

February 23, 2015

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

RE: NPDES Permit AR0000752 Discharge Monitoring Report for period ending January 31, 2015.

Enclosed you will find the Discharge Monitoring Reports ending January 31, 2015. The DMR's for Outfall 010-A were entered on the blank DMR forms provided by Amy Schluterman, ADEQ Water Enforcement.

If you have any questions regarding this report, please contact David Sartain at (870) 863-1400.

Sincerely,

**Edward L Pearson** 

**Environmental Technician** 

**Enclosures** 

### **NON-COMPLIANCE REPORT**

Facility Name:

**El Dorado Chemical Company** 

**Permit Number:** 

AR0000752

AFIN:

70-00040

Month / Year:

Jan-15

•		Å		
Type of Violation	Permit Limit	Date of Violation	Cause of Violation	Gorrective Action or Other Narrative
Outfall 006/Zinc Monthly Average (450 ug/L)	115.62 ug/L Monthly Average	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover.
Outfall 006 /Zinc Daily Max (450 ug/L)	231.99 ug/L Daily Max	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover.
Outfall 006 / Lead Monthly Average (34 ug/L)	3.8 ug/L Monthly Average	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover.
Outfall 006 / Lead Daily Max. (34 ug/L)	7.62 ug/L Daily Max.	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover.
Outfall 006 / TDS Monthly Average (520 mg/L)	291 mg/L Monthly Average	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover.
Outfall 006 / TDS Daily Max (520 mg/L)	436.5 mg/L Daily Max	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover.
Outfail 007 / Zinc Monthly Average (320 ug/L)	115.62 ug/L Monthly Average	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 007 in an effort to promote vegetative cover.
Outfall 007 / Zinc Daily Averag(320 ug/L)	231.99 ug/L Daily Max	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 007 in an effort to promote vegetative cover.
Outfall 007 / Lead Monthly Average (4 ug/L)	3.8 ug/L Monthly Average	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 007 in an effort to promote vegetative cover.
Outfall 007 / TDS Monthly Average (950 mg/L)	291 mg/L Monthly Average	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 007 in an effort to promote vegetative cover.
Outfall 007/TDS Daily Average(950 mg/L)	436.5 mg/L Daily Max	January 2,2015	Unknown	EDCC has land applied pelletized lime in the area of outfall 007 in an effort to promote vegetative cover.
AM WITH THE INFO THOSE INDIVIDUALS IN BELIEVE THE SUBMI AWARE THAT TH INFORMATION, INCL	ER PENALTY OF LAW THA RMATION SUBMITTED HER IMEDIATELY RESPONSIBI ITED INFORMATION IS TR ERE ARE SIGNIFICANT PE UDING THE POSSIBILITY ( C. 1319. (Penalties under th	REIN; AND BASED OI LE FOR OBTAINING ' LUE, ACCURATE AND ENALTIES FOR SUBN OF FINE AND IMPRIS	N MY INQUIRY OF THE INFORMATION, I O COMPLETE. I AM MITTING FALSE CONMENT. SEE 18	Shagwithm 2/19/15

and or maximum imprisonment of between 6 months and 5 years.)

Signature / Date

Bio-Analytical Laboratories (BAL) ADEQ#88-0630 Project X5634

#### **Bio-Analytical Laboratories' Executive Summary**

Permittee:

El Dorado Chemical Company

P.O. Box 231

El Dorado, AR 71731

Project #:

X5634

Outfall:

Outfall 006 (contaminated storm water)

Permit #:

AR0000752/ AFIN #70-00040

Contact:
Test Dates:

Mr. David Sartain

Test Dates.

January 3 - 5, 2015

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-1-Fail.
- 2. Report the NOEC for survival, Parameter TOM3D -75.0%.
- 3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D 10.02%.

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.

### TABLE OF CONTENTS

1.0 Introduction	4
2.0 Methods and Materials	4
2.1 Test Methods	4
2.2 Test Organisms	4
2.3 Dilution Water	5
2.4 Test Concentrations	5
2.5 Sample Collection	5
2.6 Sample Preparation	5
2.7 Monitoring of the Tests	5
2.8 Data Analysis	5
3.0 Results and Discussion	6
4.0 Conclusions	7
5.0 References	8
Appendices	
A- Chain-of-Custody Documents	9
B- Raw Data Sheets	11
C- Statistical Analyses	21
D- Quality Assurance Charts	24
E- Agency Forms	27
F- Report Quality Assurance Form	32

#### 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 acute tests were 100.0, 75.0, 56.0, 45.0, 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 January 2, 2015. Upon completion of collection, the sample was packed in ice and personally delivered to the laboratory. The temperature upon arrival was 0.7° 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  $25\pm1^{\circ}$  Celsius. The total residual chlorine level (SM4500-Cl D 1997) was measured with a Capital Controls<sup>R</sup> amperometric titrator and recorded if present. The total ammonia level was measured using a HACH<sup>R</sup> test strip. Dissolved oxygen (SM4500-O G 1997), pH (SM4500-H+B 1997) and conductivity (SM2510-B 1997) measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity (SM2320-B 1997) and hardness (SM2340-C 1997) levels were measured on the control and the highest effluent concentration.

#### 2.7 Monitoring of the Tests

The tests were run in a Precision<sup>R</sup> dual controlled illuminated incubator at a temperature of  $25\pm1^{\circ}$  Celsius. An AEMC<sup>R</sup> data logger was used to monitor diurnal temperature throughout the testing period. Light cycle and intensity were recorded twice a month.

#### 2.8 Data Analysis

The NOEC and LC<sub>50</sub> values values were obtained by approved EPA methods of analysis, using the ToxCalc statistical program.

