

February 20, 2014

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

Withon

RE: NPDES Permit AR0000752 Discharge Monitoring Report for period ending January 31, 2014.

Enclosed you will find the Discharge Monitoring Reports ending January 31, 2014. The DMR's for Outfall 010-A were entered on the blank DMR forms provided by Amy Schluterman, ADEQ Water Enforcement.

If you have any questions regarding this report, please contact Larken Pennington at (870) 863-1125.

Sincerely,

Greg Withrow
General Manager

Enclosures

NON-COMPLIANCE REPORT

Facility Name:

El Dorado Chemical Company

Permit Number

AR0000752

AFIN:

70-00040

Month / Year:

Jan-14

| Type of Violation | Permit Limit | Date of Violation | Cause of Violation | Corrective Action or Other Narrative |
|---|---|---|--|--|
| Outfall 010 / Zinc Monthly Average Loading (20.9 lb/day) | 7.35 lb/day Monthly Average | 1/8/14, 1/15/14 | Unknown | Special sampling has taken place, and EDCC continues to monitor and evaluate potential sources of the Zinc excursions. We believe the potential source is a new construction area near the sampling point. More investigation of the issue is taking place. |
| Outfell 010 / Zinc Daily Max Loading (22.2 lb/day) | 14.75 lb/day Daily Max | 1/8/14, 1/15/14 | Unknown | Special sampling has taken place, and EDCC continues to monitor and evaluate potential sources of the Zinc excursions. We believe the potential source is a new construction area near the sampling point. More investigation of the issue is taking place. |
| Outfall 003 / NH3-N Monthly Average Loading (2.4 lb/day) | 1.4 fb/day Monthly Average | 1/15/14, 1/23/14, 1/27/14, 1/28/14 | Routine bacteria charged did not reach the system. | Bacteria normally added in to two main point sources could not flow to the main system due to collapsed lines. After determining the Ammonia results had increased, the investigation determined the bacterial would be added downstream of the collapsed lines. The lines were repaired. |
| Outfall 003 / NH3-N Daily Max Loading (3.1 lb/day) | 2.1 ib/day Daily Max | 1/23/14, 1/27/14, 1/28/14 | Routine bacteria charged did not reach the system. | Bacteria normally added in to two main point sources could not flow to the main system due to collapsed lines. After determining the Ammoria results had increased, the investigation determined the bacterial would be added downstream of the collapsed lines. The lines were repaired. |
| Outfall 006 / Zinc Monthly Average (443 ug/L) | 115.62 ug/L Monthly Average | 1/9/2014 | Unknown | EDCC continues to monitor and evaluate potential sources of the Zinc excursion. |
| Outfall 006 / Zinc Daily Max (443 ug/L) | 231.99 ug/L Daily Max | 1/9/2014 | Unknown | EDCC continues to monitor and evaluate potential sources of the Zinc excursion. |
| Outfall 006 / Lead Monthly Average (155 ug/L) | 3.8 ug/L Monthly Average | 1/9/2014 | Unknown | EDCC continues to monitor and evaluate potential sources of the Lead excursion. |
| Outfall 006 / Lead Daily Max (155 ug/L) | 7.62 ug/L Daily Max | 1/9/2014 | Unknown | EDCC continues to monitor and evaluate potential sources of the Lead excursion. |
| Outfall 006 / TDS Monthly Average (650 mg/L) | 291 mg/L Monthly Average | 1/9/2014 | Unknown | EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover. |
| Outfall 006 / TDS Daily Max (650 mg/L) | 436.5 mg/L Daily Max | 1/9/2014 | Unknown | EDCC has land applied pelletized lime in the area of outfall 006 in an effort to promote vegetative cover. |
| Outfall 007 / Zinc Monthly Average (271 ug/L) | 115.62 ug/L Monthly Average | 1/9/2014 | Unknown | EDCC continues to monitor and evaluate potential sources of the Zinc excursion. |
| Outfall 007 / Zinc Daily Max (271 ug/L) | 231.99 ug/L Daily Max | 1/9/2014 | Unknown | EDCC continues to monitor and evaluate potential sources of the Zinc excursion. |
| Outfall 007 / Lead Monthly Average (5.26 ug/L) | 3.8 ug/L Monthly Average | 1/9/2014 | Unknown | EDCC continues to munitor and evaluate potential sources of the Lead excursion. |
| Outfell 007 / TDS Monthly Average (550 mg/L) | 291 mg/L Monthly Average | 1/9/2014 | Unknown | EDCC has land applied pelletized lime in the area of outfall 007 in an effort to promote vegetative cover. |
| Outfall 007 / TDS Daily Max (550 mg/L) | 436.5 mg/L Daily Max | 1/9/2014 | Unknown | EDCC has land applied pelletized lime in the area of outfell 007 in an effort to promote vegetative cover. |
| THE INFORMATION S IMMEDIATELY RESP NFORMATION IS TRUE PENALTIES FOR SUB IMPRISONMENT. SEE | ER PENALTY OF LAW THAT IS SUBMITTED HEREIN; AND BA ONSIBLE FOR OBTAINING TI E, ACCURATE AND COMPLET MITTING FALSE INFORMATI 18 U.S.C 1001 AND 33 U.S.C 0,000 and or maximum impriso | SED ON MY INQUIRY OF TE INFORMATION, I BELI TE. I AM AWARE THAT TH ON, INCLUDING THE POS . 1319. (Penalties under the | THOSE INDIVIDUALS EVE THE SUBMITTED HERE ARE SIGNIFICANT ISIBILITY OF FINE AND INCLUDE STATUTED TO THE STATUTE | Signature Date 2/18/14 |



