8	8	8																	
	E		8	8	8																	
75	A		8	0				8.4	8.3				5.7	5.8				546	536			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								JC	JC	AH			JC	JC	AH			JC	JC	AH		

ACUTE2 Rev 1.0

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

Project# X5215

Client El Dorado Chemical

Sample Description 007

Test started: Date 9/21/13 Time 1410

Test ended: Date 9/23/13 Time 1315

Test Species D. pulex ID# BAL KIDHMO

	Ohour	24hour	48hour	72hour	96hour
Technician:	JC	JC	AH		
Time:	1410	1355	1315		
Temperature (°C):	24.9	24.7	24.5		

Test Dilution %	Replicate	Test Salinity	# 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	NA	8	0				8.5	8.4/				4.6	5.0/				677	676/			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
100 pH Adj.	A		8	6	6			8.5	8.4/8.1	8.6			7.6	7.2/7.1	7.1			711	715/[illegible]	825		
	B		8	5	5																	
	C		8	7	7																	
	D		8	6	6																	
	E		8	5	5																	
Chemistry Tech prerenewal/postrenewal								JC	JC/JC	AH			JC	JC/JC	AH			JC	JC/JC	AH		

ACUTE2 Rev 1.0

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

Project# X5215

Client El Dorado Chemical

Test started: Date 9/21/13 Time 1435

Test ended: Date 9/23/13 Time 1255

Test Species P. promelas ID# BAL 91913

Sample Description 007

Technician:	Ohour FC	24hour FC	48hour FC	72hour	96hour		
Time:	Ohour 1435	24hour 1240	48hour 1255	72hour	96hour		
Temperature (°C):	Ohour 25.0	24hour 25.0	48hour 25.0	72hour	96hour		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
0	A		8	8	8			8.2	7.7/8.4	7.7			7.4	7.5/7.2	7.3			169	205/167	217		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	7	7																	
32	A		8	8	8			8.3	7.7/8.3	7.6			6.9	7.1/6.8	7.0			332	360/335	408		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								FC	FC/FC	FC			FC	FC/FC	FC			FC	FC/FC	FC		

ACUTE2 Rev 1.0

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

Project# X5215
Client El Dorado Chemical
Sample Description 007

Test started: Date 9/21/13 Time 1435
Test ended: Date 9/23/13 Time 1255
Test Species P. promelas ID# BAL 9/9/13

	0hour	24hour	48hour	72hour	96hour
Technician:	JC	JC	JC		
Time:	1435	1240	1255		
Temperature (°C):	25.0	25.0	25.0		

Test Dilution %	Replicate	Test Salinity	# 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
		NA																				
42	A		8	8	8			8.3	7.0/8.2	7.6			6.7	7.0/6.6	7.0			379	407/380	460		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
50	A		8	8	8			8.4	7.7/8.2	7.6			6.5	6.9/6.5	6.9			422	453/428	513		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	7																	
Chemistry Tech prerenewal/postrenewal								JC	JC/JC	JC			JC	JC/JC	JC			JC	JC/JC	JC		

ACUTE2 Rev 1.0

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

Project# X5215

Client El Dorado Chemical

Test started: Date 9/21/13 Time 1435

Test ended: Date 9/23/13 Time 1255

Test Species P. promelas ID# BAL 9/9/13

Sample Description 007

Technician:	Ohour LC	24hour LC	48hour LC	72hour	96hour		
Time:	Ohour 1435	24hour 1240	48hour 1255	72hour	96hour		
Temperature (°C):	Ohour 25.0	24hour 25.0	48hour 25.0	72hour	96hour		

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
50	A		8	8	8			8.4	7.0/8.2	7.0			6.3	6.8/6.3	6.8			450	488/449	540		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
75	A		8	0				8.4	7.0				5.7	6.4				544	579			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
Chemistry Tech prerenewal/postrenewal								SK	LC/LC	LC			SK	LC/LC	LC			LC	LC/LC	LC		

ACUTE2 Rev 1.0

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

Project# ~~X5215~~ X5815 EGB 10/2/13

Client El Dorado Chemical

Test started: Date 9/21/13 Time 1435

Test ended: Date 9/23/13 Time 1255

Test Species P. promelas ID# BAL 9/9/13

Sample Description 007

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

Time: Ohour 1435 24hour 1240 48hour 1255 72hour ____ 96hour ____

Temperature (°C): Ohour 25.0 24hour 25.0 48hour 25.0 72hour ____ 96hour ____

Test Dilution %	Replicate	Test Salinity	# Live Organisms					Dissolved Oxygen					pH					Conductivity				
			0 hr	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
		NA																				
100	A		8	0				8.5	7.9				4.6	5.0				617	781			
	B		8	0																		
	C		8	0																		
	D		8	0																		
	E		8	0																		
100 pH Adj.	A		8	8	8			8.5	7.9 / 8.1	7.5			7.6	7.9 / 7.1	6.7			711	717 / 705	834		
	B		8	8	8																	
	C		8	8	8																	
	D		8	8	8																	
	E		8	8	8																	
Chemistry Tech prerenewal/postrenewal								KC	KC / KC	KC			KC	KC / KC	KC			KC	KC / KC	KC		

ACUTE2 Rev 1.0

APPENDIX C
STATISTICAL ANALYSIS

Daphnid Acute Test-48 Hr Survival

Start Date:	9/21/2013	Test ID:	X5215DP	Sample ID:	7
End Date:	9/23/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	9/21/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	DP-Daphnia pulex

Comments:

Conc-%	1	2	3	4	5
D-Control	0.7500	1.0000	1.0000	1.0000	0.8750
32	1.0000	1.0000	1.0000	1.0000	0.8750
42	1.0000	0.8750	0.8750	1.0000	0.8750
50	1.0000	1.0000	0.7500	0.8750	1.0000
56	1.0000	0.8750	0.8750	1.0000	1.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100PHADJ	0.7500	0.6250	0.8750	0.7500	0.6250

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	0.9250	1.0000	1.2872	1.0472	1.3931	12.116	5		
32	0.9750	1.0541	1.3564	1.2094	1.3931	6.055	5	30.50	16.00
42	0.9250	1.0000	1.2829	1.2094	1.3931	7.841	5	26.50	16.00
50	0.9250	1.0000	1.2872	1.0472	1.3931	12.116	5	27.50	16.00
56	0.9500	1.0270	1.3196	1.2094	1.3931	7.623	5	28.50	16.00
*75	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
*100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
100PHADJ	0.7250	0.7838	1.0255	0.9117	1.2094	12.008	5	17.50	16.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.93674	0.94	-0.6344	0.26578
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates significant differences
Treatments vs D-Control

ToxCalc v5.0.23

Reviewed by: EGB 10/1/13

Daphnid Acute Test-48 Hr Survival

Start Date:	9/21/2013	Test ID:	X5215DP	Sample ID:	7
End Date:	9/23/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	9/21/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	DP-Daphnia pulex

Comments:

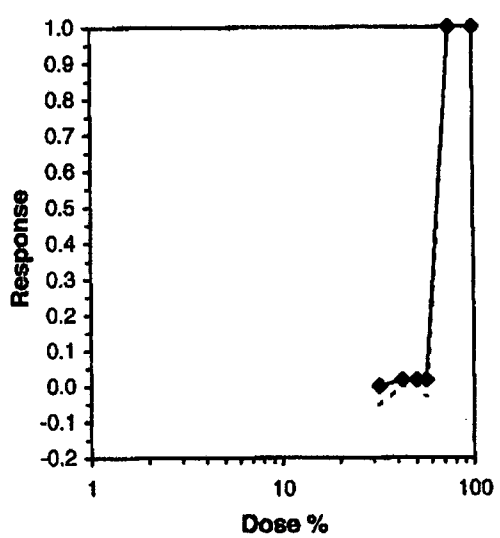
Conc-%	1	2	3	4	5
D-Control	0.7500	1.0000	1.0000	1.0000	0.8750
32	1.0000	1.0000	1.0000	1.0000	0.8750
42	1.0000	0.8750	0.8750	1.0000	0.8750
50	1.0000	1.0000	0.7500	0.8750	1.0000
56	1.0000	0.8750	0.8750	1.0000	1.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100PHADJ	0.7500	0.6250	0.8750	0.7500	0.6250

			Transform: Arcsin Square Root					Number	Total
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
D-Control	0.9250	1.0000	1.2872	1.0472	1.3931	12.116	5	3	40
32	0.9750	1.0541	1.3564	1.2094	1.3931	6.055	5	1	40
42	0.9250	1.0000	1.2829	1.2094	1.3931	7.841	5	3	40
50	0.9250	1.0000	1.2872	1.0472	1.3931	12.116	5	3	40
56	0.9500	1.0270	1.3196	1.2094	1.3931	7.623	5	2	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
100PHADJ	0.7250	0.7838	1.0255	0.9117	1.2094	12.008	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.84809	0.918	-0.7818	-0.4843
Bartlett's Test indicates equal variances (p = 0.66)	2.40499	13.2767		

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	64.163	63.279	65.059
5.0%	64.639	64.234	65.046
10.0%	64.639	64.234	65.046
20.0%	64.639	64.234	65.046
Auto-0.0%	64.163	63.279	65.059



ToxCalc v5.0.23

Reviewed by: EGB 10/1/13

Acute Fish Test-48 Hr Survival

Start Date:	9/21/2013	Test ID:	X5215PP	Sample ID:	7
End Date:	9/23/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	9/21/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas

Comments:

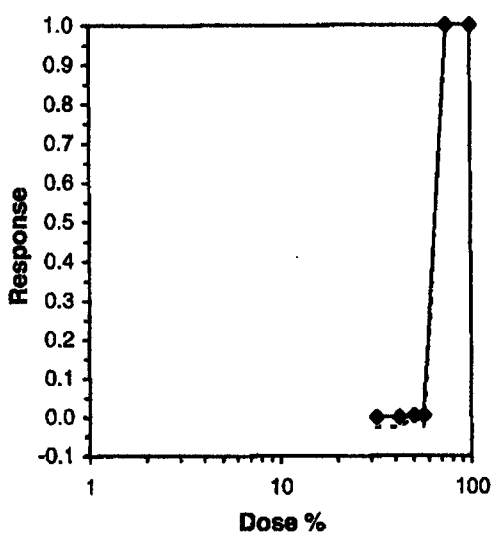
Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	0.8750
32	1.0000	1.0000	1.0000	1.0000	1.0000
42	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	0.8750
56	1.0000	1.0000	1.0000	1.0000	1.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100PHADJ	1.0000	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	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	1	40
32	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	0	40
42	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	0	40
50	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	1	40
56	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	0	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
100PHADJ	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)	0.5466	0.927	-2.7369	8.25694
Equality of variance cannot be confirmed				

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	64.713	64.385	65.043
5.0%	64.767	64.573	64.963
10.0%	64.767	64.573	64.963
20.0%	64.767	64.573	64.963
Auto-0.0%	64.713	64.385	65.043



ToxCalc v5.0.23

Reviewed by: EAB 10/1/13

Acute Fish Test-48 Hr Survival

Start Date:	9/21/2013	Test ID:	X5215PP	Sample ID:	7
End Date:	9/23/2013	Lab ID:	ADEQ880630	Sample Type:	EFF2-Industrial
Sample Date:	9/21/2013	Protocol:	EPAAW02-EPA/821/R-02-01	Test Species:	PP-Pimephales promelas

Comments:

Conc-%	1	2	3	4	5
D-Control	1.0000	1.0000	1.0000	1.0000	0.8750
32	1.0000	1.0000	1.0000	1.0000	1.0000
42	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	0.8750
56	1.0000	1.0000	1.0000	1.0000	1.0000
75	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000
100PHADJ	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	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5		
32	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
42	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
50	0.9750	1.0000	1.3564	1.2094	1.3931	6.055	5	27.50	16.00
56	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00
*75	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
*100	0.0000	0.0000	0.1777	0.1777	0.1777	0.000	5	15.00	16.00
100PHADJ	1.0000	1.0256	1.3931	1.3931	1.3931	0.000	5	30.00	16.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.49377	0.94	-3.1182	11.5391
Equality of variance cannot be confirmed				

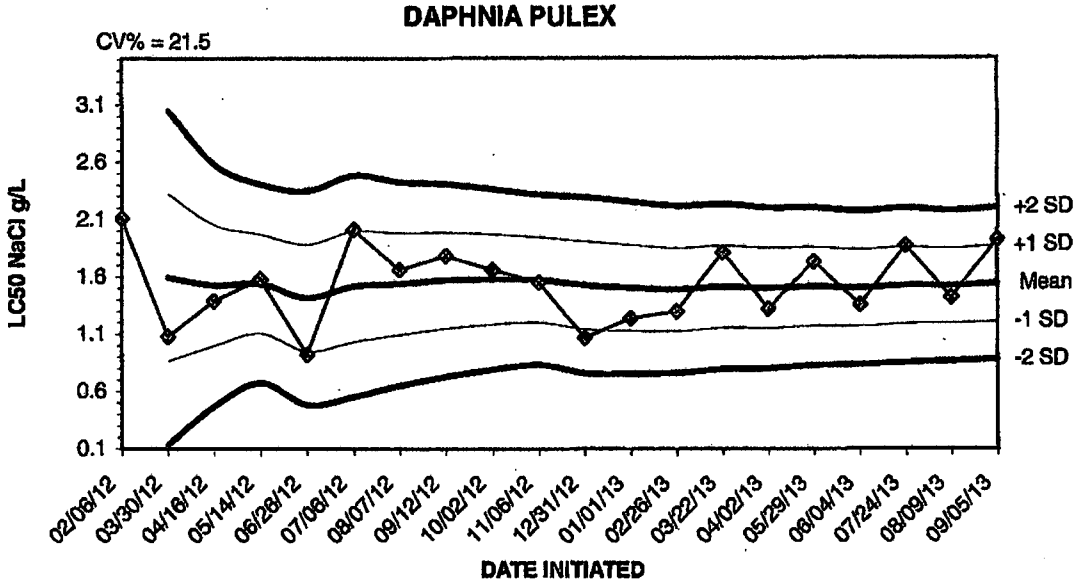
Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates significant differences
Treatments vs D-Control

EBB 10/1/13

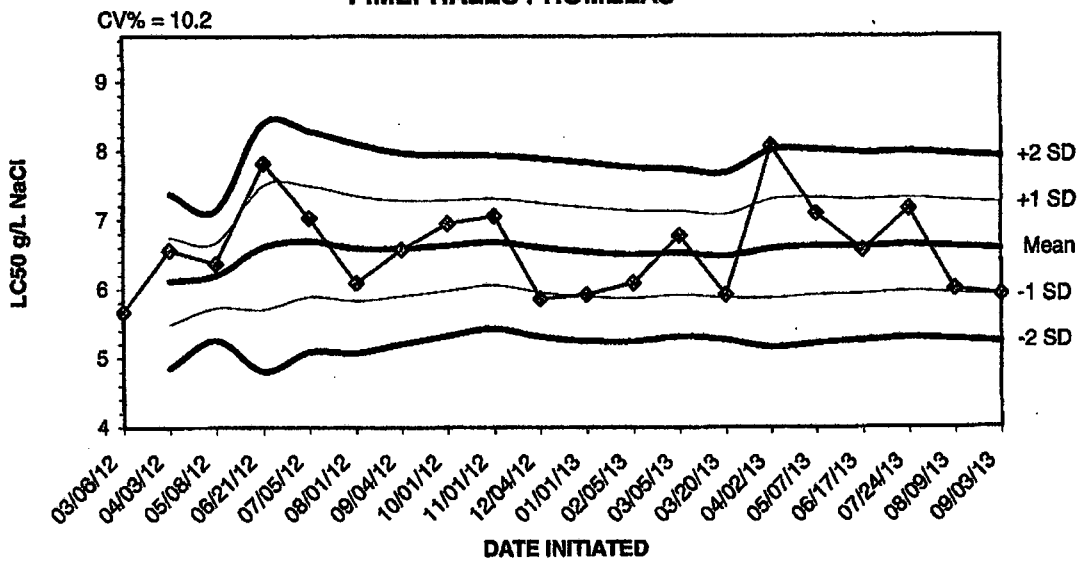
APPENDIX D
QUALITY ASSURANCE CHARTS

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



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
02/06/12	2.1100					
03/30/12	1.0800	1.5950	0.8667	0.1384	2.3233	3.0516
04/16/12	1.3900	1.5267	0.9982	0.4698	2.0551	2.5835
05/14/12	1.5800	1.5400	1.1077	0.6754	1.9723	2.4046
06/26/12	0.9200	1.4160	0.9501	0.4843	1.8819	2.3477
07/06/12	2.0100	1.5150	1.0329	0.5508	1.9971	2.4792
08/07/12	1.6600	1.5357	1.0922	0.6487	1.9792	2.4227
09/12/12	1.7800	1.5663	1.1467	0.7271	1.9858	2.4054
10/02/12	1.6600	1.5767	1.1829	0.7892	1.9704	2.3641
11/06/12	1.5500	1.5740	1.2027	0.8314	1.9453	2.3166
12/31/12	1.0700	1.5282	1.1445	0.7609	1.9118	2.2955
01/01/13	1.2400	1.5042	1.1290	0.7539	1.8793	2.2544
02/26/13	1.3000	1.4885	1.1249	0.7613	1.8521	2.2156
03/22/13	1.8100	1.5114	1.1517	0.7919	1.8712	2.2309
04/02/13	1.3200	1.4987	1.1485	0.7983	1.8488	2.1990
05/29/13	1.7300	1.5131	1.1699	0.8267	1.8563	2.1995
06/04/13	1.3600	1.5041	1.1698	0.8354	1.8385	2.1728
07/24/13	1.8700	1.5244	1.1888	0.8531	1.8601	2.1957
08/09/13	1.4200	1.5189	1.1919	0.8648	1.8460	2.1731
09/05/13	1.9200	1.5390	1.2083	0.8775	1.8697	2.2005