#### 4.0 Conclusions

The sample of Outfall 006 collected from El Dorado Chemical Company, El Dorado, Arkansas, on January 2, 2015, was not found to be lethally toxic to the fathead minnow test organisms in the 100.0 percent critical dilution after 48 hours of exposure; however, significant lethal effects to the *Daphnia pulex* test organism were noted in the critical dilution (p=.05). The 48-hour LC<sub>50</sub> values could not be calculated because greater than 50.0 percent survival occurred in the effluent dilutions (p=.05).

## APPENDIX A CHAIN-OF-CUSTODY DOCUMENTS

APPENDIX B
RAW DATA SHEETS

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA Time/2/5 Test started: Date 1315 X5634 Time 1405 Project#\_ El Dorado Chemical Test ended: Test Species Ohour 615 24hour EGE 96bour 48hour & sample Description Technician: 72hour 24hour 04.0 48hour 1405 72hour 24hour 04.0 48hour 24.0 72hour 96hour. 96hour Conductivity Time: Obour 34.0 Temperature (°C): ъĦ Dissolved Oxygen # Live Organisms Test 96 72 Replicate 48 Test Dilution 96 galinity 72 48 24 96 72 48 24 96 0 48 72 24 D Dr 3/0  $\alpha l J$ 5 808.2 8 B 0 8 ğ 8 f 8 F R Chemistry Tech prerenewal/postrenewal

BIO-ANALYTICAL LABORATORIES ACUTE TOXICITY TEST SURVIVAL AND WATER QUALITY DATA Time 1215 Test started: Date 13/15 Time 1405 X5634 Project# Date Dorado Chemical Test ended: ID#15-M5 Ohour Elbo Test Species. 96hour 72hour Sample Description Technician: 24hour 04.0 48hour 4.0 72hour 24hour 72hour 72hour 72hour 96hour 72bour Ohour 1313 Ohour 140 96hour Conductivity Time: Temperature (°C): рĦ Dissolved Oxygen 1 Live Organisms 96 Test salinity Replicate 72 24 48 96 Test 72 48 24 72 96 Dilution 48 24 D 96 72 48 o br 24 709013 3/0 υlp 80 2 8 8 ۵ Pa 8 8 8 395 760 69 0.0 15 م 8 R prerenewal/postrenewal

										_			- C	**************************************	T 17 2 T	AN	1D W.	ATEI	R QT	IALI'	ľΥ	DATA
•	BIO-ANAI	YTICAI	LA	BORA	TOI	LES	AC	UTE	TO	KICI	TX.	TES	.T. D	. سين ا	13/1	<u> </u>		14 mak	25	9		
	1513º	4								Tes	5 L D	اللا الليفائر			<b>57</b> 4			ni me	141	5		
	1 000	rado	$\overline{C}$	he	m'	Ca	ىل			Tes	st ea	bebr	•				د مار	בייייייייייייייייייייייייייייייייייייי	122	W4		
Client		$\sim$	$\sim$ $\sim$	_		_			<b>R</b> C			eci:		6hou	12		حالك	Z. Jahren		<i>- 1</i>		
sample Des Pechnician	cription_ ::	Ohour lo	5	24bo 24bo	ur Z	030	48b	our_	प्रिष्ट	72 72 72 72	hour			Shou Shou	ır		<u> </u>			·		
lime: Lemperatur		Oponica	.0					OUT_	Ort.	olved	OXAGE	n			рH		٠		Co	monet	vity	
Test	Replicate	Test salinity		# Liv	e Org	aniaw	' :	<u> </u>				96	0	24	48	72	96	0	24	48	72	96
nilution			0 br	24	48	72	96	٥	24	48	72	L		L					f	203	<u>.                                    </u>	
%		Ha		1				8.5	1.1	00			7.3	Z	9.0	}		77.4	/178	200		
0	A		18	8	8			<b>)</b> , )	18.0	0.0	<u> </u>											
	R		18	8	8		<u> </u>				-				<del>                                     </del>							
			8	8	8										<b>}</b>		╂	-				
	<u>C'</u>		_	8	8										<u> </u>		<b></b>	<u> </u>				
	D_		8				-															
	E		8	8	8	<u> </u>						╂		<del>                                     </del>	1							
			·									↓	ļ	50	<del> </del>	-	╁┈;	1115	11	<b>310</b> D		
			0	8	8			13	7.6	8.0	×	-	7.1	7.0	7.1	<u> </u>	10	140	135	<u> </u>		
aa	<u>a</u>	<del>                                     </del>		┼ <del></del>	P			1	70.													
	B		8	3		-	<u> </u>	<b></b>				1	<b>†</b>		1		1	Ì				
			10	8	8				<u> </u>	↓	-		┼─	╂	<del>                                     </del>	+-	1	1				
			0	8	8					<u> </u>			<u> </u>			-	-	+	-	<del>                                     </del>		1
	_0_	<del> </del>	10	_	10	1		1											<u>  </u>	<del>                                     </del>		+
	E		8	10	10		-	-	<del>                                     </del>	+-	1	1					<u> </u>					
									7		-	+-	00	NO.	1	1		SCA	12	Ro.		
	prere	nemistry enewal/por	rech trene	wal				83°	M	3 RC	1	<u> </u>	KU	R	PK		1		1/50			