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

This report contains the analytical results and supporting information for samples submitted on January 1, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Jøhn Overbey
Laboratory Directør

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

ATTN: Ms. Larken Pennington Ipennington@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



January 7, 2014 Control No. 174021 Page 2 of 4

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 1, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------|-------------------------|
| 174021-1 | 010 01-01-14 0930 | 01-Jan-2014 0930 |
| 174021-2 | 010 01-01-14 0930 | 01-Jan-2014 0930 |

Qualifiers:

D Result is from a secondary dilution factor

References:

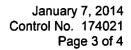
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).





ANALYTICAL RESULTS

AIC No. 174021-1

Sample Identification: 010 01-01-14 0930

| Analyte | | Result | RL | Units | Qualifier |
|---|--------------------------------------|------------------------------|------------------------------|-------------------------------|--------------|
| Ammonia as N with Distillat SM 4500-NH3 B,G 1997 | tion Prep: 02-Jan-2014 1051 by 93 | 13 Analyzed: 02- | 3 Jan-2014 1656 by 302 | mg/l Batch: W46160 | D Dil: 26 |
| Carbonaceous BOD 5-day SM 5210 B 2001 | Prep: 02-Jan-2014 1145 by 285 | < 2 Analyzed: 07- | 2 Jan-2014 0847 by 285 | mg/l Batch: W46153 | |
| Total Suspended Solids USGS 3765 | Prep: 03-Jan-2014 1045 by 308 | < 4 Analyzed: 03 | 4 Jan-2014 1623 by 308 | mg/l Batch: W46174 | |
| Phosphorus EPA 200.7 | Prep: 02-Jan-2014 0944 by 271 | 0.11 Analyzed: 02- | 0.02 Jan-2014 1651 by 305 | mg/l Batch: \$36036 | |
| Nitrate as N EPA 300.0 | Prep: 02-Jan-2014 0937 by 07 | 23 Analyzed: 02- | 0.5 Jan-2014 1249 by 07 | mg/l Batch: C16342 | D Dil: 10 |

AIC No. 174021-2

Sample Identification: 010 01-01-14 0930

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



DUPLICATE RESULTS

| | | | | | RPD | • | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174009-1 | < 2 mg/l | | | 02Jan14 0751 by 302 | 07Jan14 0825 by 285 | | |
| • | Batch: W46153 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 02Jan14 0751 by 285 | 07Jan14 0826 by 285 | | |
| Total Suspended Solids | | 174010-1 | 6.0 mg/l | | | 03Jan14 1045 by 308 | 03Jan14 1623 by 308 | | |
| , | Batch: W46174 | Duplicate | 5.2 mg/l | 14.3 | 20.0 | 03Jan14 1046 by 308 | 03Jan14 1623 by 308 | | |
| Total Suspended Solids | | 174011-1 | < 4 mg/l | | | 03Jan14 1045 by 308 | 03Jan14 1623 by 308 | | |
| • | Batch: W46174 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 03Jan14 1046 by 308 | 03Jan14 1623 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 1 mg/l | 96.1 | 80.0-120 | • | | W46160 | 02Jan14 0908 by 93 | 02Jan14 1531 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 95.3 | 84.5-115 | | | W46153 | 02Jan14 0751 by 285 | 07Jan14 0953 by 285 | | |
| Phosphorus | 5 mg/l | 106 | 85.0-115 | | | S36036 | 02Jan14 0854 by 271 | 02Jan14 1543 by 305 | | |
| Nitrate as N | 4 mg/l | 97.0 | 90.0-110 | | | C16342 | 02Jan14 0938 by 07 | 02Jan14 1129 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46160-1 | 02Jan14 0908 by 93 | 02Jan14 1529 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46153-1 | 02Jan14 0751 by 285 | 07Jan14 0822 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46174-1 | 03Jan14 1046 by 308 | 03Jan14 1623 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36036-1 | 02Jan14 0854 by 271 | 02Jan14 1540 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16342-1 | 02Jan14 0938 by 07 | 02Jan14 1102 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4201-1 | | 01Jan14 1320 by 295 | |