2013 48-HOUR REFERENCE TOXICANT TEST RESULTS FOR PIMEPHALES PROMELAS



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/06/12	5.6700					
04/03/12	6.5600	6.1150	5.4857	4.8563	6.7443	7.3737
05/08/12	6.3700	6.2000	5.7313	5.2626	6.6687	7.1374
06/21/12	7.8200	6.6050	5.7091	4.8133	7.5009	8.3967
07/05/12	7.0300	6.6900	5.8912	5.0924	7.4888	8.2876
08/01/12	6.0900	6.5900	5.8347	5.0795	7.3453	8.1005
09/04/12	6.5700	6.5871	5.8976	5.2081	7.2767	7.9662
10/01/12	6.9500	6.6325	5.9814	5.3302	7.2836	7.9348
11/01/12	7.0600	6.6800	6.0545	5.4290	7.3055	7.9310
12/04/12	5.8600	6.5980	5.9538	5.3095	7.2422	7.8865
01/01/13	5.9200	6.5364	5.8919	5.2474	7.1808	7.8253
02/05/13	6.0900	6.4992	5.8713	5.2435	7.1270	7.7548
03/05/13	6.7700	6.5200	5.9142	5.3084	7.1258	7.7316
03/20/13	5.9200	6.4771	5.8734	5.2697	7.0808	7.6845
04/02/13	8.0700	6.5833	5.8709	5.1585	7.2958	8.0082
05/07/13	7.0900	6.6150	5.9152	5.2153	7.3148	8.0147
06/17/13	6.5600	6.6118	5.9340	5.2563	7.2895	7.9673
07/24/13	7.1600	6.6422	5.9721	5.3020	7.3123	7.9824
08/09/13	6.0000	6.6084	5.9408	5.2731	7.2761	7.9438
09/03/13	5.9200	6.5740	5.9062	5.2383	7.2418	7.9097

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: 9/20/13** **To: 9/20/13**
From: **To:**
Test Initiated: 9/21/13
Dilution Water Used: **Receiving Water** **Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	32	42	50	56	75	100	100 pH
24-hour	A	87.5	100.0	100.0	100.0	100.0	0	0	75.0
	B	100.0	100.0	100.0	100.0	87.5	0	0	62.5
	C	100.0	100.0	87.5	75.0	87.5	0	0	87.5
	D	100.0	100.0	100.0	87.5	100.0	0	0	75.0
	E	100.0	87.5	87.5	100.0	100.0	0	0	62.5
48-hour	A	75.0	100.0	100.0	100.0	100.0	0	0	75.0
	B	100.0	100.0	87.5	100.0	87.5	0	0	62.5
	C	100.0	100.0	87.5	75.0	87.5	0	0	87.5
	D	100.0	100.0	100.0	87.5	100.0	0	0	75.0
	E	87.5	87.5	87.5	100.0	100.0	0	0	62.5
	Mean	92.5	97.5	92.5	92.5	95.0	0.0	0.0	72.5

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
a.) LOW FLOW OR CRITICAL DILUTION (100%) **X YES** **NO**
b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%) **YES** **NO**
2. Enter percent effluent corresponding to the LC_{50} below:
LC_{50} = 64.16% effluent
95 % confidence limits: 65.06 - 63.28%
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

Note: Lethal effects not noted between control and 100% pH adjusted treatment.

Biomonitoring
Daphnia 48 hour Acute Static Renewal
Chemical Parameters Chart*

Permittee: El Dorado Chemical - Outfall 007
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Cotty, Haughton

Sample Collected	**From:**	**Date 9/20/13**	**Time 1345**
	To:	**Date 9/20/13**	**Time 2145**
Test Begin		**Date 9/21/13**	**Time 1410**
Test End		**Date 9/23/13**	**Time 1315**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut./Time	0hrs.	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.2	8.4	8.5	24.8	24.7	24.5	36.0			48.0			7.4	7.2	7.7
32	8.3	8.3	8.5	24.8	24.7	24.5							6.9	6.8	7.6
42	8.3	8.2	8.4	24.8	24.7	24.5							6.7	6.6	7.5
50	8.4	8.2	8.4	24.8	24.7	24.5							6.5	6.5	7.4
56	8.4	8.2	8.5	24.8	24.7	24.7							6.3	6.3	7.3
75	8.4	8.5		24.8	24.7								5.7	5.8	
100	8.5	8.4		24.8	24.7		0.0			188.0			4.6	5.6	
100 pH	8.5	8.1	8.6	24.8	24.7	24.7							7.6	7.1	7.1

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

Acute Forms
Pimephales promelas (Fathead minnow) Survival

Permittee: El Dorado Chemical - Outfall 007
NPDES Permit Number: AR0000752/ AFIN 70-00040
Composite Collected **From: 9/20/13** **To: 9/20/13**
From: **To:**
Test Initiated: 9/21/13
Dilution Water Used: **Receiving Water** **Reconstituted Water**

Dilution Series Results - Percent Survival

TIME OF READING	REP	0	32	42	50	56	75	100	100 pH
24-hour	A	100.0	100.0	100.0	100.0	100.0	0	0	100.0
	B	100.0	100.0	100.0	100.0	100.0	0	0	100.0
	C	100.0	100.0	100.0	100.0	100.0	0	0	100.0
	D	100.0	100.0	100.0	100.0	100.0	0	0	100.0
	E	87.5	100.0	100.0	100.0	100.0	0	0	100.0
48-hour	A	100.0	100.0	100.0	100.0	100.0	0	0	100.0
	B	100.0	100.0	100.0	100.0	100.0	0	0	100.0
	C	100.0	100.0	100.0	100.0	100.0	0	0	100.0
	D	100.0	100.0	100.0	100.0	100.0	0	0	100.0
	E	87.5	100.0	100.0	87.5	100.0	0	0	100.0
	Mean	97.5	100.0	100.0	97.5	100.0	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%) **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} = 64.71% effluent
95 % confidence limits: 65.04% - 64.39%
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

Note: Lethal effects not noted between control and 100% pH adjusted treatment.

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

Permittee: El Dorado Chemical - Outfall 007
NPDES Number: AR0000752/ AFIN 70-00040
Contact: Larken Pennington
Analyst: Cotty

Sample Collected	**From:**	**Date 9/20/13**	**Time 1345**
	To:	**Date 9/20/13**	**Time 2145**
Test Begin		**Date 9/21/13**	**Time 1435**
Test End		**Date 9/23/13**	**Time 1255**

Parameter	D.O.			Temperature			Alkalinity			Hardness			pH		
Dilut./Time	0hrs.	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs	0hrs	24hrs	48hrs
0	8.2	8.4	7.7	25.0	25.0	25.0	36.0			48.0			7.4	7.2	7.3
32	8.3	8.3	7.6	25.0	25.0	25.0							6.9	6.8	7.0
42	8.3	8.2	7.6	25.0	25.0	25.0							6.7	6.6	7.0
50	8.4	8.2	7.6	25.0	25.0	25.0							6.5	6.5	6.9
56	8.4	8.2	7.6	25.0	25.0	25.0							6.3	6.3	6.8
75	8.4	7.6		25.0	25.0								5.7	6.4	
100	8.5	7.4		25.0	25.0		0.0			188.0			4.6	5.0	
100 pH	8.5	8.1	7.5	25.0	25.0	25.0							7.6	7.1	6.7

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

APPENDIX F
REPORT QUALITY ASSURANCE FORM

Bio-Analytical Laboratories

3240 Spurgin Road
Post Office Box 527
Doyline, LA 71023

(318) 745-2772
1-800-269-1246
Fax: (318) 745-2773

REPORT QUALITY ASSURANCE FORM

Client: El Dorado Chemical 007

Project#: X5215

Chain of Custody Documents Checked by: AH 10/1/13
Technician/Date

Raw Data Documents Checked by: AH 10/1/13
Technician/Date

Statistical Analysis Package Checked by: EGB | 10-1-13
Quality Manager/Date

Quality Control Data Checked by: EGB | 9-16-13
Quality Manager/Date

Report Checked by: EGB 10/3/13
Quality Manager/Date

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

Erin B. Briggs, BS — 10/3/13

Quality Manager **Date**

Report Rev. 3.0

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 September 9, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 9, 2013
Daily-Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
170396-1	010 9/9/13 9:45am	09-Sep-2013 0945	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170396-1
Sample Identification: 010 9/9/13 9:45am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**650**	1	**/100ml**	
SM 9222 D	Analyzed: 09-Sep-2013 1549 by 21		Batch: M3932	

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
Fecal Coliform	< 1 /100ml	1	1	M3932-1		09Sep13 1419 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: 70396
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	~~CBOD, TSS~~	Coli. F	~~NH3N, Total Phosphorus~~	Remarks
	010			X	X			1	X			
	010	9/9/13 9:45am	X		X			1		X		
	010			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	9/9/13 9:55am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9/9/13 13:30

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

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

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 10, 2013
Outfall 010
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
170433-1	010 9-10-13 0950	10-Sep-2013 0950	
170433-2	010 9-10-13 0950	10-Sep-2013 0950	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170433-1
Sample Identification: 010 9-10-13 0950

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**200**	10	**mg/l**	
SM 2540 C	Prep: 11-Sep-2013 1136 by 302	Analyzed: 12-Sep-2013 1545 by 302		Batch: W44866	
Ammonia as N		**0.55**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 10-Sep-2013 1628 by 308	Analyzed: 10-Sep-2013 1702 by 308		Batch: W44850	
Carbonaceous BOD 5-day		**2.2**	2	**mg/l**	
SM 5210 B	Prep: 11-Sep-2013 1401 by 285	Analyzed: 16-Sep-2013 0935 by 285		Batch: W44870	
Total Suspended Solids		**7.6**	4	**mg/l**	
USGS 3765	Prep: 11-Sep-2013 1039 by 302	Analyzed: 11-Sep-2013 1449 by 302		Batch: W44863	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 11-Sep-2013 0826 by 305	Analyzed: 11-Sep-2013 1651 by 305		Batch: S35386	
Chloride		**15**	0.2	**mg/l**	
EPA 300.0	Prep: 11-Sep-2013 0809 by 07	Analyzed: 11-Sep-2013 1727 by 07		Batch: C16035	
Nitrate as N		**4.6**	0.05	**mg/l**	
EPA 300.0	Prep: 11-Sep-2013 0809 by 07	Analyzed: 11-Sep-2013 1727 by 07		Batch: C16035	
Sulfate		**23**	0.2	**mg/l**	
EPA 300.0	Prep: 11-Sep-2013 0809 by 07	Analyzed: 11-Sep-2013 1727 by 07		Batch: C16035	

AIC No. 170433-2
Sample Identification: 010 9-10-13 0950

Analyte		Result	RL	Units	Qualifier
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 11-Sep-2013 1347 by 295	Analyzed: 11-Sep-2013 1611 by 295		Batch: B8545	
Fecal Coliform		**250**	50	**/100ml**	D
SM 9222 D		Analyzed: 10-Sep-2013 1558 by 21		Batch: M3933	Dil: 50

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Suspended Solids		170394-1	< 4 mg/l			11Sep13 1039 by 302	11Sep13 1449 by 302		
	Batch: W44863	Duplicate	< 4 mg/l	0.00	20.0	11Sep13 1040 by 302	11Sep13 1449 by 302		
Total Suspended Solids		170400-1	< 4 mg/l			11Sep13 1039 by 302	11Sep13 1449 by 302		
	Batch: W44863	Duplicate	< 4 mg/l	0.00	20.0	11Sep13 1040 by 302	11Sep13 1449 by 302		
Total Dissolved Solids		170429-2	250 mg/l			11Sep13 1136 by 302	12Sep13 1545 by 302		
	Batch: W44866	Duplicate	240 mg/l	2.42	10.0	11Sep13 1136 by 302	12Sep13 1545 by 302		
Total Dissolved Solids		170430-2	1600 mg/l			11Sep13 1136 by 302	12Sep13 1545 by 302		
	Batch: W44866	Duplicate	1600 mg/l	0.254	10.0	11Sep13 1136 by 302	12Sep13 1545 by 302		
Carbonaceous BOD 5-day		170411-1	< 2 mg/l			11Sep13 1401 by 285	16Sep13 0917 by 285		
	Batch: W44870	Duplicate	< 2 mg/l	0.00	20.0	11Sep13 1402 by 285	16Sep13 0919 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	104	80.0-120			W44850	10Sep13 1404 by 308	10Sep13 1611 by 308		
Carbonaceous BOD 5-day	200 mg/l	85.4	84.5-115			W44870	11Sep13 1402 by 285	16Sep13 0914 by 285		
Phosphorus	5 mg/l	112	85.0-115			S35386	11Sep13 0826 by 305	11Sep13 1556 by 305		
Chloride	20 mg/l	99.0	90.0-110			C16035	11Sep13 0809 by 07	11Sep13 1009 by 07		
Nitrate as N	4 mg/l	98.8	90.0-110			C16035	11Sep13 0809 by 07	11Sep13 1009 by 07		
Sulfate	20 mg/l	101	90.0-110			C16035	11Sep13 0809 by 07	11Sep13 1009 by 07		
Oil and Grease	40 mg/l	94.0	78.0-114			B8545	11Sep13 1348 by 295	11Sep13 1611 by 295		
	40 mg/l	88.5	78.0-114	6.03	20.0	B8545	11Sep13 1348 by 295	11Sep13 1611 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170411-1	1 mg/l	114	80.0-120	W44850	10Sep13 1404 by 308	10Sep13 1615 by 308		
	170411-1	1 mg/l	112	80.0-120	W44850	10Sep13 1404 by 308	10Sep13 1616 by 308		
	Relative Percent Difference:		1.53	25.0	W44850				
Phosphorus	170429-2	5 mg/l	107	75.0-125	S35386	11Sep13 0826 by 305	11Sep13 1600 by 305		
	170429-2	5 mg/l	107	75.0-125	S35386	11Sep13 0826 by 305	11Sep13 1604 by 305		
	Relative Percent Difference:		0.0542	20.0	S35386				
Chloride	170429-2	20 mg/l	91.6	80.0-120	C16035	11Sep13 0809 by 07	11Sep13 1036 by 07		
	170429-2	20 mg/l	93.4	80.0-120	C16035	11Sep13 0809 by 07	11Sep13 1103 by 07		
	Relative Percent Difference:		1.65	10.0	C16035				
Nitrate as N	170429-2	4 mg/l	94.9	80.0-120	C16035	11Sep13 0809 by 07	11Sep13 1036 by 07		
	170429-2	4 mg/l	96.6	80.0-120	C16035	11Sep13 0809 by 07	11Sep13 1103 by 07		
	Relative Percent Difference:		1.77	10.0	C16035				
Sulfate	170429-2	20 mg/l	97.1	80.0-120	C16035	11Sep13 0809 by 07	11Sep13 1036 by 07		
	170429-2	20 mg/l	98.4	80.0-120	C16035	11Sep13 0809 by 07	11Sep13 1103 by 07		
	Relative Percent Difference:		1.31	10.0	C16035				

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	W44866-1	11Sep13 1136 by 302	12Sep13 1545 by 302	
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44850-1	10Sep13 1404 by 308	10Sep13 1610 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44870-1	11Sep13 1402 by 285	16Sep13 0913 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44863-1	11Sep13 1040 by 302	11Sep13 1449 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35386-1	11Sep13 0826 by 305	11Sep13 1552 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16035-1	11Sep13 0809 by 07	11Sep13 0943 by 07	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16035-1	11Sep13 0809 by 07	11Sep13 0943 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16035-1	11Sep13 0809 by 07	11Sep13 0943 by 07	
Oil and Grease	< 5 mg/l	5	5	B8545-1	11Sep13 1348 by 295	11Sep13 1611 by 295	
Fecal Coliform	< 1 /100ml	1	1	M3933-1		10Sep13 1416 by 21	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

8600 Kanis Road
Little Rock, AR 72204-2322
(501) 224-5060
FAX (501) 224-5072

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

PAGE 1 OF 1

Client: El Dorado Chemical Co.
Project Reference: Outfall 010
Project Manager:
Sampled By: David Saltain

PO No.