											_			C.	ィゼロマグ	<del>ሮ</del> ፕፖልፕ	. AN	no w	ATE	r Qt	LJAU	ZTY.	DAT
:	BIO-ANAI	YTTC	:AL:	LAB	ORA	TOE	RIES	AC	UTE	TO	KICI	J.Y.	TES	.T. 12.	ا میر	12/1	5	ŗ	rine	25	<u></u>		
roject#_	イスト	34						<del></del> .			Ter	st st	art	ea: 1	)ace_	IKI	-   <b>S</b>		rime	141	5		
lient	ELD	ora	00		<u>Ch</u>	en	טוכ	يجا			Te	st en	ided	֓֞֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	nace	~0VY	ela	عـد	ID	#/æ	1914	D	
amole Des			00	36		_C	_			B	.,,,,	דוותחם			6hou								
echnicia	n:	Ohour Ohour Ohour	1235	U. A	Ahou Ahou		10 10	48b	our c	74.	72 72	hour hour			6hou	<u>r</u>			T		miduat	ivity	<del></del>
emperatu	re (°C):	Test					ani.sw		<u> </u>	Diss	olved	Oxyge	<u> </u>			Eq			<u> </u>	24	48	72	96
rest pilution	REDIZOGO	salini	ity	T	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0			<u> </u>	
مان		Yr.				<u>~</u>			la l	5.23	1:1		-	7.0	6/	1:0		3	39	AK	35 <sup>7</sup>		
56	A			<u> </u>	8	8			10	63	1.1	<u>:</u>		<u>/.</u>	<u> </u>	1:5							<u> </u>
	12			3	8	8									,			-					
	C.			8 8	8	8			<u> </u>											-	<del> </del>		
				-	8	8														├	├	├─	+
	D_	-		~	8	8													<u> </u>	<del> </del>		├—	
	LE_			<b>X</b> +	9	٥																	<u> </u>
							<b> </b>		<u></u>	60/	17	-		9	7.0/	69	·	-	95	140	AUD		
75	n			8	8	8	ļ		8.1	8%	1.			<b>P</b>	7.0	1							
	R			8	8	8		<u></u>	<u> </u>	ļ				├		<del>                                     </del>	-	<del>                                     </del>	<b>†</b>				
				Q	8	8							1	-	-	╀	<u> </u>	╂──	<del> </del>	+		1	1
		1 1		<del></del>	8	8								<u> </u>		<u> </u>	<b> </b>	-	+-	<del> </del>	╁	+-	+
	D	╁╌┼		$\Delta \perp$	8	8	1							'				<u> </u>	<del> </del>	<u> </u>	<del> </del>	+-	+
	LE.	╀		8	0_	0	-	<del>                                     </del>	1													-	
		nemist	. y 16	on.	- 1	20136			90		10		ŀ	TD	10%	Ва			Est	THE.	BR		
	prere	mewal/	postr	enews	<b>1</b>				Tur-	JEU	<b>DK</b>	<u> </u>	<u> </u>	ــــــــــــــــــــــــــــــــــــــ	700								

APPENDIX C STATISTICAL ANALYSES

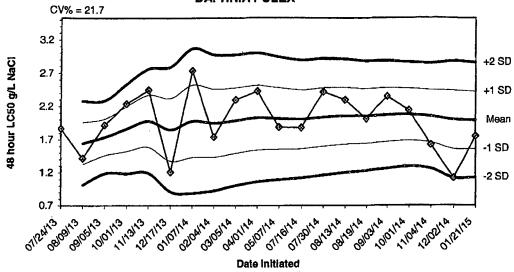
•			-	
ŧ	a	ge	23 of	33

				A	cute Fish	Test-48	ir Survival		Page 23 o
Start Date:	1/3/2015		Test ID:	X5634PP			Sample ID:	AR0000752	
End Date:	1/5/2015		Lab ID:	ADEQ880	630		Sample Type:	EFF2-Industrial	
Sample Date:	1/2/2015		Protocol:	EPAAW02	2-EPA/821	I/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	0.8750				
45	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				

				Tr	ansform:	Arcsin Sc	uare Roo	t	Rank	1-Tailed
	Conc-%	Mean	N-Mean	Mean	Min	Max	ÇV%	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	0.9750	0.9750	1.3564	1.2094	1.3931	6.055	5	25.00	16.00
	45	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 not	n-normal dis	stribution (	p <= 0.05)	)	0.38831	0.934	-4.1486	23.0852
Equality of variance cannot be co	onfirmed							
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	ΤU			****	
Steel's Many-One Rank Test	100	>100		1				
Treatments vs D-Control								

## 2015 48 HOUR ACUTE REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
07/24/13	1.8700					
08/09/13	1.4200	1.6450	1.3268	1.0086	1.9632	2.2814
09/05/13	1.9200	1.7367	1.4613	1.1859	2.0120	2.2874
10/01/13	2.2400	1.8625	1.5250	1.1875	2.2000	2.5375
11/13/13	2.4500	1.9800	1.5870	1.1940	2.3730	2.7660
12/17/13	1.2100	1.8517	1.3801	0.9085	2.3232	2.7948
01/07/14	2.7400	1.9786	1.4326	0.8867	2.5245	3.0704
02/04/14	1.7400	1.9488	1.4363	0.9239	2.4612	2.9736
03/05/14	2.3000	1.9878	1.4944	1.0009	2.4812	2.9746
04/01/14	2.4300	2.0320	1.5462	1.0605	2.5178	3.0035
05/07/14	1.8900	2.0191	1.5563	1.0934	2.4819	2.9447
07/16/14	1.8800	2.0075	1.5644	1.1213	2.4506	2.8937
07/30/14	2.4200	2.0392	1.5998	1.1604	2.4786	2.9180
08/13/14	2.3000	2.0579	1.6300	1.2021	2.4857	2.9136
08/19/14	2.0100	2.0547	1.6422	1.2297	2.4672	2.8797
09/03/14	2.3500	2.0731	1.6678	1.2625	2.4784	2.8837
10/01/14	2.1400	2.0771	1.6843	1.2915	2.4698	2.8626
11/04/14	1.6200	2.0517	1.6557	1.2597	2.4476	2.8436
12/02/14	1.1200	2.0026	1.5624	1.1223	2.4428	2.8830
01/21/15	1.7500	1.9900	1.5578	1.1257	2.4222	2.8543