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

| | | | | | | | | | , | | | | | | | | | | | | 1 OF 1 |
|-------------|------------------------|------------------------|--------|----------|--------|---------------------------------------|--------------|--|--|--|---|----------|----------|------|------------|----|-------------|---------------------------------------|-------|--------------|--------------------|
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| | round Time Requeste | | | | | | | Keiin By: | quishe | ea / | | | Date/ | ııme | | | Rece By: | ivea | | | Date/Time |
| | lited results requeste | | | | | | | ^{3y.} | / | ./ | 1.1 | (| 01-0 | 1-10 | 011 | 54 | Oy. | | | | • |
| | should AIC contact wi | | | | | _ | | Rélin | quish | ed : | / (| | Date/ | Time | <i>O µ</i> | | Rece | ived in | Lab | | Date/Time |
| | 870-312-1752 Fax: | 4 | | | | | | By: | | | | | | | | | Ву:_ | lum Lum | 1. | | 124-14. |
| Repor | t Attention to: | Ms. Larken Pennin | | | | | | | | | | | | | | | | lun | [Nk | 7 w | (1325) |
| Repor | t Address to: | Post Office Box 23 | | | | | | Comi | ments | : | | | | | | | • | | | | |
| | | El Dorado, AR 717 | | | | | | 1 | | | | | | | | | | | | | |
| | | Lpennington@edc | ark.c | om | | · · · · · · · · · · · · · · · · · · · | | | | | | | | | _ u a | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | FORM 0060 |



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

This report contains the analytical results and supporting information for samples submitted on January 2, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Steve Bradford
Deputy Laboratory Director

This document has been distributed to the following:

PDF cc

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

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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



January 8, 2014 Control No. 174048 Page 2 of 5

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 2, 2014 Daily-Permit AR0000752 Weekly-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes | |
|---------------|-----------------------------------|-------------------------|---|
| 174048-1 | Outfall 010 1/1/14 945 1/2/14 945 | 02-Jan-2014 0945 | _ |
| 174048-2 | Outfall 010 1/2/14 945 | 02-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

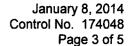
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).