SAMPLE MATRIX: GRAB, COMP, WATER, SOIL

NO OF BOTTLES

ANALYSES REQUESTED: NH3-N, TP, O&G, CBOD, TSS, Fecal Coliform, Cl, TDS, SO4, NO3-N

AIC CONTROL NO: 170433
AIC PROPOSAL NO:
Carrier:
Received on Ice (4°C)? YES 2°C NO

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	BOTTLES	NH3-N	TP	O&G	CBOD	TSS	Fecal Coliform	Cl	TDS	SO4	NO3-N	Remarks
1	010	9-13-11 0950		X	X		1	X										Date as: 9-10-13
2	010	9-13-11 0950	X		X		1			X								
1	010	9-13-11 0950		X	X		1				X							
2	010	9-13-11 0950	X		X		1						X					
1	010	9-13-11 0950		X	X		1							X				
1	010	9-13-11 0950		X	X		1										X	
																		Field pH calibration
		Container Type						P	G	P	P	P	P					on _____ @ _____
		Preservative						5	5	NO	T	NO	NO					Buffer:

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

Turnaround Time Requested: (Please circle)
(NORMAL) or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions: _____
Phone: _____ Fax: _____
Report Attention to: _____
Report Address to:

Relinquished By:	Date/Time	Received By:	Date/Time
	9/13/11 1030		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9-10-13 3:15 pm

Comments:

5/01 FORM 0080

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 September 11, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 11, 2013
Daily,Monthly-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
170475-1	010 9/11/13 0940	11-Sep-2013 0940	
170475-2	010 9/11/13 0940	11-Sep-2013 0940	

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. 170475-1
Sample Identification: 010 9/11/13 0940

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.67**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 11-Sep-2013 1504 by 308	Analyzed: 11-Sep-2013 1726 by 308		Batch: W44865	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 12-Sep-2013 0927 by 285	Analyzed: 17-Sep-2013 0956 by 308		Batch: W44883	
Total Suspended Solids		**6.8**	4	**mg/l**	
USGS 3765	Prep: 11-Sep-2013 1648 by 302	Analyzed: 12-Sep-2013 0856 by 302		Batch: W44876	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 12-Sep-2013 0923 by 305	Analyzed: 12-Sep-2013 1759 by 305		Batch: S35394	
Nitrate as N		**5.1**	0.05	**mg/l**	
EPA 300.0	Prep: 12-Sep-2013 0917 by 302	Analyzed: 12-Sep-2013 1055 by 07		Batch: C16037	

AIC No. 170475-2
Sample Identification: 010 9/11/13 0940

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**200**	50	**/100ml**	D
SM 9222 D	Analyzed: 11-Sep-2013 1503 by 21		Batch: M3939	Dil: 50

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Suspended Solids		170437-3	23 mg/l			11Sep13 1648 by 302	12Sep13 0856 by 302		
	Batch: W44876	Duplicate	22 mg/l	5.41	20.0	11Sep13 1648 by 302	12Sep13 0856 by 302		
Total Suspended Solids		170437-5	4.8 mg/l			11Sep13 1648 by 302	12Sep13 0856 by 302		
	Batch: W44876	Duplicate	4.0 mg/l	18.1	20.0	11Sep13 1648 by 302	12Sep13 0856 by 302		
Carbonaceous BOD 5-day		170444-1	< 2 mg/l			12Sep13 0927 by 285	17Sep13 0940 by 308		
	Batch: W44883	Duplicate	< 2 mg/l	0.00	20.0	12Sep13 0927 by 285	17Sep13 0942 by 308		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	97.9	80.0-120			W44865	11Sep13 1132 by 308	11Sep13 1217 by 308		
Carbonaceous BOD 5-day	200 mg/l	113	84.5-115			W44883	12Sep13 0927 by 285	17Sep13 0936 by 308		
Phosphorus	5 mg/l	109	85.0-115			S35394	12Sep13 0923 by 305	12Sep13 1744 by 305		
Nitrate as N	4 mg/l	95.0	90.0-110			C16037	12Sep13 0917 by 302	12Sep13 1029 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170444-1	1 mg/l	100	80.0-120	W44865	11Sep13 1132 by 308	11Sep13 1417 by 308		
	170444-1	1 mg/l	100	80.0-120	W44865	11Sep13 1132 by 308	11Sep13 1418 by 308		
	Relative Percent Difference:		0.0764	25.0	W44865				
Phosphorus	170473-1	5 mg/l	109	75.0-125	S35394	12Sep13 0923 by 305	12Sep13 1747 by 305		
	170473-1	5 mg/l	110	75.0-125	S35394	12Sep13 0923 by 305	12Sep13 1750 by 305		
	Relative Percent Difference:		0.560	20.0	S35394				
Nitrate as N	170475-1	4 mg/l	93.8	80.0-120	C16037	12Sep13 0917 by 302	12Sep13 1122 by 07		
	170475-1	4 mg/l	95.2	80.0-120	C16037	12Sep13 0917 by 302	12Sep13 1149 by 07		
	Relative Percent Difference:		0.713	10.0	C16037				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44865-1	11Sep13 1132 by 308	11Sep13 1215 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44883-1	12Sep13 0927 by 285	17Sep13 0933 by 308	
Total Suspended Solids	< 4 mg/l	4	4	W44876-1	11Sep13 1648 by 302	12Sep13 0856 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35394-1	12Sep13 0923 by 305	12Sep13 1740 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16037-1	12Sep13 0917 by 302	12Sep13 1002 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3939-1		11Sep13 1504 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:

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F	NH3N, Total Phosphorus									
1	010	9/11/13 0940		X	X			1	X											
2	010	9/11/13 0940	X		X			1		X										
1	010	9/11/13 0940		X	X			1			X									
		Container Type							P	P	P									
		Preservative							NO	T	S									

AIC CONTROL NO: 170475
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 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
Relinquished By:	Date/Time	Received in Lab By:	Date/Time 9-11-13 13:00pm

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:

PO No.

AIC CONTROL NO: 17>475
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2°C

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									Remarks
1	010	9/11/13 0940		X	X			1	X												
1	010	9/11/13 0940		X	X			1		X											
2	010	9/11/13 0940	X		X			1			X										
1	010	9/11/13 0940		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
Relinquished By:	Date/Time	Received in Lab By:	Date/Time 9-11-13 13:00

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 September 12, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 12, 2013
Daily / Weekly - Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
170510-1	010 9-12-13 0955	12-Sep-2013 0955	
170510-2	010 9-12-13 0955	12-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170510-1
Sample Identification: 010 9-12-13 0955

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**1.0**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 13-Sep-2013 0801 by 308	Analyzed: 13-Sep-2013 0901 by 308		Batch: W44897	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 13-Sep-2013 1013 by 285	Analyzed: 18-Sep-2013 0925 by 285		Batch: W44905	
Total Suspended Solids		**8.0**	4	**mg/l**	
USGS 3765	Prep: 12-Sep-2013 1540 by 302	Analyzed: 13-Sep-2013 0902 by 302		Batch: W44894	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 12-Sep-2013 1448 by 305	Analyzed: 13-Sep-2013 1612 by 305		Batch: S35394	

AIC No. 170510-2
Sample Identification: 010 9-12-13 0955

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**260**	10	**mg/l**	
SM 2540 C	Prep: 12-Sep-2013 1456 by 302	Analyzed: 13-Sep-2013 1633 by 302		Batch: W44891	
Chloride		**17**	0.2	**mg/l**	
EPA 300.0	Prep: 12-Sep-2013 1452 by 07	Analyzed: 12-Sep-2013 1621 by 07		Batch: C16037	
Sulfate		**26**	0.2	**mg/l**	
EPA 300.0	Prep: 12-Sep-2013 1452 by 07	Analyzed: 12-Sep-2013 1621 by 07		Batch: C16037	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 13-Sep-2013 1244 by 295	Analyzed: 13-Sep-2013 1652 by 295		Batch: B8549	
Fecal Coliform		**350**	50	**/100ml**	D
SM 9222 D		Analyzed: 12-Sep-2013 1427 by 21		Batch: M3944	Dil: 50

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Dissolved Solids		170493-1	12 mg/l			12Sep13 1456 by 302	13Sep13 1633 by 302		
	Batch: W44891	Duplicate	11 mg/l	8.70	10.0	12Sep13 1456 by 302	13Sep13 1633 by 302		
Total Suspended Solids		170495-2	< 4 mg/l			12Sep13 1540 by 302	13Sep13 0902 by 302		
	Batch: W44894	Duplicate	< 4 mg/l	0.00	20.0	12Sep13 1540 by 302	13Sep13 0902 by 302		
Total Suspended Solids		170482-5	6100 mg/l			12Sep13 1540 by 302	13Sep13 0902 by 302		
	Batch: W44894	Duplicate	6100 mg/l	0.329	20.0	12Sep13 1540 by 302	13Sep13 0902 by 302		
Carbonaceous BOD 5-day		170502-1	< 2 mg/l			13Sep13 1013 by 285	18Sep13 0909 by 285		
	Batch: W44905	Duplicate	< 2 mg/l	0.00	20.0	13Sep13 1014 by 285	18Sep13 0911 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	103	80.0-120			W44897	13Sep13 0802 by 308	13Sep13 0851 by 308		
Carbonaceous BOD 5-day	200 mg/l	107	84.5-115			W44905	13Sep13 1014 by 285	18Sep13 0906 by 285		
Phosphorus	5 mg/l	109	85.0-115			S35394	12Sep13 0923 by 305	12Sep13 1744 by 305		
Chloride	20 mg/l	96.9	90.0-110			C16037	12Sep13 0917 by 07	12Sep13 1029 by 07		
Sulfate	20 mg/l	103	90.0-110			C16037	12Sep13 0917 by 07	12Sep13 1029 by 07		
Oil and Grease	40 mg/l	92.0	78.0-114			B8549	13Sep13 1244 by 295	13Sep13 1652 by 295		
	40 mg/l	90.0	78.0-114	2.20	20.0	B8549	13Sep13 1244 by 295	13Sep13 1652 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170504-1	1 mg/l	110	80.0-120	W44897	13Sep13 0802 by 308	13Sep13 0950 by 308		
	170504-1	1 mg/l	113	80.0-120	W44897	13Sep13 0802 by 308	13Sep13 1013 by 308		
	Relative Percent Difference:		2.15	25.0	W44897				
Phosphorus	170473-1	5 mg/l	109	75.0-125	S35394	12Sep13 0923 by 305	12Sep13 1747 by 305		
	170473-1	5 mg/l	110	75.0-125	S35394	12Sep13 0923 by 305	12Sep13 1750 by 305		
	Relative Percent Difference:		0.560	20.0	S35394				
Chloride	170475-1	20 mg/l	93.0	80.0-120	C16037	12Sep13 0917 by 07	12Sep13 1122 by 07		
	170475-1	20 mg/l	89.8	80.0-120	C16037	12Sep13 0917 by 07	12Sep13 1149 by 07		
	Relative Percent Difference:		2.00	10.0	C16037				
Sulfate	170475-1	20 mg/l	99.1	80.0-120	C16037	12Sep13 0917 by 07	12Sep13 1122 by 07		
	170475-1	20 mg/l	94.6	80.0-120	C16037	12Sep13 0917 by 07	12Sep13 1149 by 07		
	Relative Percent Difference:		2.28	10.0	C16037				

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	W44891-1	12Sep13 1456 by 302	13Sep13 1633 by 302	
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44897-1	13Sep13 0802 by 308	13Sep13 0849 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44905-1	13Sep13 1014 by 285	18Sep13 0906 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44894-1	12Sep13 1540 by 302	13Sep13 0902 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35394-1	12Sep13 0923 by 305	12Sep13 1740 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16037-1	12Sep13 0917 by 07	12Sep13 1002 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16037-1	12Sep13 0917 by 07	12Sep13 1002 by 07	
Oil and Grease	< 5 mg/l	5	5	B8549-1	13Sep13 1244 by 295	13Sep13 1652 by 295	
Fecal Coliform	< 1 /100ml	1	1	M3944-1		12Sep13 1421 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:

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F	NH3N, Total Phosphorus
1	010	9-12-13 0955		X	X			1	X		
2	010	9-12-13 0955	X		X			1		X	
1	010	9-12-13 0955		X	X			1			X
		Container Type							P	P	P
		Preservative							NO	T	S

AIC CONTROL NO: 170510
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2
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
	9-13-12		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9-12-13 1300

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

PAGE 1 OF 1

Client: El Dorado Chemical Company

Project Reference: Weekly - Permit AR0000752

Project Manager: Ms. Larken Pennington

Sampled By:

PO No.

AIC CONTROL NO: 170510

AIC PROPOSAL NO:

Carrier: Gold Star

Received Temperature C 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	NO3 (2 / Week)	Remarks
2	010	9-12-13 0955	X		X			1	X			
2	010	9-12-13 0955	X		X			1		X		
	010	9-12-13 0955			X			1			X	
	Container Type								P	P	P	P
	Preservative								S	NO	NO	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
[signature]	9-12-13		
Relinquished By:	Date/Time	Received in Lab By: [signature]	Date/Time 9-12-13 1300

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 September 13, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 13, 2013
Daily - Permit AR0000752
P.O. No. 357042

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

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
170556-1	010 9-13-13 0950	13-Sep-2013 0950	
170556-2	010 9-13-13 0950	13-Sep-2013 0950	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170556-1
Sample Identification: 010 9-13-13 0950

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.62**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 13-Sep-2013 1613 by 308	Analyzed: 13-Sep-2013 1738 by 308		Batch: W44910	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 13-Sep-2013 1617 by 285	Analyzed: 18-Sep-2013 1017 by 285		Batch: W44905	
Total Suspended Solids		**8.8**	4	**mg/l**	
USGS 3765	Prep: 13-Sep-2013 1553 by 302	Analyzed: 14-Sep-2013 1354 by 302		Batch: W44917	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 16-Sep-2013 0914 by 271	Analyzed: 16-Sep-2013 2003 by 305		Batch: S35409	
Nitrate as N		**5.3**	0.05	**mg/l**	
EPA 300.0	Prep: 13-Sep-2013 1521 by 07	Analyzed: 13-Sep-2013 1607 by 07		Batch: C16040	

AIC No. 170556-2
Sample Identification: 010 9-13-13 0950

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**150**	1	**/100ml**	
SM 9222 D	Analyzed: 13-Sep-2013 1450 by 304		Batch: M3947	

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		170502-1	< 2 mg/l			13Sep13 1013 by 285	18Sep13 0909 by 285		
	Batch: W44905	Duplicate	< 2 mg/l	0.00	20.0	13Sep13 1014 by 285	18Sep13 0911 by 285		
Total Suspended Solids		170549-1	5.6 mg/l			13Sep13 1553 by 302	14Sep13 1354 by 302		
	Batch: W44917	Duplicate	5.6 mg/l	0.00	20.0	13Sep13 1553 by 302	14Sep13 1354 by 302		
Total Suspended Solids		170550-1	< 4 mg/l			13Sep13 1553 by 302	14Sep13 1354 by 302		
	Batch: W44917	Duplicate	< 4 mg/l	0.00	20.0	13Sep13 1553 by 302	14Sep13 1354 by 302		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	103	80.0-120			W44910	13Sep13 1429 by 308	13Sep13 1612 by 308		
Carbonaceous BOD 5-day	200 mg/l	107	84.5-115			W44905	13Sep13 1014 by 285	18Sep13 0906 by 285		
Phosphorus	5 mg/l	99.7	85.0-115			S35409	16Sep13 0914 by 271	17Sep13 0939 by 305		
Nitrate as N	4 mg/l	107	90.0-110			C16040	13Sep13 1316 by 07	13Sep13 1408 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170550-1	1 mg/l	103	80.0-120	W44910	13Sep13 1429 by 308	13Sep13 1616 by 308		
	170550-1	1 mg/l	105	80.0-120	W44910	13Sep13 1429 by 308	13Sep13 1617 by 308		
	Relative Percent Difference:		1.97	25.0	W44910				
Phosphorus	170553-2	5 mg/l	112	75.0-125	S35409	16Sep13 0914 by 271	16Sep13 1932 by 305		
	170553-2	5 mg/l	112	75.0-125	S35409	16Sep13 0914 by 271	16Sep13 1937 by 305		
	Relative Percent Difference:		0.0415	20.0	S35409				
Nitrate as N	170535-1	4 mg/l	105	80.0-120	C16040	13Sep13 1316 by 07	13Sep13 1555 by 07		
	170535-1	4 mg/l	108	80.0-120	C16040	13Sep13 1316 by 07	13Sep13 1622 by 07		
	Relative Percent Difference:		2.69	10.0	C16040				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44910-1	13Sep13 1429 by 308	13Sep13 1610 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44905-1	13Sep13 1014 by 285	18Sep13 0906 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44917-1	13Sep13 1553 by 302	14Sep13 1354 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35409-1	16Sep13 0914 by 271	16Sep13 1924 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16040-1	13Sep13 1316 by 07	13Sep13 1341 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3947-1		13Sep13 1450 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: D. SARTAIN

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 170556
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS, NO3	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	9-13-13 0960		X	X			1	X			
2	010	9-13-13 0860	X		X			1		X		
1	010	9-13-13 095		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
	9-13-13		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9-13-13 1300

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 September 14, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 14, 2013
Daily-Permit AR0000752
P.O. No. 357042

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

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
170580-1	010 9-14-13 0950	14-Sep-2013 0950	
170580-2	010 9-14-13 0950	14-Sep-2013 0950	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170580-1
Sample Identification: 010 9-14-13 0950

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**1.1**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 16-Sep-2013 0840 by 308	Analyzed: 16-Sep-2013 0955 by 308		Batch: W44924	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 14-Sep-2013 1353 by 308	Analyzed: 19-Sep-2013 1153 by 308		Batch: W44921	
Total Suspended Solids		**8.4**	4	**mg/l**	
USGS 3765	Prep: 16-Sep-2013 1517 by 285	Analyzed: 17-Sep-2013 0947 by 285		Batch: W44929	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 16-Sep-2013 0914 by 271	Analyzed: 16-Sep-2013 2043 by 305		Batch: S35409	

AIC No. 170580-2
Sample Identification: 010 9-14-13 0950

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**120**	1	**/100ml**	
SM 9222 D	Analyzed: 14-Sep-2013 1450 by 304		Batch: M3948	

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		170575-1	< 2 mg/l			14Sep13 1353 by 308	19Sep13 1141 by 308		
	Batch: W44921	Duplicate	< 2 mg/l	0.00	20.0	14Sep13 1353 by 308	19Sep13 1143 by 308		
Total Suspended Solids		170576-1	< 4 mg/l			16Sep13 1517 by 285	17Sep13 0947 by 285		
	Batch: W44929	Duplicate	< 4 mg/l	0.00	20.0	16Sep13 1518 by 285	17Sep13 0947 by 285		
Total Suspended Solids		170577-1	< 4 mg/l			16Sep13 1517 by 285	17Sep13 0947 by 285		
	Batch: W44929	Duplicate	< 4 mg/l	0.00	20.0	16Sep13 1518 by 285	17Sep13 0947 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	101	80.0-120			W44924	16Sep13 0840 by 308	16Sep13 0936 by 308		
Carbonaceous BOD 5-day	200 mg/l	96.2	84.5-115			W44921	14Sep13 1353 by 308	19Sep13 1140 by 308		
Phosphorus	5 mg/l	99.7	85.0-115			S35409	16Sep13 0914 by 271	17Sep13 0939 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170553-1	1 mg/l	110	80.0-120	W44924	16Sep13 0840 by 308	16Sep13 1022 by 308		
	170553-1	1 mg/l	116	80.0-120	W44924	16Sep13 0840 by 308	16Sep13 1044 by 308		
	Relative Percent Difference:		4.48	25.0	W44924				
Phosphorus	170553-2	5 mg/l	112	75.0-125	S35409	16Sep13 0914 by 271	16Sep13 1932 by 305		
	170553-2	5 mg/l	112	75.0-125	S35409	16Sep13 0914 by 271	16Sep13 1937 by 305		
	Relative Percent Difference:		0.0415	20.0	S35409				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44924-1	16Sep13 0840 by 308	16Sep13 0934 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44921-1	14Sep13 1353 by 308	19Sep13 1139 by 308	
Total Suspended Solids	< 4 mg/l	4	4	W44929-1	16Sep13 1518 by 285	17Sep13 0947 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35409-1	16Sep13 0914 by 271	16Sep13 1924 by 305	
Fecal Coliform	< 1 /100ml	1	1	M3948-1		14Sep13 1450 by 310	

AMERICAN INTERPLEX CORPORATION LABORATORIES

1600

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company
Project Reference: Daily - Permit AR0000752
Project Manager: Ms. Larken Pennington
Sampled By: DAVID 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	ANALYSES REQUESTED
1	010	9-14-13 0956		X	X		1	X			
2	010	9-14-13 0950	X		X		1		X		
3	010	9-14-13 0950		X	X		1			X	
		Container Type						P	P	P	
		Preservative						NO	T	S	