APPENDIX E AGENCY FORMS

# Biomonitoring Daphnia pulex 48 hour Acute Static Renewal Chemical Parameters Chart\*

Permittee: El Dorado Chemical - Outfall 006 NPDES Number: AR0000752/ AFIN 70-00040

Contact: David Sartain Analyst: Briggs, Callahan

Sample Collected

From: To: Date 1/1/15 Date 1/2/15 Time 1000 Time 0800

Test Begin Test End Date 1/3/15 Date 1/5/15 Time 1215

Time 1215

Parameter		D.O.			Temperatur	е		Alkalinity			Hardness			рĤ	ļ.
Dilut/Time	Ohrs.	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs
0	8.5	8.0	8.2	24.0	24.0	24.0	28.0			40.0			7.3	7.4	7.5
22.0	8.3	8.2	8.2	24.0	24.0	24.0							7.1	7.1	7.3
32.0	8.3	8.3	8.1	24.0	24.0	24.0							7.1	7.2	7.3
45.0	8.3	8.4	8.1	24.0	24.0	24.0							7.0	7.0	7.2
56.0	8.2	8.3	8.0	24.0	24.0	24.0							7.0	7.0	7.2
75.0	8.1	8.3	8.0	24.0	24.0	24.0							6.9	7.0	7.1
100.0	7.9	8.0	8.0	24.0	24.0	24.0	28.0			92.0			6.8	6.8	7.0

<sup>\*</sup>This Form is to be submitted with each DMR.

Alkalinity and hardness to be reported as mg/l CaCO3

#### Biomonitoring Pimephales promelas 48 hour Acute Static Renewal Chemical Parameters Chart\*

Permittee: El Dorado Chemical - Outfall 006 NPDES Number: AR0000752/ AFIN 70-00040

**Contact: David Sartain** Analyst: Briggs, Callahan

Sample Collected

From:

Date 1/1/15

Time 1000

Test Begin Test End

To:

Time 0800 Date 1/2/15 Date 1/3/15 Time 1250

Date 1/5/15

Time 1415

							2/0/10	THIC LAN	-						
Parameter		D.O.			Temperatu	re		Alkalinity			Hardness			pН	
Dilut./Time	Ohrs.	24hrs	48hrs	0hrs	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs
0	8.5	8.0	8.0	24.0	24.0	24.3	28.0			40.0			7.3	7.4	7.0
22.0	8.3	8.2	8.0	24.0	24.0	24.3							7.1	7.1	7.1
32.0	8.3	8.3	7.8	24.0	24.0	24.3							7.1	7.2	7.0
45.0	8.3	8.4	7.8	24.0	24.0	24.3							7.0	7.0	7.0
56.0	8.2	8.3	7.7	24.0	24.0	24.3							7.0	7.0	7.0
75.0	8.1	8.3	7.7	24.0	24.0	24.3							6.9	7.0	6.9
100.0	7.9	8.0	7.7	24.0	24.0	24.3	28.0			92.0			6.8	6.8	6.9

<sup>\*</sup>This Form is to be submitted with each DMR.

Alkalinity and hardness to be reported as mg/l CaCO<sub>3</sub>



### **Bio-Analytical Laboratories**

3240 Spurgin Road Post Office Box 527 Doyline, LA 71023

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

#### REPORT QUALITY ASSURANCE FORM

Client: El Dorado Chemical
Project#: X5634
Chain of Custody Documents Checked by: E6B 2 10 15  Technician/Date
Raw Data Documents Checked by: E66/2/8/15 Technician/Date
Statistical Analysis Package Checked by: \(\frac{50\beta/3/\delta/15}{\text{Quality Manager/Date}}\)
Quality Control Data Checked by: EGG 2/3/15  Quality Manager/Date
Report Checked by: CGD 2 4 15  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.

Quality Manager

Date

No part of this work may be altered in any form or by any means without written permission from Bio-Analytical Laboratories.

Report Rev. 3.0

Bio-Analytical Laboratories (BAL)
ADEQ#88-0630
Project X5635

#### **Bio-Analytical Laboratories' Executive Summary**

Permittee:

El Dorado Chemical Company

P.O. Box 231

El Dorado, AR 71731

Project #:

X5635

Outfall:

Outfall 007 (contaminated storm water)

Permit #:

AR0000752/ AFIN #70-00040

Contact:

Mr. David Sartain

Test Dates:

January 3 - 5, 2015

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%.
- 3. Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM6C 0.00%.

#### For Daphnia pulex:

- 1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D- 1-Fail
- 2. Report the NOEC for survival, Parameter TOM3D -45.0%.
- 3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D 7.47%.
- -Note: Increasing the pH from 5.0 to a range of 6.0-9.0, significantly increased the survival in the *Daphnia pulex* test.

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.

#### TABLE OF CONTENTS

TABLE OF CONTROL	
1.0 Introduction	4
2.0 Methods and Materials	4
2.1 Test Methods	4
2.2 Test Organisms	4
2.3 Dilution Water	5
2.4 Test Concentrations	5
2.5 Sample Collection	5
2.6 Sample Preparation	5
2.7 Monitoring of the Tests	5
2.8 Data Analysis	5
3.0 Results and Discussion	6
4.0 Conclusions	7
5.0 References	8
Appendices	
A- Chain-of-Custody Documents	9
B- Raw Data Sheets	11
C- Statistical Analyses	21
D- Quality Assurance Charts	24
E- Agency Forms	27
F- Report Quality Assurance Form	32

#### 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, 45.0, 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 January 2, 2015. Upon completion of collection, the sample was packed in ice and delivered to the laboratory by BAL personnel. The temperature upon arrival was 0.9° 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  $25\pm1^{\circ}$  Celsius. The total residual chlorine level (SM4500-Cl D 1997) was measured with a Capital Controls<sup>R</sup> amperometric titrator and recorded if present. The total ammonia level was measured using a HACH<sup>R</sup> test strip. An aliquot of the sample was adjusted from an initial pH of 4.3 to a pH range of 6.0-9.0. An extra 100.0 percent dilution was added to each test in order to document any lethality due to low pH. Dissolved oxygen (SM4500-O G 1997), pH (SM4500-H+ B 1997) and conductivity (SM2510-B 1997) measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity (SM2320-B 1997) and hardness (SM2340-C 1997) levels were measured on the control and the highest effluent concentration.