ANALYTICAL RESULTS

AIC No. 174048-1

Sample Identification: Outfall 010 1/1/14 945 1/2/14 945

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

AIC No. 174048-2

Sample Identification: Outfall 010 1/2/14 945

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



DUPLICATE RESULTS

| Analyte | | AIC No. | Result | RPD | RPD Limit | Preparation Date | Analysis Date | Dil | Qual |
|------------------------|---------------|-----------|-----------|------|--------------|---------------------|---------------------|-----|------|
| Carbonaceous BOD 5-day | | 174034-1 | < 2 mg/l | | | 03Jan14 1040 by 285 | 08Jan14 0925 by 285 | | |
| | Batch: W46173 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 03Jan14 1041 by 285 | 08Jan14 0927 by 285 | | |
| Total Dissolved Solids | | 174009-2 | 320 mg/l | | | 03Jan14 1129 by 285 | 06Jan14 1559 by 285 | | |
| | Batch: W46177 | Duplicate | 300 mg/l | 3.54 | 10.0 | 03Jan14 1129 by 285 | 06Jan14 1559 by 285 | | |
| Total Dissolved Solids | | 174010-2 | 360 mg/l | | | 03Jan14 1129 by 285 | 06Jan14 1559 by 285 | | |
| | Batch: W46177 | Duplicate | 370 mg/l | 2.17 | 10.0 | 03Jan14 1129 by 285 | 06Jan14 1559 by 285 | | |
| Total Suspended Solids | | 174032-1 | < 4 mg/l | | | 07Jan14 0819 by 285 | 08Jan14 1306 by 285 | | |
| · | Batch: W46196 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 07Jan14 0819 by 285 | 08Jan14 1306 by 285 | | |
| Total Suspended Solids | | 174057-7 | 2900 mg/l | | | 07Jan14 0819 by 285 | 08Jan14 1306 by 285 | | |
| · | Batch: W46196 | Duplicate | 2800 mg/l | 3.53 | 20.0 | 07Jan14 0819 by 285 | 08Jan14 1306 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Branaration Data | Amelyoia Data | 5 :1 | Ouel |
|--------------------------------|--------------------|-------------------------|----------------------|-------|-------|----------------|--|--|-------------|------|
| Ammonia as N with Distillation | 1 mg/l | — /6 96.1 | 80.0-120 | - KPD | Limit | W46160 | Preparation Date 02Jan14 0908 by 93 | Analysis Date 02Jan14 1531 by 302 | Dil | Qual |
| Carbonaceous BOD 5-day | 200 mg/l | 96.7 | 84.5-115 | | | W46173 | 03Jan14 1041 by 285 | 08Jan14 1043 by 285 | | |
| Phosphorus | 5 mg/i | 106 | 85.0-115 | | | S36043 | 02Jan14 1627 by 271 | 03Jan14 1109 by 305 | | |
| Chloride | 20 mg/l | 104 | 90.0-110 | | | C16342 | 02Jan14 0938 by 07 | 02Jan14 1129 by 07 | | |
| Sulfate | 20 mg/l | 105 | 90.0-110 | | | C16342 | 02Jan14 0938 by 07 | 02Jan14 1129 by 07 | | |
| Oil and Grease | 40 mg/l 40 mg/l | 107 97.5 | 78.0-114 78.0-114 | 9.29 | 20.0 | B8728 B8728 | 03Jan14 1030 by 295 03Jan14 1030 by 295 | 03Jan14 1652 by 295 03Jan14 1652 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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



January 8, 2014 Control No. 174048 Page 5 of 5

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46177-1 | 03Jan14 1129 by 285 | 06Jan14 1559 by 285 | |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46160-1 | 02Jan14 0908 by 93 | 02Jan14 1529 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46173-1 | 03Jan14 1041 by 285 | 08Jan14 0912 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46196-1 | 07Jan14 0819 by 285 | 08Jan14 1306 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36043-1 | 02Jan14 1627 by 271 | 03Jan14 1107 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16342-1 | 02Jan14 0938 by 07 | 02Jan14 1102 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16342-1 | 02Jan14 0938 by 07 | 02Jan14 1102 by 07 | |
| Oil and Grease | < 2 mg/l | 2 | 5 . | B8728-1 | 03Jan14 1030 by 295 | 03Jan14 1652 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4204-1 | | 02Jan14 1518 by 295 | |



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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| Who s | hould AIC contact w | ith questions: | | | | _ | | Relin | nquish | eq Payor | MOANT A | 7) | Date | Time | <u>_</u> | Paga | ived in | l ob | | Data (Ti- | |
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| | Attention to: | Ms. Larken Pennin | _ | | | | | | | ļ | | | | | | 1 | ٠, ٢٠٠٠ | (| () | 133 | |
| Report | Address to: | Post Office Box 23 | | | | | | Com | ments | : | | | | | | • | hom | 1. | | | |
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CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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| | rt Attention to: | Ms. Larken Penning | gton | | | | | | | | | | | | | | N 1 | o C | ~~ <i>\</i> |)01, | 133 | |
| Repor | | Post Office Box 231 | 1 | | | | | Com | ments | : | | | | | | | <u>' </u> | نالار | <u> </u> | | L | |
| | | El Dorado, AR 717 | | | | | | | | | | | | | | | • | • | • | • | | |
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FORM 0060



January 8, 2014 Control No. 174095 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 3, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Steve Bradford

Deputy Laboratory Director

This document has been distributed to the following:

PDF co

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



January 8, 2014 Control No. 174095 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 3, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|---------------------------|-------------------------|
| 174095-1 | 010 1/2/14-1/3/14 945-945 | 03-Jan-2014 0945 |
| 174095-2 | 010 1/3/14 945 | 03-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174095-1