AIC CONTROL NO: 170580
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 4 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
	9-14-13		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9-14-13 1255

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 September 15, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 15, 2013
Daily - Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
170585-1	010 9-15-13 0955	15-Sep-2013 0955	
170585-2	010 9-15-13 0955	15-Sep-2013 0955	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170585-1
Sample Identification: 010 9-15-13 0955

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.81**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 16-Sep-2013 1110 by 308	Analyzed: 16-Sep-2013 1140 by 308		Batch: W44924	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 16-Sep-2013 1143 by 285	Analyzed: 21-Sep-2013 1232 by 285		Batch: W44926	
Total Suspended Solids		**11**	4	**mg/l**	
USGS 3765	Prep: 16-Sep-2013 1517 by 285	Analyzed: 17-Sep-2013 0947 by 285		Batch: W44929	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 16-Sep-2013 1655 by 305	Analyzed: 17-Sep-2013 1721 by 305		Batch: S35415	

AIC No. 170585-2
Sample Identification: 010 9-15-13 0955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**770**	1	**/100ml**	
SM 9222 D	Analyzed: 15-Sep-2013 1430 by 304		Batch: M3949	

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		170583-1	< 2 mg/l			16Sep13 1143 by 285	21Sep13 1216 by 285		
	Batch: W44926	Duplicate	< 2 mg/l	0.00	20.0	16Sep13 1143 by 285	21Sep13 1218 by 285		
Total Suspended Solids		170576-1	< 4 mg/l			16Sep13 1517 by 285	17Sep13 0947 by 285		
	Batch: W44929	Duplicate	< 4 mg/l	0.00	20.0	16Sep13 1518 by 285	17Sep13 0947 by 285		
Total Suspended Solids		170577-1	< 4 mg/l			16Sep13 1517 by 285	17Sep13 0947 by 285		
	Batch: W44929	Duplicate	< 4 mg/l	0.00	20.0	16Sep13 1518 by 285	17Sep13 0947 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	101	80.0-120			W44924	16Sep13 0840 by 308	16Sep13 0936 by 308		
Carbonaceous BOD 5-day	200 mg/l	108	84.5-115			W44926	16Sep13 1143 by 285	21Sep13 1226 by 285		
Phosphorus	5 mg/l	109	85.0-115			S35415	16Sep13 1655 by 305	17Sep13 1707 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170553-1	1 mg/l	110	80.0-120	W44924	16Sep13 0840 by 308	16Sep13 1022 by 308		
	170553-1	1 mg/l	116	80.0-120	W44924	16Sep13 0840 by 308	16Sep13 1044 by 308		
	Relative Percent Difference:		4.48	25.0	W44924				
Phosphorus	170583-1	5 mg/l	109	75.0-125	S35415	16Sep13 1655 by 305	17Sep13 1710 by 305		
	170583-1	5 mg/l	108	75.0-125	S35415	16Sep13 1655 by 305	17Sep13 1713 by 305		
	Relative Percent Difference:		0.369	20.0	S35415				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44924-1	16Sep13 0840 by 308	16Sep13 0934 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44926-1	16Sep13 1143 by 285	21Sep13 1213 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44929-1	16Sep13 1518 by 285	17Sep13 0947 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35415-1	16Sep13 1655 by 305	17Sep13 1705 by 305	
Fecal Coliform	< 1 /100ml	1	1	M3949-1		15Sep13 1430 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: DAVID SALTAIN

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	9-15-13 0955		X	X			1	X											
2	010	9-15-13 0955	X		X			1		X										
1	010	9-15-13 0955		X	X			1			X									
		Container Type							P	P	P									
		Preservative							NO	T	S									

AIC CONTROL NO: 170585
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C -0.4
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
[signature]	9-15-13		
Relinquished By:	Date/Time	Received in Lab By: [signature]	Date/Time 9.15.13 1237

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 September 16, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 16, 2013
Daily-Permit AR0000752
P.O. No. 357042

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

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
170598-1	010 9-16-13 9:55am	16-Sep-2013 0955	
170598-2	010 9-16-13 9:55am	16-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170598-1
Sample Identification: 010 9-16-13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.66**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 17-Sep-2013 0758 by 308	Analyzed: 17-Sep-2013 0953 by 308		Batch: W44932	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 18-Sep-2013 0800 by 302	Analyzed: 23-Sep-2013 0957 by 285		Batch: W44942	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 16-Sep-2013 1517 by 285	Analyzed: 17-Sep-2013 0947 by 285		Batch: W44929	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 16-Sep-2013 1655 by 305	Analyzed: 17-Sep-2013 1802 by 305		Batch: S35415	
Nitrate as N		**5.5**	0.05	**mg/l**	
EPA 300.0	Prep: 16-Sep-2013 1454 by 07	Analyzed: 17-Sep-2013 1025 by 07		Batch: C16045	

AIC No. 170598-2
Sample Identification: 010 9-16-13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**150**	50	**/100ml**	D
SM 9222 D	Analyzed: 16-Sep-2013 1447 by 21		Batch: M3950	Dil: 50

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Suspended Solids		170576-1	< 4 mg/l			16Sep13 1517 by 285	17Sep13 0947 by 285		
	Batch: W44929	Duplicate	< 4 mg/l	0.00	20.0	16Sep13 1518 by 285	17Sep13 0947 by 285		
Total Suspended Solids		170577-1	< 4 mg/l			16Sep13 1517 by 285	17Sep13 0947 by 285		
	Batch: W44929	Duplicate	< 4 mg/l	0.00	20.0	16Sep13 1518 by 285	17Sep13 0947 by 285		
Carbonaceous BOD 5-day		170595-1	< 2 mg/l			18Sep13 0800 by 302	23Sep13 0937 by 285		
	Batch: W44942	Duplicate	< 2 mg/l	0.00	20.0	18Sep13 0800 by 302	23Sep13 0939 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	99.2	80.0-120			W44932	17Sep13 0758 by 308	17Sep13 0943 by 308		
Carbonaceous BOD 5-day	200 mg/l	112	84.5-115			W44942	18Sep13 0800 by 302	23Sep13 0935 by 285		
Phosphorus	5 mg/l	109	85.0-115			S35415	16Sep13 1655 by 305	17Sep13 1707 by 305		
Nitrate as N	4 mg/l	107	90.0-110			C16045	16Sep13 1454 by 07	16Sep13 1627 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170595-1	1 mg/l	113	80.0-120	W44932	17Sep13 0758 by 308	17Sep13 0946 by 308		
	170595-1	1 mg/l	114	80.0-120	W44932	17Sep13 0758 by 308	17Sep13 0948 by 308		
	Relative Percent Difference:		1.00	25.0	W44932				
Phosphorus	170583-1	5 mg/l	109	75.0-125	S35415	16Sep13 1655 by 305	17Sep13 1710 by 305		
	170583-1	5 mg/l	108	75.0-125	S35415	16Sep13 1655 by 305	17Sep13 1713 by 305		
	Relative Percent Difference:		0.369	20.0	S35415				
Nitrate as N	170598-1	4 mg/l	109	80.0-120	C16045	16Sep13 1454 by 07	16Sep13 1654 by 07		
	170598-1	4 mg/l	105	80.0-120	C16045	16Sep13 1454 by 07	16Sep13 1721 by 07		
	Relative Percent Difference:		3.40	10.0	C16045				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44932-1	17Sep13 0758 by 308	17Sep13 0941 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44942-1	18Sep13 0800 by 302	23Sep13 0934 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44929-1	16Sep13 1518 by 285	17Sep13 0947 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35415-1	16Sep13 1655 by 305	17Sep13 1705 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16045-1	16Sep13 1454 by 07	16Sep13 1600 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3950-1		16Sep13 1337 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: 170598
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS, NO3-N	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	9/16/13 9:55am		X	X			1	X			
2	010	9/16/13 9:55am	X		X			1		X		
3	010	9/16/13 9:55am		X	X			1			X	
		Container Type							P	P	P	Field pH calibration
		Preservative							NO	T	S	on ____ @ ____ Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/16/13 10:20am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	9-16-13 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 September 17, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 17, 2013
Daily-Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
170633-1	Outfall 010 9/16/13 9/17/13 9:55am, 9:55am	17-Sep-2013 0955	
170633-2	Outfall 010 9/17/13 9:55am	17-Sep-2013 0955	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170633-1
Sample Identification: Outfall 010 9/16/13 9/17/13 9:55am, 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.67**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 17-Sep-2013 1435 by 308	Analyzed: 17-Sep-2013 1535 by 308		Batch: W44932	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 18-Sep-2013 0800 by 302	Analyzed: 23-Sep-2013 1006 by 285		Batch: W44942	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 17-Sep-2013 1500 by 285	Analyzed: 18-Sep-2013 1413 by 285		Batch: W44936	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 17-Sep-2013 1454 by 271	Analyzed: 18-Sep-2013 1118 by 305		Batch: S35420	

AIC No. 170633-2
Sample Identification: Outfall 010 9/17/13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**220**	10	**mg/l**	
SM 2540 C	Prep: 17-Sep-2013 1533 by 285	Analyzed: 18-Sep-2013 1536 by 285		Batch: W44939	
Chloride		**19**	0.2	**mg/l**	
EPA 300.0	Prep: 17-Sep-2013 1437 by 07	Analyzed: 17-Sep-2013 1547 by 07		Batch: C16047	
Sulfate		**26**	0.2	**mg/l**	
EPA 300.0	Prep: 17-Sep-2013 1437 by 07	Analyzed: 17-Sep-2013 1547 by 07		Batch: C16047	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 18-Sep-2013 0809 by 295	Analyzed: 18-Sep-2013 0924 by 295		Batch: B8555	
Fecal Coliform		**56**	1	**/100ml**	
SM 9222 D		Analyzed: 17-Sep-2013 1651 by 21		Batch: M3959	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Suspended Solids		170607-1	< 4 mg/l			17Sep13 1500 by 285	18Sep13 1413 by 285		
	Batch: W44936	Duplicate	< 4 mg/l	0.00	20.0	17Sep13 1500 by 285	18Sep13 1413 by 285		
Total Suspended Solids		170618-1	28 mg/l			17Sep13 1500 by 285	18Sep13 1413 by 285		
	Batch: W44936	Duplicate	28 mg/l	1.42	20.0	17Sep13 1500 by 285	18Sep13 1413 by 285		
Total Dissolved Solids		170607-1	1300 mg/l			17Sep13 1533 by 285	18Sep13 1536 by 285		
	Batch: W44939	Duplicate	1300 mg/l	0.786	10.0	17Sep13 1533 by 285	18Sep13 1536 by 285		
Carbonaceous BOD 5-day		170595-1	< 2 mg/l			18Sep13 0800 by 302	23Sep13 0937 by 285		
	Batch: W44942	Duplicate	< 2 mg/l	0.00	20.0	18Sep13 0800 by 302	23Sep13 0939 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	99.2	80.0-120			W44932	17Sep13 0758 by 308	17Sep13 0943 by 308		
Carbonaceous BOD 5-day	200 mg/l	112	84.5-115			W44942	18Sep13 0800 by 302	23Sep13 0935 by 285		
Phosphorus	5 mg/l	110	85.0-115			S35420	17Sep13 1455 by 271	18Sep13 1029 by 305		
Chloride	20 mg/l	102	90.0-110			C16047	17Sep13 1109 by 07	17Sep13 1212 by 07		
Sulfate	20 mg/l	103	90.0-110			C16047	17Sep13 1109 by 07	17Sep13 1212 by 07		
Oil and Grease	40 mg/l	96.5	78.0-114			B8555	18Sep13 0809 by 295	18Sep13 0858 by 295		
	40 mg/l	98.0	78.0-114	1.54	20.0	B8555	18Sep13 0809 by 295	18Sep13 0858 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170595-1	1 mg/l	113	80.0-120	W44932	17Sep13 0758 by 308	17Sep13 0946 by 308		
	170595-1	1 mg/l	114	80.0-120	W44932	17Sep13 0758 by 308	17Sep13 0948 by 308		
	Relative Percent Difference:		1.00	25.0	W44932				
Phosphorus	170638-1	5 mg/l	111	75.0-125	S35420	17Sep13 1455 by 271	18Sep13 1032 by 305		
	170638-1	5 mg/l	111	75.0-125	S35420	17Sep13 1455 by 271	18Sep13 1035 by 305		
	Relative Percent Difference:		0.164	20.0	S35420				
Chloride	170610-1	20 mg/l	111	80.0-120	C16047	17Sep13 1109 by 07	17Sep13 1239 by 07		
	170610-1	20 mg/l	109	80.0-120	C16047	17Sep13 1109 by 07	17Sep13 1306 by 07		
	Relative Percent Difference:		1.75	10.0	C16047				
Sulfate	170610-1	20 mg/l	114	80.0-120	C16047	17Sep13 1109 by 07	17Sep13 1239 by 07		
	170610-1	20 mg/l	120	80.0-120	C16047	17Sep13 1109 by 07	17Sep13 1306 by 07		
	Relative Percent Difference:		5.09	10.0	C16047				

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	W44939-1	17Sep13 1533 by 285	18Sep13 1536 by 285	
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44932-1	17Sep13 0758 by 308	17Sep13 0941 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44942-1	18Sep13 0800 by 302	23Sep13 0934 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44936-1	17Sep13 1500 by 285	18Sep13 1413 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35420-1	17Sep13 1455 by 271	18Sep13 1026 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16047-1	17Sep13 1109 by 07	17Sep13 1146 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16047-1	17Sep13 1109 by 07	17Sep13 1146 by 07	
Oil and Grease	< 5 mg/l	5	5	B8555-1	18Sep13 0809 by 295	18Sep13 0858 by 295	
Fecal Coliform	< 1 /100ml	1	1	M3959-1		17Sep13 1652 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: 176633
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2C

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus	Cl, TDS, SO_4	Oil & Grease	Remarks
1		010	9/17/13 9:55am		X	X			1	X					
2		010	9/17/13 9:55am - 9:55am	X		X			1		X				
1		010	9/17/13 9:55am - 9:55am		X	X			1			X			
2		010	9/17/13 9:55am	X		X							X		
2		010	9/17/13 9:55am	X		X								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	9/17/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Tommy Day	9/17/13 1300

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 September 18, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 18, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with 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
170675-1	010 9-18-13 0955	18-Sep-2013 0955	
170675-2	010 9-18-13 0955	18-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170675-1
Sample Identification: 010 9-18-13 0955

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.49**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 19-Sep-2013 0800 by 308	Analyzed: 19-Sep-2013 0940 by 308		Batch: W44957	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 19-Sep-2013 0859 by 285	Analyzed: 24-Sep-2013 0916 by 285		Batch: W44963	
Total Suspended Solids		**15**	4	**mg/l**	
USGS 3765	Prep: 19-Sep-2013 1435 by 285	Analyzed: 20-Sep-2013 1428 by 285		Batch: W44965	
Phosphorus		**0.15**	0.02	**mg/l**	
EPA 200.7	Prep: 19-Sep-2013 0822 by 305	Analyzed: 19-Sep-2013 1535 by 305		Batch: S35429	
Nitrate as N		**5.4**	0.05	**mg/l**	
EPA 300.0	Prep: 18-Sep-2013 1525 by 07	Analyzed: 18-Sep-2013 1657 by 07		Batch: C16050	

AIC No. 170675-2
Sample Identification: 010 9-18-13 0955

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**850**	50	**/100ml**	D
SM 9222 D	Analyzed: 18-Sep-2013 1421 by 21		Batch: M3964	Dil: 50

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		170669-1	< 2 mg/l			19Sep13 0859 by 285	24Sep13 0901 by 285		
	Batch: W44963	Duplicate	< 2 mg/l	0.00	20.0	19Sep13 0859 by 285	24Sep13 0903 by 285		
Total Suspended Solids		170650-1	< 4 mg/l			19Sep13 1435 by 285	20Sep13 1428 by 285		
	Batch: W44965	Duplicate	< 4 mg/l	0.00	20.0	19Sep13 1435 by 285	20Sep13 1428 by 285		
Total Suspended Solids		170654-1	110 mg/l			19Sep13 1435 by 285	20Sep13 1428 by 285		
	Batch: W44965	Duplicate	110 mg/l	1.58	20.0	19Sep13 1435 by 285	20Sep13 1428 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	109	80.0-120			W44957	19Sep13 0800 by 308	19Sep13 0938 by 308		
Carbonaceous BOD 5-day	200 mg/l	108	84.5-115			W44963	19Sep13 0859 by 285	24Sep13 0855 by 285		
Phosphorus	5 mg/l	106	85.0-115			S35429	19Sep13 0822 by 305	19Sep13 1415 by 305		
Nitrate as N	4 mg/l	105	90.0-110			C16050	18Sep13 1343 by 07	18Sep13 1416 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170675-1	1 mg/l	117	80.0-120	W44957	19Sep13 0800 by 308	19Sep13 0942 by 308		
	170675-1	1 mg/l	115	80.0-120	W44957	19Sep13 0800 by 308	19Sep13 0944 by 308		
	Relative Percent Difference:		1.48	25.0	W44957				
Phosphorus	170672-1	5 mg/l	110	75.0-125	S35429	19Sep13 0822 by 305	19Sep13 1418 by 305		
	170672-1	5 mg/l	108	75.0-125	S35429	19Sep13 0822 by 305	19Sep13 1423 by 305		
	Relative Percent Difference:		1.22	20.0	S35429				
Nitrate as N	170661-1	4 mg/l	115	80.0-120	C16050	18Sep13 1343 by 07	18Sep13 1443 by 07		
	170661-1	4 mg/l	115	80.0-120	C16050	18Sep13 1343 by 07	18Sep13 1510 by 07		
	Relative Percent Difference:		0.131	10.0	C16050				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44957-1	19Sep13 0800 by 308	19Sep13 0937 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44963-1	19Sep13 0859 by 285	24Sep13 0854 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44965-1	19Sep13 1435 by 285	20Sep13 1428 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35429-1	19Sep13 0822 by 305	19Sep13 1411 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16050-1	18Sep13 1343 by 07	18Sep13 1349 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3964-1		18Sep13 1434 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: SARTAIN

PO No.