#### 2.7 Monitoring of the Tests

The tests were run in a Precision<sup>R</sup> dual controlled illuminated incubator at a temperature of  $25\pm1^{\circ}$  Celsius. An AEMC<sup>R</sup> data logger was used to monitor diurnal temperature throughout the testing period. Light cycle and intensity were recorded twice a month.

#### 2.8 Data Analysis

The NOEC and LC<sub>50</sub> values values were obtained by approved EPA methods of analysis, using the ToxCalc statistical program.

#### 4.0 Conclusions

The sample of Outfall 007 collected from El Dorado Chemical Company, El Dorado, Arkansas, on January 2, 2015, was not found to be lethally toxic to the fathead minnow test organisms in the 100.0 percent critical dilution after 48 hours of exposure (p=.05). The sample was found to be lethally toxic to the *Daphnia pulex* test organisms at the 100.0 percent critical dilution (p=.05). Increasing the pH significantly reduced the lethal effect in the *Daphnia pulex* test.

APPENDIX A
CHAIN-OF-CUSTODY DOCUMENTS

APPENDIX B
RAW DATA SHEETS

										•			·	~*C>T	ተፕፖልፐ	. AN	D W	ATE:	r Qī	JALI	ΤΎ	DATA
	BIO-ANAI	YTICZ	AL LA	BOR	IOTA	RIES	AC	UTE	TO	XICI	TY	TES	ב יני:	) (	Ble	5 <b>-</b>	 1	ime	1215	5		
	XE	635					_			Ter	36 50	ما سيدار			Y5/15		. 7	dme	1340	<u>}</u>		
Project#		adc	_	he	று	cal	ب				et ea		i?		لعاه				15.	·ME	<b>;</b>	
client	<u></u>		00	7	-9	0,		our_	RC.	72	st Si hour	·	9	6hou	T							
rechnicia	n:	Ohour	lox I	24bc	UT !	ज्यंड	481 48b	our	341	) 72 _ 72	hour hour		9	6hou	r	 ====				monat	ivity	
rime: remperatu	re (°C):	Ohour c	7			anism			Disa	olved	Oxryge	n			рĦ		ن د				72	96
rest pilution	Replicate	Test Salinit		124	48	72	96	0	24	48	72	96	0	24	<b>&amp;</b> B	72	96	0	24	48		
2/0		פע	0 br	24		<u> </u>			00/			<del> -</del>		7.9			1-	168	12	245		
0	A		8	8	8			8.4	85	8.4	<u> </u>	-	1.2	13	7.4							
			8	8	8						<u> </u>	ļ	<u> </u>					-	<del>                                     </del>			
	1 B		10	8	8														<u> </u>			-
	C		8		1	-	-	<del> </del>											<u> </u>	<b></b>		
	D_		8	8	8	-	-	-	-		-	1										
	E		8	8	8			ļ		↓	<del> </del>	-		-					1			
												<b>_</b>	-				-	720	63°	279		
<u> </u>	ļ	-	10	, 8	8			83	8/	18:4			6.7	269	7.3		<u> </u>	33	33	131	-	+
32	LA_		- K		1	1										<u> </u>		-		-	-	-
	B			10	19			-	T	1		1									_	<del></del>
	C.		_ 8	_4_0_	5	4	<del> </del>	-	╁	1-	1	_	1						1	<u> </u>		
	0		8	8	4		<del> </del>	_		<del> </del>	+	<del></del>	+	+-	+-	1						
			8	×8	8						-		<del> </del>	-	+	+	+	+	1			
<b></b>	<del>                                     </del>	╂╼┼													-	-	-		好	1		
	brer	mewal/I	y Tech	ewal		areas trace of the same		66°	AI AI	alko		<u> </u>	arc.	The A	BRC		<u> </u>	\$00	10	ARC	<u></u>	
<b>T</b>																						