Sample Identification: 010 1/2/14-1/3/14 945-945

| Analyte | | Result | RL | Units | Qualifier |
|--|--------------------------------------|-------------------------------|-----------------------------|-------------------------------|--------------|
| Ammonia as N with Distilla SM 4500-NH3 B,G 1997 | tion Prep: 06-Jan-2014 0948 by 93 | 13 Analyzed: 06-J | 3 an-2014 1522 by 93 | mg/l Batch: W46189 | D Dil: 26 |
| Carbonaceous BOD 5-day SM 5210 B 2001 | Prep: 03-Jan-2014 1501 by 285 | < 2 Analyzed: 08-J | 2 an-2014 1000 by 285 | mg/l Batch: W46173 | |
| Total Suspended Solids USGS 3765 | Prep: 07-Jan-2014 1009 by 285 | < 4 Analyzed: 08-J | 4 an-2014 1313 by 285 | mg/l Batch: W46199 | |
| Phosphorus EPA 200.7 | Prep: 03-Jan-2014 1459 by 305 | 0.10 Analyzed: 03-J | 0.02 an-2014 1714 by 305 | mg/l Batch: \$36049 | |
| Nitrate as N EPA 300.0 | Prep: 03-Jan-2014 1420 by 07 | 24 Analyzed: 03-J | 0.5 an-2014 2011 by 07 | mg/l Batch: C16345 | D Dil: 10 |

AIC No. 174095-2

Sample Identification: 010 1/3/14 945

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



January 8, 2014 Control No. 174095 Page 4 of 4

DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|-----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174034-1 | < 2 mg/l | | | 03Jan14 1040 by 285 | 08Jan14 0925 by 285 | | |
| | Batch: W46173 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 03Jan14 1041 by 285 | 08Jan14 0927 by 285 | | |
| Total Suspended Solids | | 174065-4 | 500 mg/l | | | 07Jan14 1009 by 285 | 08Jan14 1313 by 285 | | |
| | Batch: W46199 | Duplicate | 500 mg/l | 0.00 | 20.0 | 07Jan14 1009 by 285 | 08Jan14 1313 by 285 | | |
| Total Suspended Solids | | 174065-5 | 4200 mg/l | | | 07Jan14 1009 by 285 | 08Jan14 1313 by 285 | | |
| | Batch: W46199 | Duplicate | 4200 mg/l | 1.20 | 20.0 | 07Jan14 1009 by 285 | 08Jan14 1313 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 102 | 80.0-120 | | | W46189 | 06Jan14 0948 by 93 | 06Jan14 1354 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 96.7 | 84.5-115 | | | W46173 | 03Jan14 1041 by 285 | 08Jan14 1043 by 285 | | |
| Phosphorus | 5 mg/l | 107 | 85.0-115 | | | S36049 | 03Jan14 1254 by 305 | 03Jan14 1623 by 305 | | |
| Nitrate as N | 4 mg/l | 97.8 | 90.0-110 | | | C16345 | 03Jan14 0852 by 07 | 03Jan14 1044 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46189-1 | 06Jan14 0948 by 93 | 06Jan14 1352 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46173-1 | 03Jan14 1041 by 285 | 08Jan14 0912 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46199-1 | 07Jan14 1009 by 285 | 08Jan14 1313 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36049-1 | 03Jan14 1254 by 305 | 03Jan14 1620 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16345-1 | 03Jan14 0852 by 07 | 03Jan14 1017 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4210-1 | | 03Jan14 1439 by 295 | |



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

| _ | | - | | | | _ | | | | | | | | | | | | | | GE 1 OF 1 | |
|------------|------------|------------------|---------------------|-----------------|------------|-----|------------|----------|---------|-----------------|-----------------------|----------|-------------|--|------------|------|----------|-------------|------------|------------------|------------|
| Client: | | El Dorado | Chemical Company | ., | | PO | No. | NO OF | | | | ANAI | YSES | S REQI | UEST | ED | | | AIC / | CONTROL NO | 5 |
| Projec | | <u>LI DOGGE</u> | Chemical Company | | | 4 | | اکت | • | 1 | 1 5 | 1 ' | 1 ' | ' | 1 ' | | | | <u> </u> | 174095 | |
| Refere | ence: | Daily - f | Permit AR0000752 | | | 一 | | В | | | NH3N, Total Phosphoru | ' | 1 ' | 1 | 1 ' | | | | AIC : | PROPOSAL NO | ɔ : |
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| | | AIC contact with | | | | | _ | ŗ | Relin | quishe | ≟d | | | Date/1 | Time | | Rece | ived in La | ab | Date/Time | 3 |
| | | 2-1752 Fax: | • | | | | | | Ву: | • | _ | _ | ´ ! | 1 | | | ВуО | // | ÃΛ | 1.3-14 | |
| | t Attentio | | Ms. Larken Penning | gton | | | | J | <u></u> | | | | 1 | 1 | | | | 0-0 (/ | Y | 1330 | 0 |
| Report | t Addres | | Post Office Box 231 | | | | | ŗ | Comr | ments: | | | | | | | سياد | Marin- | <u> </u> | | |
| | | | El Dorado, AR 717 | /31 | | | | J | 1 | | | | | | | | | | | | |
| | | | Lpennington@edc-a | ark.c | <u>:0m</u> | | | | 1 | | | _ | | _ | | | | | | | |