AIC CONTROL NO: 170675
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	NO OF BOTTLES	CBOD, TSS,NO3N	Coli. F	NH3N, Total Phosphorus	NO3-N	Remarks
(1)	010	9-18-13 0955		X	X		1	X				
(2)	010	9-18-13 0955	X		X		1		X			
(1)	010	9-18-13 0955		X	X		1			X		
(1)	010	9-18-13 0955		X	X						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
	9-18-13		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9/18/13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

This report contains the analytical results and supporting information for samples submitted on September 19, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 19, 2013
Daily,Weekly-Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
170736-1	010 9-18-13-9-19-13 9:55am-9:55am	19-Sep-2013 0955	
170736-2	010 9-19-13 9:55am	19-Sep-2013 0955	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170736-1
Sample Identification: 010 9-18-13-9-19-13 9:55am-9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.81**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 20-Sep-2013 1121 by 308	Analyzed: 20-Sep-2013 1420 by 308		Batch: W44978	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 20-Sep-2013 0807 by 285	Analyzed: 25-Sep-2013 0935 by 285		Batch: W44974	
Total Suspended Solids		**14**	4	**mg/l**	
USGS 3765	Prep: 20-Sep-2013 1546 by 285	Analyzed: 23-Sep-2013 0936 by 285		Batch: W44984	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 19-Sep-2013 1556 by 305	Analyzed: 20-Sep-2013 1432 by 305		Batch: S35438	

AIC No. 170736-2
Sample Identification: 010 9-19-13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**180**	10	**mg/l**	
SM 2540 C	Prep: 20-Sep-2013 1631 by 302	Analyzed: 23-Sep-2013 1540 by 302		Batch: W44985	
Chloride		**20**	0.2	**mg/l**	
EPA 300.0	Prep: 19-Sep-2013 1539 by 07	Analyzed: 19-Sep-2013 2302 by 07		Batch: C16053	
Sulfate		**26**	0.2	**mg/l**	
EPA 300.0	Prep: 19-Sep-2013 1539 by 07	Analyzed: 19-Sep-2013 2302 by 07		Batch: C16053	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 20-Sep-2013 1252 by 295	Analyzed: 20-Sep-2013 1510 by 295		Batch: B8561	
Fecal Coliform		**6.0**	1	**/100ml**	
SM 9222 D		Analyzed: 19-Sep-2013 1505 by 21		Batch: M3968	

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		170731-1	< 2 mg/l			20Sep13 0807 by 285	25Sep13 0919 by 285		
	Batch: W44974	Duplicate	< 2 mg/l	0.00	20.0	20Sep13 0807 by 285	25Sep13 0921 by 285		
Total Suspended Solids		170710-1	< 4 mg/l			20Sep13 1546 by 285	23Sep13 0936 by 285		
	Batch: W44984	Duplicate	< 4 mg/l	0.00	20.0	20Sep13 1546 by 285	23Sep13 0936 by 285		
Total Suspended Solids		170706-3	350 mg/l			20Sep13 1546 by 285	23Sep13 0936 by 285		
	Batch: W44984	Duplicate	350 mg/l	0.570	20.0	20Sep13 1546 by 285	23Sep13 0936 by 285		
Total Dissolved Solids		170702-1	< 10 mg/l			20Sep13 1631 by 302	23Sep13 1540 by 302		
	Batch: W44985	Duplicate	< 10 mg/l	0.00	10.0	20Sep13 1632 by 302	23Sep13 1540 by 302		
Total Dissolved Solids		170658-1	72000 mg/l			20Sep13 1648 by 302	23Sep13 1540 by 302		
	Batch: W44985	Duplicate	72000 mg/l	0.418	10.0	20Sep13 1649 by 302	23Sep13 1540 by 302		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	109	80.0-120			W44978	20Sep13 1121 by 308	20Sep13 1345 by 308		
Carbonaceous BOD 5-day	200 mg/l	113	84.5-115			W44974	20Sep13 0807 by 285	25Sep13 0918 by 285		
Phosphorus	5 mg/l	104	85.0-115			S35438	19Sep13 1557 by 305	20Sep13 1345 by 305		
Chloride	20 mg/l	102	90.0-110			C16053	19Sep13 1540 by 07	19Sep13 1620 by 07		
Sulfate	20 mg/l	104	90.0-110			C16053	19Sep13 1540 by 07	19Sep13 1620 by 07		
Oil and Grease	40 mg/l	94.5	78.0-114			B8561	20Sep13 1253 by 295	20Sep13 1510 by 295		
	40 mg/l	105	78.0-114	10.5	20.0	B8561	20Sep13 1253 by 295	20Sep13 1510 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170693-1	1 mg/l	98.9	80.0-120	W44978	20Sep13 1121 by 308	20Sep13 1349 by 308		
	170693-1	1 mg/l	111	80.0-120	W44978	20Sep13 1121 by 308	20Sep13 1351 by 308		
	Relative Percent Difference:		9.14	25.0	W44978				
Phosphorus	170740-1	5 mg/l	98.6	75.0-125	S35438	19Sep13 1557 by 305	20Sep13 1348 by 305		
	170740-1	5 mg/l	99.2	75.0-125	S35438	19Sep13 1557 by 305	20Sep13 1351 by 305		
	Relative Percent Difference:		0.192	20.0	S35438				
Chloride	170734-2	20 mg/l	101	80.0-120	C16053	19Sep13 1540 by 07	19Sep13 1647 by 07		
	170734-2	20 mg/l	98.5	80.0-120	C16053	19Sep13 1540 by 07	19Sep13 1714 by 07		
	Relative Percent Difference:		2.14	10.0	C16053				
Sulfate	170734-2	20 mg/l	103	80.0-120	C16053	19Sep13 1540 by 07	19Sep13 1647 by 07		
	170734-2	20 mg/l	102	80.0-120	C16053	19Sep13 1540 by 07	19Sep13 1714 by 07		
	Relative Percent Difference:		1.74	10.0	C16053				

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	W44985-1	20Sep13 1632 by 302	23Sep13 1540 by 302	
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44978-1	20Sep13 1121 by 308	20Sep13 1343 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44974-1	20Sep13 0807 by 285	25Sep13 0917 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44984-1	20Sep13 1546 by 285	23Sep13 0936 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35438-1	19Sep13 1557 by 305	20Sep13 1341 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16053-1	19Sep13 1540 by 07	19Sep13 1553 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16053-1	19Sep13 1540 by 07	19Sep13 1553 by 07	
Oil and Grease	< 5 mg/l	5	5	B8561-1	20Sep13 1253 by 295	20Sep13 1510 by 295	
Fecal Coliform	< 1 /100ml	1	1	M3968-1		19Sep13 1506 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:

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS, ~~NCON~~	Coli. F	NH3N, Total Phosphorus										
1	010			X	X			1	X												
2	010		X		X			1		X											
3	010			X	X			1			X										
		Container Type							P	P	P										
		Preservative							NO	T	S										

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: 17 0736
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 1 C

Remarks
Date as: 9-18-13, 9-19-13 Time as: 9:55a
Date as: 9-19-13 Time as: 9:55
Date as: 9-18-13, 9-19-13 Time as: 9:55a

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	9/19/13 9:55am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9-19-13 13:45

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company

Project Reference: Weekly - Permit AR0000752

Project Manager: Ms. Larken Pennington

Sampled By:

PO No.

AIC CONTROL NO:

AIC PROPOSAL NO:

Carrier: Gold Star

Received Temperature C: 2°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL		NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)	Remarks
1	010		X		X			1	X		Timeas: 9:55
2	010		X		X			1		X	Dateas: 9-19-13
		Container Type							P	P	Field pH calibration
		Preservative							S	NO	on ______ @ ______ Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/19/13 9:55am		
Relinquished By:	Date/Time	Received in Lab By: [signature]	Date/Time 9-19-13 13:45pm

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 replaces American Interplex Corporation (AIC) Control No. 170767 originally sent on September 25, 2013. This report contains the analytical results and supporting information for samples submitted on September 20, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Revised report to correct collection time for AIC control number 170767-1.

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

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 September 20, 2013
Daily - Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
170767-1	010 9/19/13 9:55am - 9/20/13 9:55am	20-Sep-2013 0955	
170767-2	010 9/20/13 9:55am	20-Sep-2013 0955	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170767-1
Sample Identification: 010 9/19/13 9:55am - 9/20/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.30**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 23-Sep-2013 1513 by 308	Analyzed: 23-Sep-2013 1739 by 308		Batch: W44998	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 20-Sep-2013 1501 by 271	Analyzed: 25-Sep-2013 1015 by 285		Batch: W44974	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 23-Sep-2013 1331 by 285	Analyzed: 24-Sep-2013 0915 by 285		Batch: W44996	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 23-Sep-2013 0836 by 305	Analyzed: 23-Sep-2013 1930 by 305		Batch: S35442	
Nitrate as N		**< 0.05**	0.05	**mg/l**	
EPA 300.0	Prep: 20-Sep-2013 1448 by 07	Analyzed: 20-Sep-2013 1856 by 07		Batch: C16057	

AIC No. 170767-2
Sample Identification: 010 9/20/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**50**	1	**/100ml**	
SM 9222 D	Analyzed: 20-Sep-2013 1440 by 304		Batch: M3970	

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		170731-1	< 2 mg/l			20Sep13 0807 by 285	25Sep13 0919 by 285		
	Batch: W44974	Duplicate	< 2 mg/l	0.00	20.0	20Sep13 0807 by 285	25Sep13 0921 by 285		
Total Suspended Solids		170658-1	310 mg/l			23Sep13 1331 by 285	24Sep13 0915 by 285		
	Batch: W44996	Duplicate	310 mg/l	0.650	20.0	23Sep13 1332 by 285	24Sep13 0915 by 285		
Total Suspended Solids		170740-3	4300 mg/l			23Sep13 1331 by 285	24Sep13 0915 by 285		
	Batch: W44996	Duplicate	4200 mg/l	0.943	20.0	23Sep13 1332 by 285	24Sep13 0915 by 285		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	104	80.0-120			W44998	23Sep13 1513 by 308	23Sep13 1726 by 308		
Carbonaceous BOD 5-day	200 mg/l	113	84.5-115			W44974	20Sep13 0807 by 285	25Sep13 0918 by 285		
Phosphorus	5 mg/l	104	85.0-115			S35442	23Sep13 0837 by 305	23Sep13 1737 by 305		
Nitrate as N	4 mg/l	103	90.0-110			C16057	20Sep13 1448 by 07	20Sep13 1522 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170749-1	1 mg/l	89.6	80.0-120	W44998	23Sep13 1513 by 308	23Sep13 1730 by 308		
	170749-1	1 mg/l	89.3	80.0-120	W44998	23Sep13 1513 by 308	23Sep13 1731 by 308		
	Relative Percent Difference:		0.258	25.0	W44998				
Phosphorus	170770-2	5 mg/l	106	75.0-125	S35442	23Sep13 0837 by 305	23Sep13 1741 by 305		
	170770-2	5 mg/l	106	75.0-125	S35442	23Sep13 0837 by 305	23Sep13 1744 by 305		
	Relative Percent Difference:		0.0592	20.0	S35442				
Nitrate as N	170767-1	4 mg/l	118	80.0-120	C16057	20Sep13 1448 by 07	20Sep13 1548 by 07		
	170767-1	4 mg/l	119	80.0-120	C16057	20Sep13 1448 by 07	20Sep13 1615 by 07		
	Relative Percent Difference:		0.295	10.0	C16057				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44998-1	23Sep13 1513 by 308	23Sep13 1724 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44974-1	20Sep13 0807 by 285	25Sep13 0917 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W44996-1	23Sep13 1332 by 285	24Sep13 0915 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35442-1	23Sep13 0837 by 305	23Sep13 1734 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16057-1	20Sep13 1448 by 07	20Sep13 1455 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3970-1		20Sep13 1441 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:

PO No.

AIC CONTROL NO: 170767
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS,NO3N	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	9/19/13-9/20/13 9:55am 9:55am		X	X			1	X			
2	010	9/20/13 9:55am	X		X			1		X		
1	010	9/19/13-9/20/13 9:55am 9:55am		X	X			1			X	
												Field pH calibration
		Container Type							P	P	P	on _____ @ _____
		Preservative							NO	T	S	Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/20/13 10:00 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Lynn Hyatt	9-20-13 1330

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

September 26, 2013
Control No. 170791

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 September 21, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 21, 2013
Daily - Permit AR0000752
P.O. No. 357042

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

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
170791-1	010 9/20/13 9:55am - 9/21/13 9:55am	21-Sep-2013 0955	
170791-2	010 9/21/13 9:55am	21-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170791-1
Sample Identification: 010 9/20/13 9:55am - 9/21/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**0.48**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 23-Sep-2013 1513 by 308	Analyzed: 23-Sep-2013 1807 by 308		Batch: W44998	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 21-Sep-2013 1427 by 285	Analyzed: 26-Sep-2013 1034 by 271		Batch: W44990	
Total Suspended Solids		**9.6**	4	**mg/l**	
USGS 3765	Prep: 24-Sep-2013 1418 by 302	Analyzed: 25-Sep-2013 0929 by 302		Batch: W45020	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 23-Sep-2013 1102 by 271	Analyzed: 23-Sep-2013 2004 by 305		Batch: S35446	

AIC No. 170791-2
Sample Identification: 010 9/21/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**650**	50	**/100ml**	D
SM 9222 D	Analyzed: 21-Sep-2013 1410 by 295		Batch: M3971	Dil: 50

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		170795-1	< 2 mg/l			21Sep13 1427 by 285	26Sep13 1022 by 271		
	Batch: W44990	Duplicate	< 2 mg/l	0.00	20.0	21Sep13 1427 by 285	26Sep13 1025 by 271		
Total Suspended Solids		170791-1	9.6 mg/l			24Sep13 1418 by 302	25Sep13 0929 by 302		
	Batch: W45020	Duplicate	11 mg/l	11.8	20.0	24Sep13 1418 by 302	25Sep13 0929 by 302		
Total Suspended Solids		170792-1	< 4 mg/l			24Sep13 1418 by 302	25Sep13 0929 by 302		
	Batch: W45020	Duplicate	< 4 mg/l	0.00	20.0	24Sep13 1418 by 302	25Sep13 0929 by 302		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	104	80.0-120			W44998	23Sep13 1513 by 308	23Sep13 1726 by 308		
Carbonaceous BOD 5-day	200 mg/l	111	84.5-115			W44990	21Sep13 1427 by 285	26Sep13 1020 by 271		
Phosphorus	5 mg/l	110	85.0-115			S35446	23Sep13 1102 by 271	23Sep13 1954 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170749-1	1 mg/l	89.6	80.0-120	W44998	23Sep13 1513 by 308	23Sep13 1730 by 308		
	170749-1	1 mg/l	89.3	80.0-120	W44998	23Sep13 1513 by 308	23Sep13 1731 by 308		
	Relative Percent Difference:		0.258	25.0	W44998				
Phosphorus	170791-1	5 mg/l	110	75.0-125	S35446	23Sep13 1102 by 271	23Sep13 1957 by 305		
	170791-1	5 mg/l	110	75.0-125	S35446	23Sep13 1102 by 271	23Sep13 2001 by 305		
	Relative Percent Difference:		0.00907	20.0	S35446				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44998-1	23Sep13 1513 by 308	23Sep13 1724 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44990-1	21Sep13 1427 by 285	26Sep13 1019 by 271	
Total Suspended Solids	< 4 mg/l	4	4	W45020-1	24Sep13 1418 by 302	25Sep13 0929 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35446-1	23Sep13 1102 by 271	23Sep13 1951 by 305	
Fecal Coliform	< 1 /100ml	1	1	M3971-1		21Sep13 1410 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F	NH3N, Total Phosphorus
1	010	9/20/13 - 9:55am - 9/21/13 9:55am		X	X			1	X		
2	010	9/21/13 9:55am	X		X			1		X	
1	010	9/20/13 - 9:55am - 9/21/13 9:55am		X	X			1			X
		Container Type							P	P	P
		Preservative							NO	T	S

AIC CONTROL NO: 170791
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.0°
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	9/21/13 10:00am		
Relinquished By: Gold Star	Date/Time 9-21-13 1400	Received in Lab By: Shawn Worm	Date/Time 9-21-13 (1400)

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 September 22, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 22, 2013
Daily - Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
170799-1	010 9/21/13 9:55am - 9/22/13 9:55am	22-Sep-2013 0955	
170799-2	010 9/22/13 9:55am	22-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170799-1
Sample Identification: 010 9/21/13 9:55am - 9/22/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N		**1.8**	0.1	**mg/l**	
SM 4500-NH3 G	Prep: 23-Sep-2013 1514 by 308	Analyzed: 24-Sep-2013 0807 by 308		Batch: W44999	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 23-Sep-2013 1415 by 285	Analyzed: 28-Sep-2013 1015 by 285		Batch: W44997	
Total Suspended Solids		**10**	4	**mg/l**	
USGS 3765	Prep: 24-Sep-2013 1418 by 302	Analyzed: 25-Sep-2013 0929 by 302		Batch: W45020	
Phosphorus		**0.12**	0.02	**mg/l**	
EPA 200.7	Prep: 23-Sep-2013 1102 by 271	Analyzed: 23-Sep-2013 2039 by 305		Batch: S35446	

AIC No. 170799-2
Sample Identification: 010 9/22/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**85**	1	**/100ml**	
SM 9222 D	Analyzed: 22-Sep-2013 1400 by 304		Batch: M3972	