											÷		mwc	יותי כי	TRT	TVAI	AN	D W	ATE	a Qu	JALI	ΥT	DATA
:	BIO-ANAI	YTIC	CAL	LAI	3ORF	TOE	RIES	AC	UTE	TO	XIC1	.T. X	T.C.D	. T T	oate.	1/3/	15	ני	ime	215	<u>;</u>		
roject#	XE	~35	5					<del>_</del> ,			Tes	et st	- داند د	5U. A	Date.		_		rime /	1340	_		
client	ELI	)or	oc	0	<u>C</u>	ne	M	CC	Ų				nded peci	1	0				ID4	15-1	45		
zamole Des	acription_	Ohour	0	97	24ha	ur E	13	 _48b	our_	PC	Tes 72.	hour		9	6hou	r							
rechniciar	<b>a:</b>	Ohour	- [a ] ·	5	24ho	ur 0	40	48b 48b	our_	8C 34 34.0	72	hour		9	6hou	r de				Cc	mouet	ivity	
emperatu	re (°C):	Test			# Liv	e Oxy	ബാ.ടത	;		Diss	olved	OKÄÄE	n			_		96	o	24	48	72	96
rest Dilution	Reguestor	Salin	Ĩ	0	.24	48	72	96	0	24	48	72	96	0	24	48	72	96	_			·	
0/0		24	إ	hr		<b> </b>	-			792	8:3			p.4	63/	7:1		ر	30	490	,454		
56	A			8	8	7			<u> </u>	83	0.0	<u></u>	-		200								
	R	1		8	8	3							-		ļ. ——								
	<i>C</i> ,			8	8	5																	
				8	8	5																	
	D_			0	8	-													<u> </u>				
	E			<u>X</u>	0	6	-		_	_										. ac			
						ļ	<del> </del>			7.9	8.2			0.1	69	6.9	ŀ	1	\$19	150	541		
76	A			8	8	6			8.1	<b>18</b> 3	8.0		-		70	6.							
	R			8	8	5		<u></u>	ļ	<del> </del>	ļ	<u> </u>	<del> </del>	├	-	-							
				Q	8	6					ļ		1_	ļ	-	-	<del>├</del>	-	-	-	<del>                                     </del>		
	C	╂╼╌┼		8.	<del></del>	5						<u> </u>	J				<b>_</b>		┼	<del> </del>	<del> </del>	<del> </del>	+
	0			_		5				1									<u> </u>	<u> </u>	<del>                                     </del>		
	E			8	0	12	+-	-	-	_	<del>                                     </del>	<del>                                     </del>		1									
		Henils'		ACH.		-	The state of the s			JEAR	1		1	SP	815	10			ECP	12	ez_		
	mere	newal/	/post	renev	val				KAX	1/81	3KC	1	<u> </u>		1/0	PKC	1	<u> </u>		<u> </u>	كسيدو		

														C	****************	T Z T	. AN	D W.	ATE	r Qt	JALI	TY :	DATA
;	BIO-ANAI	YTIC	CAL	LAI	3ORF	TOE	CIES	AC	UTE	TO	KICI	TTY	TES	ed: I	ا محول	1/3/1	3	 11	ime	<u> </u>	>		
	X5	638	Ó								Ter	it st	ما علی			11.1.	_			11121			
roject#	21 1	rai	90	$\mathbb{C}$	he	m	Ca	لج			Tes	st er	ıded	:	) A	1121.	<b>)</b> ~ 0	ء ما	ברד.	1/29	1614	٥	
lient			\A-	7		0				gav b(	Tes	it St	peci	e <b>s1</b> 9	60du	r_			·		/		
ample Des echnician	ecription_ :	Ohour Ohour	21	20	24ho	ur.C	210	48b	our	\$30	- 72 - 72	hour		9 9	6hou	r r		·					
• • · · · · · · · · · · · · · · · · · ·	re (°C):	Ohour	94	6	24ho	क्रप्	40	48h	our	Disso	/4.	Oxyge	n.			рĦ		·		Co	nducti	vity	
Test	Replicate	Test Salin	ity		# FJA	e Org	anism	³ .	<u></u>				96	0	24	够比	72	96	o	24	48	72	96
nilution				0 2	24	48	72	96	0	24	<b>4</b> 8	72	96			PC				77/2			
2/0		4			_				511	30/ 55	00	731		7.2	13	11-	1.2	17	82	11	204		
(	A_			8	8	8			D.T	85	8.0	·*		-	<u> </u>								
	12			8	8	8									,								
				8	8	B		İ								<b></b>							
	<u>C</u>			-		<del></del>												<u> </u>					
	0_			8	8	8	<b> </b> -						-										
	E			8	6	8		<u> </u>	<u> </u>	<u> </u>		<b> </b>											
															4	ļ				319			
				-		0	+		2.3	173	79			6.7	67	7.c		5	13×	319 533	359		<b></b>
32	l a			LK	8	8			10,2	18.2	11.1	-											<b></b>
	R	1		8	8	8			<del> </del>	-			-	┼──		1							
			***************************************	0	8	8				1			1	<b>_</b>	<b> </b>	<b> </b>	<del>                                     </del>	┼	┼	<del> </del>	1		1
	<u> </u>	-		0	1	8	1												<b></b>	<del> </del>	<del> </del>	-	
	0			1-0-	8		+	┼	+-	+	<u> </u>	1								ļ			<u> </u>
				8	8	8		<del> </del>	-	<del> </del>	-	├	+-	<del> </del>	<del>                                     </del>	1	1	1					
		1 1								-					briz.	+	1		CKO	EB			
		newal.	/post	ech	val				<b>23</b> 6	野之	Ipr			E P	A	RC		<u></u>	4cm	1/80	DKC	<u> </u>	<u></u>
A .	prere	والمرتبع الاجتبالية	, _, _, _, .							1/00	777	1			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								•

											÷			רוז כיז	<del>7</del> 037	rtat.	, AN	D W	ATE	r Qt	Jali	ΤΥ	DATA
	BIO-ANAI	TTY.	CAL	LAI	30R.F	/TOI	CIES	AC	UTE	TOI	KICI	J.T.X.	TES	T. D.	) 	/3/	<b>5</b>	'n	ine	32	<u></u>		
	XS	6ろ	$\mathcal{D}$								Ter	36 81	٠٠٠ منطام		1	Tel.	_	٠		142	8		
Project#	FIT	Di	20	0	C	rev	$\Omega \mathcal{C}$	<u>i</u>					rded:		Date.	$\frac{1-\mu_1}{\sqrt{1/4}}$	<u>-</u>	عمام	בייייי	, las	lott	P	
Client				00	77		0			RC	7.9	ጉጣማ	peci	9	<b>epon</b>	<u>r'</u>			. حد ـ د		-		
Technicia		Ohora		0	24ho 24ho	ur <u>C</u>	110	481	our our	133	72	hour		9 9	Shou Shou	x r		· .					
Time: Temperatu	re (°C):	Opon	24		24ho				our_c	Disso	lved	OxAda	n			Æ		•		Cc	widuot		
Test nilution	Replicate	Tes Sali:	it nity						I o	24	48	72	96	0	24	48	72	96	D	24	48	72 ·	96
9/0		N		0 hr	24	48	72	96		34				<del></del>	104	1.0		71	30	159	460		
			<u> </u>	0	8	8			83	83	1.8	<u>.                                    </u>		24	64	6.8		1		7170	He		
56	<u> </u>	-		0	8	0																	
	1 B			10_		18									•								
	C.			8	8	8		<u> </u>	ļ			-										<u> </u>	
	0			8	8	8						-					-	1	1.				
<b></b>	<del> </del>	1		0	8	8										<b> </b>					-	<b></b>	
	LE	-	-	1-4-	-													ļ	ļ	210	(11)		
			-			-	-	-	41	1/3	18		G			161	ŀ	5	19	<b>160</b>	544		-
75	1 9		<u> </u>	18	8	18	<b>-</b>		8.1	<b>∕</b> 62	1.0	-	╁╌	-	79.	1				<u> </u>			
	R			8	8	8		-		ļ	-		┼			-							
				Q	8	8	Ì			<u> </u>			<del> </del>					+	十一	1			·
<b></b>	L-C	╂	├─	0	6	1-7										<u> </u>	<del> </del>	<del> </del>	-		-	+	-
	<u> </u>	-	-	1-0-	8	8	+-	+	1		1								<u> </u>	<u> </u>	<u> </u>	-	-
	E		<u> </u>	18	10	18	-	+	-	<del> </del>	1	<del> </del>	1								-		
		<u> </u>					38112 FEB 0001			kin	1			160	ES	10-			SP3	段。	Apr		
	prer	newal	L/pos	recue	wal				F682	120	RC	1	<u> </u>	PU	A	<b>PRC</b>	<u> </u>		<u> </u>	الاس برا			

APPENDIX C STATISTICAL ANALYSES

										X5635 — Page 23 of 3
				A	cute Fish	Test-48	Hr Survi	val		Page 23 01 3
Start Date:	1/3/2015		Test ID:	X5635PP			Sample	ID:	AR0000752	
End Date:	1/5/2015		Lab ID:	ADEQ880	630		Sample	Туре:	EFF2-Industrial	
Sample Date:	1/2/2015		Protocol:	EPAAW0	2-EPA/821	I/R-02-01	Test Spe	ecies:	PP-Pimephales promelas	
Comments:										
Conc-%	1	2	3	4	5					
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000					
32	1.0000	1.0000	1.0000	0.7500	1.0000					
45	1.0000	1.0000	1.0000	1.0000	1.0000					
50	1.0000	0.8750	1.0000	1.0000	1.0000					
56	1.0000	1.0000	1.0000	1.0000	1.0000					
75	1.0000	1.0000	1.0000	0.8750	1.0000					
100	1.0000	1.0000	1.0000	1.0000	1.0000					
100.0 PH	1.0000	1.0000	1.0000	1.0000	1.0000					
			Tı	ransform:	Arcsin Sc	uare Ro		Rank	1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	
D-Control	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5			
32	0.9500	0.9500	1.3239	1.0472	1.3931	11.684	5	25.00	16.00	
45	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00	
50	0.9750	0.9750	1.3564	1.2094	1.3931	6.055	5	25.00	16.00	
56	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00	
75	0.9750	0.9750	1.3564	1.2094	1.3931	6.055	5	25.00	16.00	
100	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00	
100.0 PH	1.0000	1.0000	1.3931	1.3931	1.3931	0.000	5	27.50	16.00	

Statistic

0.60588

Critical

0.94

Skew

-2.9299

Kurt

10.767

Equality of variance cannot be confirmed

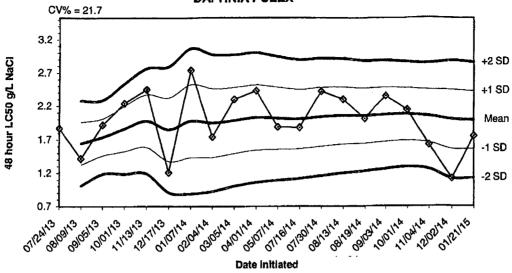
Hypothesis Test (1-tall, 0.05)

Steel's Many-One Rank Test indicates no significant differences

Auxillary Tests
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)

Treatments vs D-Control

## 2015 48 HOUR ACUTE REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
07/24/13	1.8700					-
08/09/13	1.4200	1.6450	1.3268	1.0086	1.9632	2.2814
09/05/13	1.9200	1.7367	1.46.13	1.1859	2.0120	2.2874
10/01/13	2.2400	1.8625	1.5250	1.1875	2.2000	2.5375
11/13/13	2.4500	1.9800	1.5870	1.1940	2.3730	2.7660
12/17/13	1.2100	1.8517	1.3801	0.9085	2.3232	2.7948
01/07/14	2.7400	1.9786	1.4326	0.8867	2.5245	3.0704
02/04/14	1.7400	1.9488	1.4363	0.9239	2.4612	2.9736
03/05/14	2.3000	1.9878	1.4944	1.0009	2.4812	2.9746
04/01/14	2.4300	2.0320	1.5462	1.0605	2.5178	3.0035
05/07/14	1.8900	2.0191	1.5563	1.0934	2.4819	2.9447
07/16/14	1.8800	2.0075	1.5644	1.1213	2.4506	2.8937
07/30/14	2.4200	2.0392	1.5998	1.1604	2.4786	2.9180
08/13/14	2.3000	2.0579	1.6300	1.2021	2.4857	2.9136
08/19/14	2.0100	2.0547	1.6422	1.2297	2.4672	2.8797
09/03/14	2.3500	2.0731	1.6678	1.2625	2.4784	2.8837
10/01/14	2.1400	2.0771	1.6843	1.2915	2.4698	2.8626
11/04/14	1.6200	2.0517	1.6557	1.2597	2.4476	2.8436
12/02/14	1.1200	2.0026	1.5624	1.1223	2.4428	2.8830
01/21/15	1.7500	1.9900	1.5578	1,1257	2.4222	2.8543