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		170798-1	< 2 mg/l			23Sep13 1415 by 285	28Sep13 1011 by 285		
	Batch: W44997	Duplicate	< 2 mg/l	0.00	20.0	23Sep13 1415 by 285	28Sep13 1012 by 285		
Total Suspended Solids		170791-1	9.6 mg/l			24Sep13 1418 by 302	25Sep13 0929 by 302		
	Batch: W45020	Duplicate	11 mg/l	11.8	20.0	24Sep13 1418 by 302	25Sep13 0929 by 302		
Total Suspended Solids		170792-1	< 4 mg/l			24Sep13 1418 by 302	25Sep13 0929 by 302		
	Batch: W45020	Duplicate	< 4 mg/l	0.00	20.0	24Sep13 1418 by 302	25Sep13 0929 by 302		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	1 mg/l	108	80.0-120			W44999	23Sep13 1514 by 308	23Sep13 1815 by 308		
Carbonaceous BOD 5-day	200 mg/l	113	84.5-115			W44997	23Sep13 1415 by 285	28Sep13 1009 by 285		
Phosphorus	5 mg/l	110	85.0-115			S35446	23Sep13 1102 by 271	23Sep13 1954 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N	170799-1	1 mg/l	83.5	80.0-120	W44999	23Sep13 1514 by 308	24Sep13 0809 by 308	2	D
	170799-1	1 mg/l	100	80.0-120	W44999	23Sep13 1514 by 308	24Sep13 0811 by 308	2	D
	Relative Percent Difference:		6.10	25.0	W44999				D
Phosphorus	170791-1	5 mg/l	110	75.0-125	S35446	23Sep13 1102 by 271	23Sep13 1957 by 305		
	170791-1	5 mg/l	110	75.0-125	S35446	23Sep13 1102 by 271	23Sep13 2001 by 305		
	Relative Percent Difference:		0.00907	20.0	S35446				

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Ammonia as N	< 0.1 mg/l	0.1	0.1	W44999-1	23Sep13 1514 by 308	23Sep13 1814 by 308	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W44997-1	23Sep13 1415 by 285	28Sep13 1008 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45020-1	24Sep13 1418 by 302	25Sep13 0929 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35446-1	23Sep13 1102 by 271	23Sep13 1951 by 305	
Fecal Coliform	< 1 /100ml	1	1	M3972-1		22Sep13 1400 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:

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	9/21/13 9/22/13 9:55am-9:55am		X	X			1	X											
2	010	9/22/13 9:55am	X		X			1		X										
1	010	9/21/13 9/22/13 9:50am-9:55am		X	X			1			X									
		Container Type							P	P	P									
		Preservative							NO	T	S									

ANALYSES REQUESTED

AIC CONTROL NO: 170799
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.0°
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	9/22/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Shawn Worm	9-22-13 (1330)

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

This report contains the analytical results and supporting information for samples submitted on September 23, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 23, 2013
Daily-Permit AR0000752
P.O. No. 357042

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

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
170814-1	010 9/22/13-9/23/13 9:55am-9:55am	23-Sep-2013 0955	
170814-2	010 9/23/13 9:55am	23-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170814-1
Sample Identification: 010 9/22/13-9/23/13 9:55am-9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.9**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 01-Oct-2013 0918 by 93	Analyzed: 01-Oct-2013 1816 by 93		Batch: W45104	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 25-Sep-2013 0822 by 285	Analyzed: 30-Sep-2013 1332 by 285		Batch: W45028	
Total Suspended Solids		**9.6**	4	**mg/l**	
USGS 3765	Prep: 24-Sep-2013 1418 by 302	Analyzed: 25-Sep-2013 0929 by 302		Batch: W45020	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 23-Sep-2013 1632 by 305	Analyzed: 24-Sep-2013 1222 by 305		Batch: S35446	
Nitrate as N		**8.3**	0.05	**mg/l**	
EPA 300.0	Prep: 23-Sep-2013 1432 by 302	Analyzed: 23-Sep-2013 2114 by 07		Batch: C16059	

AIC No. 170814-2
Sample Identification: 010 9/23/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**50**	50	**/100ml**	D
SM 9222 D	Analyzed: 23-Sep-2013 1402 by 295		Batch: M3973	Dil: 50

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Suspended Solids		170791-1	9.6 mg/l			24Sep13 1418 by 302	25Sep13 0929 by 302		
	Batch: W45020	Duplicate	11 mg/l	11.8	20.0	24Sep13 1418 by 302	25Sep13 0929 by 302		
Total Suspended Solids		170792-1	< 4 mg/l			24Sep13 1418 by 302	25Sep13 0929 by 302		
	Batch: W45020	Duplicate	< 4 mg/l	0.00	20.0	24Sep13 1418 by 302	25Sep13 0929 by 302		
Carbonaceous BOD 5-day		170814-1	< 2 mg/l			25Sep13 0822 by 285	30Sep13 1332 by 285		
	Batch: W45028	Duplicate	< 2 mg/l	0.00	20.0	25Sep13 0822 by 285	30Sep13 1334 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			W45104	01Oct13 0919 by 93	01Oct13 1727 by 93		
Carbonaceous BOD 5-day	200 mg/l	114	84.5-115			W45028	25Sep13 0822 by 285	30Sep13 1331 by 285		
Phosphorus	5 mg/l	110	85.0-115			S35446	23Sep13 1102 by 271	23Sep13 1954 by 305		
Nitrate as N	4 mg/l	92.8	90.0-110			C16059	23Sep13 1432 by 302	23Sep13 1927 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171074-1	1 mg/l	99.5	80.0-120	W45104	01Oct13 0919 by 93	01Oct13 1730 by 93		
	171074-1	1 mg/l	99.2	80.0-120	W45104	01Oct13 0919 by 93	01Oct13 1732 by 93		
	Relative Percent Difference:		0.239	25.0	W45104				
Phosphorus	170791-1	5 mg/l	110	75.0-125	S35446	23Sep13 1102 by 271	23Sep13 1957 by 305		
	170791-1	5 mg/l	110	75.0-125	S35446	23Sep13 1102 by 271	23Sep13 2001 by 305		
	Relative Percent Difference:		0.00907	20.0	S35446				
Nitrate as N	170810-1	4 mg/l	97.5	80.0-120	C16059	23Sep13 1432 by 302	23Sep13 1954 by 07		
	170810-1	4 mg/l	102	80.0-120	C16059	23Sep13 1432 by 302	23Sep13 2021 by 07		
	Relative Percent Difference:		5.00	10.0	C16059				

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	W45104-1	01Oct13 0919 by 93	01Oct13 1725 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45028-1	25Sep13 0822 by 285	30Sep13 1330 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45020-1	24Sep13 1418 by 302	25Sep13 0929 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35446-1	23Sep13 1102 by 271	23Sep13 1951 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16059-1	23Sep13 1432 by 302	23Sep13 1900 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3973-1		23Sep13 1403 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:

PO No.

AIC CONTROL NO: 170814

AIC PROPOSAL NO:

Carrier: Gold Star

Received Temperature C: 2°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL	MATRIX	NO OF BOTTLES	CBOD, TSS, NO3-N	Coli. F	NH3N, Total Phosphorus										Remarks
1	010	9/22/13-9/23/13 9:55am-9:55am		X	X			1	X												
2	010	9/23/13 9:55am	X		X			1		X											
1	010	9/22/13-9/23/13 9:55am-9:55am		X	X			1			X										
																					Field pH calibration
		Container Type							P	P	P										on ______ @ ______
		Preservative							NO	T	S										Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/23/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	9-23-13 1325

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

This report contains the analytical results and supporting information for samples submitted on September 24, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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 September 24, 2013
Daily,Weekly-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with 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
170861-1	010 9/23/13-9/24/13 9:55am-9:55am	24-Sep-2013 0955	
170861-2	010 9/24/13 9:55am	24-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170861-1
Sample Identification: 010 9/23/13-9/24/13 9:55am-9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.0**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 26-Sep-2013 1505 by 93	Analyzed: 27-Sep-2013 0947 by 302		Batch: W45052	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 25-Sep-2013 0822 by 285	Analyzed: 30-Sep-2013 1346 by 285		Batch: W45028	
Total Suspended Solids		**11**	4	**mg/l**	
USGS 3765	Prep: 25-Sep-2013 1412 by 285	Analyzed: 26-Sep-2013 1104 by 285		Batch: W45035	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 24-Sep-2013 1648 by 311	Analyzed: 25-Sep-2013 1819 by 305		Batch: S35461	

AIC No. 170861-2
Sample Identification: 010 9/24/13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**200**	10	**mg/l**	
SM 2540 C	Prep: 25-Sep-2013 1625 by 302	Analyzed: 26-Sep-2013 1555 by 302		Batch: W45040	
Chloride		**17**	0.2	**mg/l**	
EPA 300.0	Prep: 24-Sep-2013 1633 by 07	Analyzed: 24-Sep-2013 2256 by 07		Batch: C16063	
Sulfate		**31**	0.2	**mg/l**	
EPA 300.0	Prep: 24-Sep-2013 1633 by 07	Analyzed: 24-Sep-2013 2256 by 07		Batch: C16063	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 25-Sep-2013 1103 by 295	Analyzed: 25-Sep-2013 1408 by 295		Batch: B8570	
Fecal Coliform		**750**	50	**/100ml**	D
SM 9222 D		Analyzed: 24-Sep-2013 1545 by 295		Batch: M3974	Dil: 50

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		170814-1	< 2 mg/l			25Sep13 0822 by 285	30Sep13 1332 by 285		
	Batch: W45028	Duplicate	< 2 mg/l	0.00	20.0	25Sep13 0822 by 285	30Sep13 1334 by 285		
Total Suspended Solids		170845-1	< 4 mg/l			25Sep13 1412 by 285	26Sep13 1104 by 285		
	Batch: W45035	Duplicate	< 4 mg/l	0.00	20.0	25Sep13 1412 by 285	26Sep13 1104 by 285		
Total Suspended Solids		170845-2	< 4 mg/l			25Sep13 1412 by 285	26Sep13 1104 by 285		
	Batch: W45035	Duplicate	< 4 mg/l	0.00	20.0	25Sep13 1412 by 285	26Sep13 1104 by 285		
Total Dissolved Solids		170861-2	200 mg/l			25Sep13 1625 by 302	26Sep13 1555 by 302		
	Batch: W45040	Duplicate	190 mg/l	3.12	10.0	25Sep13 1625 by 302	26Sep13 1555 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	110	80.0-120			W45052	26Sep13 1056 by 93	27Sep13 0847 by 302		
Carbonaceous BOD 5-day	200 mg/l	114	84.5-115			W45028	25Sep13 0822 by 285	30Sep13 1331 by 285		
Phosphorus	5 mg/l	106	85.0-115			S35461	24Sep13 1649 by 311	25Sep13 1758 by 305		
Chloride	20 mg/l	99.7	90.0-110			C16063	24Sep13 1634 by 07	24Sep13 2015 by 07		
Sulfate	20 mg/l	104	90.0-110			C16063	24Sep13 1634 by 07	24Sep13 2015 by 07		
Oil and Grease	40 mg/l	94.0	78.0-114			B8570	25Sep13 1104 by 295	25Sep13 1408 by 295		
	40 mg/l	92.5	78.0-114	1.61	20.0	B8570	25Sep13 1104 by 295	25Sep13 1408 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	170860-1	1 mg/l	120	80.0-120	W45052	26Sep13 1056 by 93	27Sep13 1017 by 302		
	170860-1	1 mg/l	120	80.0-120	W45052	26Sep13 1056 by 93	27Sep13 1018 by 302		
	Relative Percent Difference:		0.425	25.0	W45052				
Phosphorus	170854-1	5 mg/l	106	75.0-125	S35461	24Sep13 1649 by 311	25Sep13 1802 by 305		
	170854-1	5 mg/l	108	75.0-125	S35461	24Sep13 1649 by 311	25Sep13 1806 by 305		
	Relative Percent Difference:		0.950	20.0	S35461				
Chloride	170860-2	20 mg/l	97.7	80.0-120	C16063	24Sep13 1634 by 07	24Sep13 2041 by 07		
	170860-2	20 mg/l	100	80.0-120	C16063	24Sep13 1634 by 07	24Sep13 2108 by 07		
	Relative Percent Difference:		2.16	10.0	C16063				
Sulfate	170860-2	20 mg/l	99.9	80.0-120	C16063	24Sep13 1634 by 07	24Sep13 2041 by 07		
	170860-2	20 mg/l	102	80.0-120	C16063	24Sep13 1634 by 07	24Sep13 2108 by 07		
	Relative Percent Difference:		2.19	10.0	C16063				

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	W45040-1	25Sep13 1625 by 302	26Sep13 1555 by 302	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45052-1	26Sep13 1056 by 93	27Sep13 0845 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45028-1	25Sep13 0822 by 285	30Sep13 1330 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45035-1	25Sep13 1412 by 285	26Sep13 1104 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35461-1	24Sep13 1649 by 311	25Sep13 1754 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16063-1	24Sep13 1634 by 07	24Sep13 1948 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16063-1	24Sep13 1634 by 07	24Sep13 1948 by 07	
Oil and Grease	< 5 mg/l	5	5	B8570-1	25Sep13 1104 by 295	25Sep13 1408 by 295	
Fecal Coliform	< 1 /100ml	1	1	M3974-1		24Sep13 1314 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

AIC CONTROL NO: 170861
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2°C
Remarks

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX: WATER	MATRIX: SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F	NH3N, Total Phosphorus
(1)		010	9-23-13 9:55am - 9-24-13 9:55am		X	X			1	X		
(2)		010	9-24-13 9:55am	X		X			1		X	
(3)		010	9-23-13 9:55am - 9-24-13 9:55am		X	X			1			X
			Container Type							P	P	P
			Preservative							NO	T	S

Field pH calibration
on _____ @ _____
Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/24/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Jimmy Day	9/24/13 1345

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

170861

PAGE 1 OF 1

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

PO No.

AIC CONTROL NO: 170863 9/24/13
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2°C
Remarks

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
(1)	010	9/24/13 9:55am	X		X			1	X		
(2)	010	9/24/13 9:55am	X		X			1		X	
		Container Type							P	P	Field pH calibration
		Preservative							S	NO	on _____ @ _____ Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/24/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9/24/13 1345

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 September 25, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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

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

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

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

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on September 25, 2013
Daily / Monthly - 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
170932-1	010 9/24/13 9:55am 9/25/13 9:55am	25-Sep-2013 0955	
170932-2	010 9/25/13 9:55am	25-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170932-1
Sample Identification: 010 9/24/13 9:55am 9/25/13 9:55am

Analyte		Result	RL	Units	Qualifier
Chromium, Hexavalent		**< 0.007**	0.007	**mg/l**	
SM 3500-Cr B	Prep: 26-Sep-2013 0907 by 308	Analyzed: 26-Sep-2013 1030 by 308		Batch: W45050	
Ammonia as N with Distillation		**2.3**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 26-Sep-2013 1505 by 93	Analyzed: 27-Sep-2013 0949 by 302		Batch: W45052	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 26-Sep-2013 0842 by 285	Analyzed: 01-Oct-2013 0929 by 285		Batch: W45048	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 28-Sep-2013 1026 by 285	Analyzed: 01-Oct-2013 0831 by 285		Batch: W45081	
Phosphorus		**0.095**	0.02	**mg/l**	
EPA 200.7	Prep: 25-Sep-2013 1611 by 305	Analyzed: 26-Sep-2013 1906 by 305		Batch: S35471	
Mercury, low level		**0.0062**	0.0050	**ug/l**	
EPA 245.7	Prep: 27-Sep-2013 1433 by 311	Analyzed: 27-Sep-2013 1640 by 311		Batch: S35490	
Nitrate as N		**< 0.05**	0.05	**mg/l**	
EPA 300.0	Prep: 25-Sep-2013 1509 by 07	Analyzed: 26-Sep-2013 1410 by 07		Batch: C16066	
Total Recoverable Trivalent Chromium		**< 0.007**	0.007	**mg/l**	
Calculation	Prep: 25-Sep-2013 1506 by 305	Analyzed: 25-Sep-2013 1735 by 305		Batch: S35470	
Total Recoverable Nickel		**< 0.01**	0.01	**mg/l**	
EPA 200.7	Prep: 25-Sep-2013 1506 by 305	Analyzed: 26-Sep-2013 1906 by 305		Batch: S35470	
Total Recoverable Zinc		**0.39**	0.002	**mg/l**	
EPA 200.7	Prep: 25-Sep-2013 1506 by 305	Analyzed: 26-Sep-2013 1906 by 305		Batch: S35470	
Total Recoverable Cadmium		**< 0.0001**	0.0001	**mg/l**	
EPA 200.8	Prep: 25-Sep-2013 1506 by 305	Analyzed: 25-Sep-2013 1735 by 305		Batch: S35470	
Total Recoverable Copper		**0.0055**	0.001	**mg/l**	
EPA 200.8	Prep: 25-Sep-2013 1506 by 305	Analyzed: 25-Sep-2013 1735 by 305		Batch: S35470	
Total Recoverable Lead		**0.0042**	0.001	**mg/l**	
EPA 200.8	Prep: 25-Sep-2013 1506 by 305	Analyzed: 25-Sep-2013 1735 by 305		Batch: S35470	
Total Recoverable Nickel		**< 0.01**	0.01	**mg/l**	
EPA 200.8	Prep: 25-Sep-2013 1506 by 305	Analyzed: 25-Sep-2013 1735 by 305		Batch: S35470	
Total Recoverable Selenium		**< 0.002**	0.002	**mg/l**	
EPA 200.8	Prep: 25-Sep-2013 1506 by 305	Analyzed: 25-Sep-2013 1735 by 305		Batch: S35470	
Total Recoverable Silver		**< 0.0002**	0.0002	**mg/l**	
EPA 200.8	Prep: 25-Sep-2013 1506 by 305	Analyzed: 25-Sep-2013 1735 by 305		Batch: S35470	
Total Recoverable Zinc		**0.35**	0.002	**mg/l**	
EPA 200.8	Prep: 25-Sep-2013 1506 by 305	Analyzed: 25-Sep-2013 1735 by 305		Batch: S35470	

AIC No. 170932-2
Sample Identification: 010 9/25/13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Cyanide		**< 0.01**	0.01	**mg/l**	
SM 4500-CN C,E	Prep: 26-Sep-2013 0827 by 308	Analyzed: 26-Sep-2013 1559 by 308		Batch: W45046	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170932-2 (Continued)
Sample Identification: 010 9/25/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**450**	50	**/100ml**	D
SM 9222 D	Analyzed: 25-Sep-2013 1508 by 295		Batch: M3977	Dil: 50