APPENDIX E
AGENCY FORMS

#### Biomonitoring Daphnia pulex 48 hour Acute Static Renewal Chemical Parameters Chart\*

Permittee: El Dorado Chemical - Outfall 007 NPDES Number: AR0000752/ AFIN 70-00040

Contact: David Sartain Analyst: Briggs, Callahan

Sample Collected

From: To:

Date 1/1/15

Time 1015 Date 1/2/15 Time 0815

Test Begin

Date 1/3/15

Time 1215 Time 1340

Test End

Date 1/5/15

Parameter		D.O.			Temperatu	те		Alkalinity	,		Hardness			рН	
Dilut./Time	Ohrs.	24hrs	48hrs	0hrs	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs
0	8.4	8.5	8.4	24.0	24.0	24.0	28.0			40.0			7.2	7.3	7.4
32.0	8.3	8.3	8.4	24.0	24.0	24.0							6.7	6.9	7.3
45.0	8.3	8.4	8.3	24.0	24.0	24.0							6.6	6.7	7.2
50.0	8.2	8.3	8.3	24.0	24.0	24.0							6.5	6.6	7.2
56.0	8.2	8.3	8.2	24.0	24.0	24.0							6.4	6.4	7.1
75.0	8.1	8.3	8.2	24.0	24.0	24.0							6.1	6.0	6.9
100.0	7.9	8.0	8.2	24.0	24.0	24.0	12.0			188.0		1	5.0	5.0	6.8
100.0 pH	8.1	8.0	8.2	24.0	24.0	24.0							6.7	7.0	6.8

<sup>\*</sup>This Form is to be submitted with each DMR.

Alkalinity and hardness to be reported as mg/l CaCO3

#### Biomonitoring Pimephales promelas 48 hour Acute Static Renewal Chemical Parameters Chart\*

Permittee: El Dorado Chemical - Outfall 007 NPDES Number: AR0000752/ AFIN 70-00040

**Contact: David Sartain** Analyst: Briggs, Callahan

Sample Collected

From: To:

Date 1/1/15 Date 1/2/15

Time 1015 Time 0815

Test Begin

Data 1/3/15

Test End

Date 1/3/15	Time 1320
Date 1/5/15	Time 1430

		ICILE	<u> </u>			Date.	U3/13	1 title 145	V						
Parameter		D.O.			remperatu	re		Alkalinity			Hardnes	s		pН	ing the state of t
Dilut/Time	Ohrs.	24hrs	48hrs	0hrs	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs	Ohrs	24hrs	48hrs
0	8.4	8.5	8.0	24.0	24.0	24.2	28.0			40.0			7.2	7.3	7.2
32.0	8.3	8.3	7.9	24.0	24.0	24.2							6.7	6.9	7.0
45.0	8.3	8.4	7.8	24.0	24.0	24.2							6.6	6.7	6.9
50.0	8.2	8.3	7.8	24.0	24.0	24.2							6.5	6.6	6.9
56.0	8.2	8.3	7.8	24.0	24.0	24.2							6.4	6.4	6.8
75.0	8.1	8.3	7.8	24.0	24.0	24.2							6.1	6.0	6.7
100.0	7.9	8.0	7.7	24.0	24.0	24.2	12.0			188.0			5.0	5.0	6.3
100.0 pH	8.1	8.0	7.7	24.0	24.0	24.2							6.7	7.0	6.6

<sup>\*</sup>This Form is to be submitted with each DMR.

Alkalinity and hardness to be reported as mg/l CaCO<sub>3</sub>



### **Bio-Analytical Laboratories**

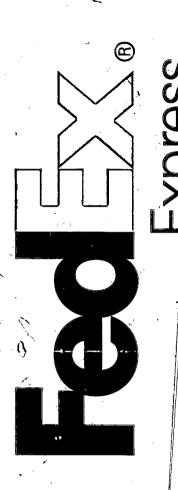
3240 Spurgin Road Post Office Box 527 Doyline, LA 71023 (318) 745-2772 1-800-259-1246 Fax: (318) 745-2773

### REPORT QUALITY ASSURANCE FORM

Client: El Dorado Chemical
Project#: X5635
Chain of Custody Documents Checked by: 800 2-6-15  Technician/Date
Raw Data Documents Checked by: EGB 3-3-15  Technician/Date
Statistical Analysis Package Checked by: $2-2-15$ Quality Manager/Date
Quality Control Data Checked by: 60 2-2-15  Quality Manager/Date
Report Checked by: EGO 2-6-15  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.
Cuality Manager  Date  2-6-15  Date

No part of this work may be altered in any form or by any means without written permission from Bio-Analytical Laboratories.

Report Rev. 3.0



## Extremely Urgent

Page 1 of 2

From: (870) 863-1400 O Eddie Pearson ELDORADO CHEMICAL COMPANY 4500 NORTH WEST AVE

ELDORADO, AR 71730

J151215020303 BILL SENDER

SHIP TO: (870) 863-1484
Water Enforcement Branch
ADEQ
5301 NORTHSHORE DR

NORTH LITTLE ROCK, AR 72118





TRK# 7729 6655 7157

TUE - 24 FEB 10:30A PRIORITY OVERNIGHT

X2 LITA

72118 AR-US LIT



1 10:30 7157 02:26