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		170926-1	< 2 mg/l			26Sep13 0842 by 285	01Oct13 0903 by 285		
	Batch: W45048	Duplicate	< 2 mg/l	0.00	20.0	26Sep13 0842 by 285	01Oct13 0905 by 285		
Total Suspended Solids		170932-1	12 mg/l			28Sep13 1026 by 285	01Oct13 0831 by 285		
	Batch: W45081	Duplicate	12 mg/l	0.00	20.0	28Sep13 1027 by 285	01Oct13 0831 by 285		
Total Suspended Solids		170941-3	3900 mg/l			28Sep13 1026 by 285	01Oct13 0831 by 285		
	Batch: W45081	Duplicate	3900 mg/l	0.513	20.0	28Sep13 1027 by 285	01Oct13 0831 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	118	80.0-120			W45050	26Sep13 0907 by 308	26Sep13 1030 by 308		
Total Cyanide	0.1 mg/l	86.2	85.0-115			W45046	26Sep13 0827 by 308	26Sep13 1548 by 308		
Ammonia as N with Distillation	1 mg/l	110	80.0-120			W45052	26Sep13 1056 by 93	27Sep13 0847 by 302		
Carbonaceous BOD 5-day	200 mg/l	102	84.5-115			W45048	26Sep13 0842 by 285	01Oct13 0901 by 285		
Phosphorus	5 mg/l	109	85.0-115			S35471	25Sep13 1611 by 305	26Sep13 1755 by 305		
Mercury, low level	0.01 ug/l	103	76.0-113			S35490	27Sep13 1434 by 311	27Sep13 1558 by 311		
Nitrate as N	4 mg/l	99.7	90.0-110			C16066	25Sep13 1509 by 07	26Sep13 1222 by 07		
Total Recoverable Cadmium	0.05 mg/l	95.7	85.0-115			S35470	25Sep13 1421 by 305	25Sep13 1611 by 305		
Total Recoverable Copper	0.05 mg/l	104	85.0-115			S35470	25Sep13 1421 by 305	25Sep13 1611 by 305		
Total Recoverable Lead	0.05 mg/l	97.4	85.0-115			S35470	25Sep13 1421 by 305	25Sep13 1611 by 305		
Total Recoverable Nickel	0.05 mg/l	97.8	85.0-115			S35470	25Sep13 1421 by 305	25Sep13 1611 by 305		
Total Recoverable Selenium	0.05 mg/l	97.6	85.0-115			S35470	25Sep13 1421 by 305	25Sep13 1611 by 305		
Total Recoverable Silver	0.02 mg/l	92.5	85.0-115			S35470	25Sep13 1421 by 305	25Sep13 1611 by 305		
Total Recoverable Zinc	0.05 mg/l	103	85.0-115			S35470	25Sep13 1421 by 305	25Sep13 1611 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	170930-1	0.05 mg/l	118	76.5-146	W45050	26Sep13 0907 by 308	26Sep13 1030 by 308		
	170930-1	0.05 mg/l	120	76.5-146	W45050	26Sep13 0907 by 308	26Sep13 1030 by 308		
	Relative Percent Difference:		2.35	25.0	W45050				
Total Cyanide	170920-1	0.1 mg/l	98.2	75.0-125	W45046	26Sep13 0827 by 308	26Sep13 1552 by 308		
	170920-1	0.1 mg/l	95.7	75.0-125	W45046	26Sep13 0827 by 308	26Sep13 1554 by 308		
	Relative Percent Difference:		2.56	20.0	W45046				
Ammonia as N with Distillation	170860-1	1 mg/l	120	80.0-120	W45052	26Sep13 1056 by 93	27Sep13 1017 by 302		
	170860-1	1 mg/l	120	80.0-120	W45052	26Sep13 1056 by 93	27Sep13 1018 by 302		
	Relative Percent Difference:		0.425	25.0	W45052				
Phosphorus	170908-1	5 mg/l	109	75.0-125	S35471	25Sep13 1611 by 305	26Sep13 1758 by 305		
	170908-1	5 mg/l	110	75.0-125	S35471	25Sep13 1611 by 305	26Sep13 1803 by 305		
	Relative Percent Difference:		0.489	20.0	S35471				
Mercury, low level	170973-1	0.01 ug/l	89.8	63.0-111	S35490	27Sep13 1434 by 311	27Sep13 1603 by 311		
	170973-1	0.01 ug/l	83.8	63.0-111	S35490	27Sep13 1434 by 311	27Sep13 1608 by 311		
	Relative Percent Difference:		3.41	18.0	S35490				
Nitrate as N	170932-1	4 mg/l	93.6	80.0-120	C16066	25Sep13 1509 by 07	26Sep13 1249 by 07		
	170932-1	4 mg/l	93.9	80.0-120	C16066	25Sep13 1509 by 07	26Sep13 1316 by 07		
	Relative Percent Difference:		0.245	10.0	C16066				
Total Recoverable Cadmium	170875-2	0.05 mg/l	93.4	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1616 by 305		
	170875-2	0.05 mg/l	93.3	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1622 by 305		
	Relative Percent Difference:		0.126	20.0	S35470				
Total Recoverable Copper	170875-2	0.05 mg/l	94.6	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1616 by 305		
	170875-2	0.05 mg/l	95.1	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1622 by 305		
	Relative Percent Difference:		0.549	20.0	S35470				
Total Recoverable Lead	170875-2	0.05 mg/l	96.4	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1616 by 305		
	170875-2	0.05 mg/l	97.0	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1622 by 305		
	Relative Percent Difference:		0.668	20.0	S35470				
Total Recoverable Nickel	170875-2	0.05 mg/l	81.6	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1616 by 305		
	170875-2	0.05 mg/l	82.0	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1622 by 305		
	Relative Percent Difference:		0.477	20.0	S35470				
Total Recoverable Selenium	170875-2	0.05 mg/l	94.3	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1616 by 305		
	170875-2	0.05 mg/l	93.8	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1622 by 305		
	Relative Percent Difference:		0.604	20.0	S35470				
Total Recoverable Silver	170875-2	0.02 mg/l	86.9	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1616 by 305		
	170875-2	0.02 mg/l	87.3	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1622 by 305		
	Relative Percent Difference:		0.458	20.0	S35470				
Total Recoverable Zinc	170875-2	0.05 mg/l	96.3	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1616 by 305		
	170875-2	0.05 mg/l	98.3	75.0-125	S35470	25Sep13 1421 by 305	25Sep13 1622 by 305		
	Relative Percent Difference:		1.84	20.0	S35470				

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	W45050-1	26Sep13 0907 by 308	26Sep13 1030 by 308	
Total Cyanide	< 0.01 mg/l	0.01	0.01	W45046-1	26Sep13 0827 by 308	26Sep13 1546 by 308	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45052-1	26Sep13 1056 by 93	27Sep13 0845 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45048-1	26Sep13 0842 by 285	01Oct13 0900 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45081-1	28Sep13 1027 by 285	01Oct13 0831 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35471-1	25Sep13 1611 by 305	26Sep13 1751 by 305	
Mercury, low level	< 0.0018 ug/l	0.0018	0.0050	S35490-1	27Sep13 1434 by 311	27Sep13 1538 by 311	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16066-1	25Sep13 1509 by 07	26Sep13 1156 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3977-1		25Sep13 1128 by 295	
Total Recoverable Cadmium	< 0.0001 mg/l	0.0001	0.0001	S35470-1	25Sep13 1421 by 305	25Sep13 1605 by 305	
Total Recoverable Copper	< 0.001 mg/l	0.001	0.001	S35470-1	25Sep13 1421 by 305	25Sep13 1605 by 305	
Total Recoverable Lead	< 0.001 mg/l	0.001	0.001	S35470-1	25Sep13 1421 by 305	25Sep13 1605 by 305	
Total Recoverable Nickel	< 0.01 mg/l	0.01	0.01	S35470-1	25Sep13 1421 by 305	25Sep13 1605 by 305	
Total Recoverable Selenium	< 0.002 mg/l	0.002	0.002	S35470-1	25Sep13 1421 by 305	25Sep13 1605 by 305	
Total Recoverable Silver	< 0.0002 mg/l	0.0002	0.0002	S35470-1	25Sep13 1421 by 305	25Sep13 1605 by 305	
Total Recoverable Zinc	< 0.002 mg/l	0.002	0.002	S35470-1	25Sep13 1421 by 305	25Sep13 1605 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:

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 170932
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS (NO3N)	Coli. F	NH3N, Total Phosphorus									Remarks
1	010	9/24/13 9:55am - 9/25/13 9:55am		X	X			1	X											
2	010	9/25/13 9:55am	X		X			1		X										
1	010	9/24/13 9:55am - 9/25/13 9:55am		X	X			1			X									
		Container Type							P	P	P									Field pH calibration
		Preservative							NO	T	S									on _____ @ _____
																				Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/25/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Tyson Hyatt	9-25-13 1340

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:

PO No.

AIC CONTROL NO: 170932
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL	NO OF BOTTLES	Hg.LL	Cr^{+6}	CN.T	Metals: See Comments								Remarks
1121	010	9/24/13-9/25/13 9:55am-9:55am		X	X		1	X											
	010	9/24/13-9/25/13 9:55am-9:55am		X	X		1		X										
	010	9/25/13 9:55am	X		X		1			X									
	010	9/24/13-9/25/13 9:55am-9:55am		X	X		1				X								
CEH 9-25-13																			
																			Field pH calibration
		Container Type						G	P	P	P	P							on _____ @ _____
		Preservative						NO	A	B	N	NO							Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate 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	9/25/13 9:55am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Susan Hopkins	9-25-13 1340

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 September 26, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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

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

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on September 26, 2013
Daily,Weekly-Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
170966-1	010 9/25/13 9:55am 9/26/13 9:55am	26-Sep-2013 0955	
170966-2	010 9/26/13 9:55am	26-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 170966-1
Sample Identification: 010 9/25/13 9:55am 9/26/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.1**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 26-Sep-2013 1505 by 93	Analyzed: 27-Sep-2013 0950 by 302		Batch: W45052	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 27-Sep-2013 0827 by 285	Analyzed: 02-Oct-2013 0946 by 285		Batch: W45064	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 28-Sep-2013 1026 by 285	Analyzed: 01-Oct-2013 0831 by 285		Batch: W45081	
Phosphorus		**0.11**	0.02	**mg/l**	
EPA 200.7	Prep: 27-Sep-2013 1042 by 271	Analyzed: 27-Sep-2013 1729 by 305		Batch: S35485	

AIC No. 170966-2
Sample Identification: 010 9/26/13 9:55am

Analyte		Result	RL	Units	Qualifier
Total Dissolved Solids		**240**	10	**mg/l**	
SM 2540 C	Prep: 27-Sep-2013 1642 by 285	Analyzed: 29-Sep-2013 1738 by 285		Batch: W45079	
Chloride		**15**	0.2	**mg/l**	
EPA 300.0	Prep: 26-Sep-2013 1613 by 07	Analyzed: 26-Sep-2013 1940 by 07		Batch: C16070	
Sulfate		**26**	0.2	**mg/l**	
EPA 300.0	Prep: 26-Sep-2013 1613 by 07	Analyzed: 26-Sep-2013 1940 by 07		Batch: C16070	
Oil and Grease		**< 5**	5	**mg/l**	
EPA 1664A	Prep: 27-Sep-2013 1042 by 295	Analyzed: 27-Sep-2013 1612 by 295		Batch: B8574	
Fecal Coliform		**520**	1	**/100ml**	
SM 9222 D		Analyzed: 26-Sep-2013 1443 by 295		Batch: M3986	

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		170927-2	< 5 mg/l			27Sep13 1042 by 295	27Sep13 1612 by 295		
	Batch: B8574	Duplicate	< 5 mg/l	0.00	20.0	27Sep13 1043 by 295	27Sep13 1612 by 295		
Carbonaceous BOD 5-day		170966-1	< 2 mg/l			27Sep13 0827 by 285	02Oct13 0946 by 285		
	Batch: W45064	Duplicate	< 2 mg/l	0.00	20.0	27Sep13 0827 by 285	02Oct13 0947 by 285		
Total Dissolved Solids		170944-1	< 10 mg/l			27Sep13 1642 by 285	29Sep13 1738 by 285		
	Batch: W45079	Duplicate	< 10 mg/l	0.00	10.0	27Sep13 1642 by 285	29Sep13 1738 by 285		
Total Suspended Solids		170932-1	12 mg/l			28Sep13 1026 by 285	01Oct13 0831 by 285		
	Batch: W45081	Duplicate	12 mg/l	0.00	20.0	28Sep13 1027 by 285	01Oct13 0831 by 285		
Total Suspended Solids		170941-3	3900 mg/l			28Sep13 1026 by 285	01Oct13 0831 by 285		
	Batch: W45081	Duplicate	3900 mg/l	0.513	20.0	28Sep13 1027 by 285	01Oct13 0831 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			W45052	26Sep13 1056 by 93	27Sep13 0847 by 302		
Carbonaceous BOD 5-day	200 mg/l	105	84.5-115			W45064	27Sep13 0827 by 285	02Oct13 0944 by 285		
Phosphorus	5 mg/l	107	85.0-115			S35485	27Sep13 1042 by 271	27Sep13 1717 by 305		
Chloride	20 mg/l	104	90.0-110			C16070	26Sep13 1613 by 07	26Sep13 1705 by 07		
Sulfate	20 mg/l	104	90.0-110			C16070	26Sep13 1613 by 07	26Sep13 1705 by 07		
Oil and Grease	40 mg/l	89.5	78.0-114			B8574	27Sep13 1043 by 295	27Sep13 1612 by 295		
	40 mg/l	97.5	78.0-114	8.56	20.0	B8574	27Sep13 1043 by 295	27Sep13 1612 by 295		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	170860-1	1 mg/l	120	80.0-120	W45052	26Sep13 1056 by 93	27Sep13 1017 by 302		
	170860-1	1 mg/l	120	80.0-120	W45052	26Sep13 1056 by 93	27Sep13 1018 by 302		
	Relative Percent Difference:		0.425	25.0	W45052				
Phosphorus	170966-1	5 mg/l	109	75.0-125	S35485	27Sep13 1042 by 271	27Sep13 1721 by 305		
	170966-1	5 mg/l	109	75.0-125	S35485	27Sep13 1042 by 271	27Sep13 1725 by 305		
	Relative Percent Difference:		0.0768	20.0	S35485				
Chloride	170961-1	20 mg/l	96.2	80.0-120	C16070	26Sep13 1613 by 07	26Sep13 1731 by 07		
	170961-1	20 mg/l	97.3	80.0-120	C16070	26Sep13 1613 by 07	26Sep13 1757 by 07		
	Relative Percent Difference:		1.20	10.0	C16070				
Sulfate	170961-1	20 mg/l	93.9	80.0-120	C16070	26Sep13 1613 by 07	26Sep13 1731 by 07		
	170961-1	20 mg/l	95.4	80.0-120	C16070	26Sep13 1613 by 07	26Sep13 1757 by 07		
	Relative Percent Difference:		1.51	10.0	C16070				

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	W45079-1	27Sep13 1642 by 285	29Sep13 1738 by 285	
Ammonia as N with Distillation	< 0.1 mg/l	0.1	0.1	W45052-1	26Sep13 1056 by 93	27Sep13 0845 by 302	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45064-1	27Sep13 0827 by 285	02Oct13 0943 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45081-1	28Sep13 1027 by 285	01Oct13 0831 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35485-1	27Sep13 1042 by 271	27Sep13 1714 by 305	
Chloride	< 0.2 mg/l	0.2	0.2	C16070-1	26Sep13 1613 by 07	26Sep13 1639 by 07	
Sulfate	< 0.2 mg/l	0.2	0.2	C16070-1	26Sep13 1613 by 07	26Sep13 1639 by 07	
Oil and Grease	< 2 mg/l	2	5	B8574-1	27Sep13 1043 by 295	27Sep13 1612 by 295	
Fecal Coliform	< 1 /100ml	1	1	M3986-1		26Sep13 1444 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS	Coli. F	NH3N, Total Phosphorus	
1	010	9/25/13-9/26/13 9:55am-9:55am		X	X			1	X			
2	010	9/26/13 9:55am	X		X			1		X		
1	010	9/25/13-9/26/13 9:55am-9:55am		X	X			1			X	
		Container Type							P	P	P	
		Preservative							NO	T	S	

AIC CONTROL NO: 170966
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2C
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	9/26/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9.26.13 14:00pm

Comments:

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

MATRIX

ANALYSES REQUESTED

AIC CONTROL NO: 170966
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2°C
Remarks

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL	NO OF BOTTLES	OG (2 / Week)	TDS,Cl,SO4 (2 / Week)
2	010	9/26/13 9:55am	X		X		1	X	
2	010	9/26/13 9:55am	X		X		1		X
		Container Type						P	P
		Preservative						S	NO

Field pH calibration on _____ @ _____
Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/26/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9-26-13 14:00pm

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 September 27, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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

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

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on September 27, 2013
Daily-Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171021-1	010 9/26/13 9:55am 9/27/13 9:55am	27-Sep-2013 0955	
171021-2	010 9/27/13 9:55am	27-Sep-2013 0955	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 171021-1
Sample Identification: 010 9/26/13 9:55am 9/27/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.2**	0.5	**mg/l**	D
SM 4500-NH3 B,G	Prep: 30-Sep-2013 0933 by 93	Analyzed: 01-Oct-2013 1252 by 93		Batch: W45085	Dil: 5
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 27-Sep-2013 1556 by 285	Analyzed: 02-Oct-2013 1052 by 285		Batch: W45064	
Total Suspended Solids		**13**	4	**mg/l**	
USGS 3765	Prep: 30-Sep-2013 1415 by 302	Analyzed: 01-Oct-2013 0959 by 302		Batch: W45094	
Phosphorus		**0.094**	0.02	**mg/l**	
EPA 200.7	Prep: 30-Sep-2013 0901 by 271	Analyzed: 01-Oct-2013 1230 by 305		Batch: S35491	
Nitrate as N		**9.4**	0.05	**mg/l**	
EPA 300.0	Prep: 27-Sep-2013 1627 by 07	Analyzed: 27-Sep-2013 2018 by 07		Batch: C16076	

AIC No. 171021-2
Sample Identification: 010 9/27/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**33**	1	**/100ml**	
SM 9222 D	Analyzed: 27-Sep-2013 1422 by 304		Batch: M3990	

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		170966-1	< 2 mg/l			27Sep13 0827 by 285	02Oct13 0946 by 285		
	Batch: W45064	Duplicate	< 2 mg/l	0.00	20.0	27Sep13 0827 by 285	02Oct13 0947 by 285		
Total Suspended Solids		170982-1	< 4 mg/l			30Sep13 1415 by 302	01Oct13 0959 by 302		
	Batch: W45094	Duplicate	< 4 mg/l	0.00	20.0	30Sep13 1415 by 302	01Oct13 0959 by 302		
Total Suspended Solids		170983-1	16 mg/l			30Sep13 1415 by 302	01Oct13 0959 by 302		
	Batch: W45094	Duplicate	16 mg/l	2.53	20.0	30Sep13 1415 by 302	01Oct13 0959 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	101	80.0-120			W45085	30Sep13 0934 by 93	01Oct13 1154 by 93		
Carbonaceous BOD 5-day	200 mg/l	105	84.5-115			W45064	27Sep13 0827 by 285	02Oct13 0944 by 285		
Phosphorus	5 mg/l	102	85.0-115			S35491	30Sep13 0901 by 271	01Oct13 1152 by 305		
Nitrate as N	4 mg/l	100	90.0-110			C16076	27Sep13 1628 by 07	27Sep13 1710 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171006-2	1 mg/l	107	80.0-120	W45085	30Sep13 0934 by 93	01Oct13 1158 by 93		
	171006-2	1 mg/l	108	80.0-120	W45085	30Sep13 0934 by 93	01Oct13 1159 by 93		
	Relative Percent Difference:		0.779	25.0	W45085				
Phosphorus	171022-2	5 mg/l	101	75.0-125	S35491	30Sep13 0901 by 271	01Oct13 1155 by 305		
	171022-2	5 mg/l	101	75.0-125	S35491	30Sep13 0901 by 271	01Oct13 1158 by 305		
	Relative Percent Difference:		0.179	20.0	S35491				
Nitrate as N	171021-1	4 mg/l	87.3	80.0-120	C16076	27Sep13 1628 by 07	27Sep13 1737 by 07		
	171021-1	4 mg/l	91.0	80.0-120	C16076	27Sep13 1628 by 07	27Sep13 1804 by 07		
	Relative Percent Difference:		3.32	10.0	C16076				

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	W45085-1	30Sep13 0934 by 93	01Oct13 1152 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45064-1	27Sep13 0827 by 285	02Oct13 0943 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45094-1	30Sep13 1415 by 302	01Oct13 0959 by 302	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35491-1	30Sep13 0901 by 271	01Oct13 1149 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16076-1	27Sep13 1628 by 07	27Sep13 1644 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3990-1		27Sep13 1422 by 295	

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: El Dorado Chemical Company

Project Reference: Daily - Permit AR0000752

Project Manager: Ms. Larken Pennington

Sampled By:

PO No.:

AIC CONTROL NO: 171021

AIC PROPOSAL NO:

Carrier: Gold Star

Received Temperature C: 2°C

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	9/26/13-9/27/13 9:55am-9:55am		X	X			1	X			
2	010	9/27/13 9:55am	X		X			1		X		
1	010	9/26/13-9/27/13 9:55am-9:55am		X	X			1			X	
		Container Type							P	P	P	
		Preservative							NO	T	S	

Field pH calibration on ______ @ ______

Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/27/13 1100 am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	9-27-13 1345

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 September 28, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

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 September 28, 2013
Daily-Permit AR0000752
P.O. No. 357042

Receipt Details:
A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with 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
171050-1	010 9-28-13 0950	28-Sep-2013 0950	
171050-2	010 9-28-13 0950	28-Sep-2013 0950	

Qualifiers:
D Result is from a secondary dilution factor

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 171050-1
Sample Identification: 010 9-28-13 0950

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**2.0**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 30-Sep-2013 1444 by 93	Analyzed: 01-Oct-2013 1217 by 93		Batch: W45085	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 28-Sep-2013 1305 by 285	Analyzed: 03-Oct-2013 0941 by 285		Batch: W45088	
Total Suspended Solids		**14**	4	**mg/l**	
USGS 3765	Prep: 01-Oct-2013 1113 by 285	Analyzed: 01-Oct-2013 1442 by 285		Batch: W45108	
Phosphorus		**0.096**	0.02	**mg/l**	
EPA 200.7	Prep: 30-Sep-2013 1135 by 271	Analyzed: 01-Oct-2013 1016 by 305		Batch: S35495	

AIC No. 171050-2
Sample Identification: 010 9-28-13 0950

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**690**	3	**/100ml**	D
SM 9222 D	Analyzed: 28-Sep-2013 1500 by 307		Batch: M3992	Dil: 3

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Carbonaceous BOD 5-day		171052-1	< 2 mg/l			28Sep13 1305 by 285	03Oct13 0931 by 285		
	Batch: W45088	Duplicate	< 2 mg/l	0.00	20.0	28Sep13 1305 by 285	03Oct13 0933 by 285		
Total Suspended Solids		171044-1	< 4 mg/l			01Oct13 1113 by 285	01Oct13 1442 by 285		
	Batch: W45108	Duplicate	< 4 mg/l	0.00	20.0	01Oct13 1114 by 285	01Oct13 1442 by 285		
Total Suspended Solids		171047-1	21 mg/l			01Oct13 1113 by 285	01Oct13 1442 by 285		
	Batch: W45108	Duplicate	20 mg/l	3.92	20.0	01Oct13 1114 by 285	01Oct13 1442 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			W45085	30Sep13 0934 by 93	01Oct13 1154 by 93		
Carbonaceous BOD 5-day	200 mg/l	105	84.5-115			W45088	28Sep13 1305 by 285	03Oct13 0930 by 285		
Phosphorus	5 mg/l	105	85.0-115			S35495	30Sep13 1135 by 271	01Oct13 0952 by 305		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171006-2	1 mg/l	107	80.0-120	W45085	30Sep13 0934 by 93	01Oct13 1158 by 93		
	171006-2	1 mg/l	108	80.0-120	W45085	30Sep13 0934 by 93	01Oct13 1159 by 93		
	Relative Percent Difference:		0.779	25.0	W45085				
Phosphorus	171048-1	5 mg/l	103	75.0-125	S35495	30Sep13 1135 by 271	01Oct13 0955 by 305		
	171048-1	5 mg/l	103	75.0-125	S35495	30Sep13 1135 by 271	01Oct13 0958 by 305		
	Relative Percent Difference:		0.344	20.0	S35495				

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	W45085-1	30Sep13 0934 by 93	01Oct13 1152 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45088-1	28Sep13 1305 by 285	03Oct13 0929 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45108-1	01Oct13 1114 by 285	01Oct13 1442 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35495-1	30Sep13 1135 by 271	01Oct13 0950 by 305	
Fecal Coliform	< 1 /100ml	1	1	M3992-1		28Sep13 1500 by 307	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

MATRIX

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	CBOD, TSS	Coli. F	NH3N, Total Phosphorus											
(1)	010	9-28-13 0850		X	X			1	X													
(2)	010	9-28-13 0950	X		X			1		X												
(1)	010	9-28-13 0950		X	X			1			X											
		Container Type							P	P	P											
		Preservative							NO	T	S											

ANALYSES REQUESTED

AIC CONTROL NO: 171050
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2
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
[signature]	9-28-13		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[signature]	9/28/13 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 September 29, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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

El Dorado Chemical Company
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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:
Two (2) water sample(s) received on September 29, 2013
Daily - Permit AR0000752
P.O. No. 357042

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

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

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
171049-1	010 9-29-13 950	29-Sep-2013 0950	
171049-2	010 9-29-13 950	29-Sep-2013 0950	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 171049-1
Sample Identification: 010 9-29-13 950

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.8**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 30-Sep-2013 1444 by 93	Analyzed: 01-Oct-2013 1215 by 93		Batch: W45085	
Carbonaceous BOD 5-day		**2.0**	2	**mg/l**	
SM 5210 B	Prep: 30-Sep-2013 1636 by 302	Analyzed: 05-Oct-2013 1803 by 302		Batch: W45097	
Total Suspended Solids		**14**	4	**mg/l**	
USGS 3765	Prep: 01-Oct-2013 1113 by 285	Analyzed: 01-Oct-2013 1442 by 285		Batch: W45108	
Phosphorus		**0.095**	0.02	**mg/l**	
EPA 200.7	Prep: 30-Sep-2013 1135 by 271	Analyzed: 01-Oct-2013 1014 by 305		Batch: S35495	
Nitrate as N		**8.5**	0.05	**mg/l**	
EPA 300.0	Prep: 30-Sep-2013 1552 by 07	Analyzed: 30-Sep-2013 1836 by 07		Batch: C16078	

AIC No. 171049-2
Sample Identification: 010 9-29-13 950

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**92**	1	**/100ml**	
SM 9222 D	Analyzed: 29-Sep-2013 1330 by 307		Batch: M3993	

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		171049-1	2.0 mg/l			30Sep13 1636 by 302	05Oct13 1803 by 302		
	Batch: W45097	Duplicate	2.1 mg/l	5.33	20.0	30Sep13 1636 by 302	05Oct13 1806 by 302		
Total Suspended Solids		171044-1	< 4 mg/l			01Oct13 1113 by 285	01Oct13 1442 by 285		
	Batch: W45108	Duplicate	< 4 mg/l	0.00	20.0	01Oct13 1114 by 285	01Oct13 1442 by 285		
Total Suspended Solids		171047-1	21 mg/l			01Oct13 1113 by 285	01Oct13 1442 by 285		
	Batch: W45108	Duplicate	20 mg/l	3.92	20.0	01Oct13 1114 by 285	01Oct13 1442 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			W45085	30Sep13 0934 by 93	01Oct13 1154 by 93		
Carbonaceous BOD 5-day	200 mg/l	109	84.5-115			W45097	30Sep13 1636 by 302	05Oct13 1801 by 302		
Phosphorus	5 mg/l	105	85.0-115			S35495	30Sep13 1135 by 271	01Oct13 0952 by 305		
Nitrate as N	4 mg/l	93.3	90.0-110			C16078	30Sep13 1553 by 07	30Sep13 1627 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171006-2	1 mg/l	107	80.0-120	W45085	30Sep13 0934 by 93	01Oct13 1158 by 93		
	171006-2	1 mg/l	108	80.0-120	W45085	30Sep13 0934 by 93	01Oct13 1159 by 93		
	Relative Percent Difference:		0.779	25.0	W45085				
Phosphorus	171048-1	5 mg/l	103	75.0-125	S35495	30Sep13 1135 by 271	01Oct13 0955 by 305		
	171048-1	5 mg/l	103	75.0-125	S35495	30Sep13 1135 by 271	01Oct13 0958 by 305		
	Relative Percent Difference:		0.344	20.0	S35495				
Nitrate as N	171080-1	4 mg/l	95.7	80.0-120	C16078	30Sep13 1553 by 07	30Sep13 1653 by 07		
	171080-1	4 mg/l	94.9	80.0-120	C16078	30Sep13 1553 by 07	30Sep13 1719 by 07		
	Relative Percent Difference:		0.892	10.0	C16078				

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	W45085-1	30Sep13 0934 by 93	01Oct13 1152 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45097-1	30Sep13 1636 by 302	05Oct13 1800 by 302	
Total Suspended Solids	< 4 mg/l	4	4	W45108-1	01Oct13 1114 by 285	01Oct13 1442 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35495-1	30Sep13 1135 by 271	01Oct13 0950 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16078-1	30Sep13 1553 by 07	30Sep13 1601 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3993-1		29Sep13 1330 by 307	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

AIC CONTROL NO: 17049
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	MATRIX WATER	MATRIX SOIL		NO OF BOTTLES	ANALYSES REQUESTED: CBOD, TSS,NO3N	Coli. F	NH3N, Total Phosphorus	Remarks
1	010	9.29.13 0950		X	X			1	X			
2	010	9.29.13 0850	X		X			1		X		
1	010	9.29.13 0950		X	X			1			X	
		Container Type							P	P	P	Field pH calibration
		Preservative							NO	T	S	on _____ @ _____ Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
	9.29.15		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			9/29/13 1240

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 September 30, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

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

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

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

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

SAMPLE INFORMATION

Project Description:
Two (2) water sample(s) received on September 30, 2013
Daily - Permit AR0000752
P.O. No. 357042

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

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
171073-1	010 9/29/13 9:55am - 9/30/13 9:55am	30-Sep-2013 0955	
171073-2	010 9/29/13 9:55am - 9/30/13 9:55am	30-Sep-2013 0955	

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

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

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

ANALYTICAL RESULTS

AIC No. 171073-1
Sample Identification: 010 9/29/13 9:55am - 9/30/13 9:55am

Analyte		Result	RL	Units	Qualifier
Ammonia as N with Distillation		**1.8**	0.1	**mg/l**	
SM 4500-NH3 B,G	Prep: 01-Oct-2013 0918 by 93	Analyzed: 01-Oct-2013 1737 by 93		Batch: W45104	
Carbonaceous BOD 5-day		**< 2**	2	**mg/l**	
SM 5210 B	Prep: 02-Oct-2013 0808 by 285	Analyzed: 07-Oct-2013 1124 by 285		Batch: W45114	
Total Suspended Solids		**12**	4	**mg/l**	
USGS 3765	Prep: 01-Oct-2013 1113 by 285	Analyzed: 01-Oct-2013 1442 by 285		Batch: W45108	
Phosphorus		**0.10**	0.02	**mg/l**	
EPA 200.7	Prep: 01-Oct-2013 1337 by 271	Analyzed: 02-Oct-2013 1543 by 305		Batch: S35503	
Nitrate as N		**9.1**	0.05	**mg/l**	
EPA 300.0	Prep: 30-Sep-2013 1552 by 07	Analyzed: 30-Sep-2013 2019 by 07		Batch: C16078	

AIC No. 171073-2
Sample Identification: 010 9/29/13 9:55am - 9/30/13 9:55am

Analyte	Result	RL	Units	Qualifier
Fecal Coliform	**19**	1	**/100ml**	
SM 9222 D	Analyzed: 30-Sep-2013 1502 by 295		Batch: M3994	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Suspended Solids		171044-1	< 4 mg/l			01Oct13 1113 by 285	01Oct13 1442 by 285		
	Batch: W45108	Duplicate	< 4 mg/l	0.00	20.0	01Oct13 1114 by 285	01Oct13 1442 by 285		
Total Suspended Solids		171047-1	21 mg/l			01Oct13 1113 by 285	01Oct13 1442 by 285		
	Batch: W45108	Duplicate	20 mg/l	3.92	20.0	01Oct13 1114 by 285	01Oct13 1442 by 285		
Carbonaceous BOD 5-day		171073-1	< 2 mg/l			02Oct13 0808 by 285	07Oct13 1124 by 285		
	Batch: W45114	Duplicate	< 2 mg/l	0.00	20.0	02Oct13 0808 by 285	07Oct13 1126 by 285		

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			W45104	01Oct13 0919 by 93	01Oct13 1727 by 93		
Carbonaceous BOD 5-day	200 mg/l	104	84.5-115			W45114	02Oct13 0808 by 285	07Oct13 1123 by 285		
Phosphorus	5 mg/l	102	85.0-115			S35503	01Oct13 1337 by 271	02Oct13 1517 by 305		
Nitrate as N	4 mg/l	93.3	90.0-110			C16078	30Sep13 1553 by 07	30Sep13 1627 by 07		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Ammonia as N with Distillation	171074-1	1 mg/l	99.5	80.0-120	W45104	01Oct13 0919 by 93	01Oct13 1730 by 93		
	171074-1	1 mg/l	99.2	80.0-120	W45104	01Oct13 0919 by 93	01Oct13 1732 by 93		
	Relative Percent Difference:		0.239	25.0	W45104				
Phosphorus	171073-1	5 mg/l	104	75.0-125	S35503	01Oct13 1337 by 271	02Oct13 1521 by 305		
	171073-1	5 mg/l	106	75.0-125	S35503	01Oct13 1337 by 271	02Oct13 1539 by 305		
	Relative Percent Difference:		1.62	20.0	S35503				
Nitrate as N	171080-1	4 mg/l	95.7	80.0-120	C16078	30Sep13 1553 by 07	30Sep13 1653 by 07		
	171080-1	4 mg/l	94.9	80.0-120	C16078	30Sep13 1553 by 07	30Sep13 1719 by 07		
	Relative Percent Difference:		0.892	10.0	C16078				

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	W45104-1	01Oct13 0919 by 93	01Oct13 1725 by 93	
Carbonaceous BOD 5-day	< 2 mg/l	2	2	W45114-1	02Oct13 0808 by 285	07Oct13 1122 by 285	
Total Suspended Solids	< 4 mg/l	4	4	W45108-1	01Oct13 1114 by 285	01Oct13 1442 by 285	
Phosphorus	< 0.02 mg/l	0.02	0.02	S35503-1	01Oct13 1337 by 271	02Oct13 1513 by 305	
Nitrate as N	< 0.05 mg/l	0.05	0.05	C16078-1	30Sep13 1553 by 07	30Sep13 1601 by 07	
Fecal Coliform	< 1 /100ml	1	1	M3994-1		30Sep13 1349 by 295	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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

PO No.

AIC CONTROL NO: 71073
AIC PROPOSAL NO:
Carrier: Gold Star
Received Temperature C: 2.1°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 Phosphorus	Remarks
1	010	9/29/13-9/30/13 9:15am-9:15am		X	X			1	X			
2	010	9/30/13 9:55am	X		X			1		X		
3	010	9/29/13-9/30/13 9:55am-9:55am		X	X			1			X	
		Container Type							P	P	P	Field pH calibration
		Preservative							NO	T	S	on _____ @ _____ Buffer:

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Larken Pennington	9/30/13 10:00am		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[illegible]	9-30-13 1330

Comments:

FORM 0060

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

El Dorado, AR 71730

FedEx Express

J13201306280326

Ship Date: 24OCT13
ActWgt: 5.0 LB
CAD: 5887030/INET3430

Delivery Address Bar Code

SHIP TO: (870) 863-1484 BILL SENDER
ADEQ - Water Division Enforcement
ADEQ - Water Division Enforcement
5301 NORTHSHORE DR

NORTH LITTLE ROCK, AR 72118

Ref #
Invoice #
PO #
Dept #

FRI - 25 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7969 9464 1938**

X2 LITA

72118
AR-US
LIT

51AG1/AB1B/1A9E

After printing this label:
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