FORM 0060



January 9, 2014 Control No. 174134 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 4, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

hn Overbev boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 9, 2014 Control No. 174134 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 4, 2014 Daily - Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|------------------|-------------------------|
| 174134-1 | 010 1-4-14 0930 | 04-Jan-2014 0930 |
| 174134-2 | 010 1-4-14 0930 | 04-Jan-2014 0930 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 9, 2014 Control No. 174134 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174134-1

Sample Identification: 010 1-4-14 0930

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

AIC No. 174134-2

Sample Identification: 010 1-4-14 0930

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | 3.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 04-Jan-2 | 014 1300 by 295 | Batch: M4214 | |



DUPLICATE RESULTS

| Analyte | | AIC No. | Result | RPD | RPD Limit | Preparation Date | Analysis Date | Dil | Qual |
|------------------------|---------------|-----------|----------|------|--------------|---------------------|---------------------|-----|------|
| Carbonaceous BOD 5-day | | 174135-1 | < 2 mg/l | | | 04Jan14 1430 by 271 | 09Jan14 1012 by 271 | • | |
| | Batch: W46188 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 04Jan14 1430 by 271 | 09Jan14 1015 by 271 | | |
| Total Suspended Solids | | 174112-1 | < 4 mg/l | | | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | | |
| | Batch: W46219 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | | |
| Total Suspended Solids | | 174137-1 | 260 mg/l | | | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | | |
| | Batch: W46219 | Duplicate | 260 mg/l | 1.53 | 20.0 | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|-----|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 1 mg/l | 102 | 80.0-120 | | - | W46189 | 06Jan14 0948 by 93 | 06Jan14 1354 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 114 | 84.5-115 | | | W46188 | 04Jan14 1430 by 271 | 09Jan14 1047 by 271 | | |
| Phosphorus | 5 mg/l | 106 | 85.0-115 | | | S36053 | 06Jan14 1040 by 305 | 06Jan14 1538 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46189-1 | 06Jan14 0948 by 93 | 06Jan14 1352 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46188-1 | 04Jan14 1430 by 271 | 09Jan14 1010 by 271 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46219-1 | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36053-1 | 06Jan14 1040 by 305 | 06Jan14 1536 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4214-1 | | 04Jan14 1300 by 295 | |



CHAIN OF CUSTODY / ÄNALYSIS REQUEST FORM

| | | | | | 50. | | 1 | | | - | | | | | | | | | | 1 OF 1 |
|-------------------|---|--|-----------------|------|-----|-------------|----------|--|--------------|-----------------------|---------------|----------------|----------|-------------|----------|-----|----------|--|-----------|-----------------|
| Client: Projec | El Dorado | Chemical Company | | | POI | VO. | NO OF | | 1 | Τż | ANA T | LYSES | REC | UEST T | ED | 7 | <u> </u> | 1 | AIC CO | NTROL NO: |
| Projec Refere | | Permit AR0000752 | | | | | В | | | g of | | | | | | | | | | OPOSAL NO: |
| Projec | | | | ᅱ | М | IATRIX- | ő | 138 | 112 | ğ | | | | | ļ . | | İ | | Carrier: | |
| Manag | er: Ms. La | rken Pennington | · - T | | W | | Т | 9 | Coli. F | ā | | | | | | | | ł | Carrier. | Gold Star |
| Sampl By: | 1). SART | AIN | G R | CO | A | S | T | CBOD, TSS | O | NH3N, Total Phosphoru | | | | | | | | | Receive | d Temperature C |
| | Sample Identification | Date/Time | A | М | Ε | Ī | Ē | | | E | ł | | | | <u> </u> | | | | | 7 . 0 |
| 1 | 010 | Collected | В | P | R | | s | | | Z | - | <u> </u> | | | | | + | ┿┈ | | Remarks |
| | 010 | 1-4-14 0930 | | × | × | | 1 | X | | | | | | | | | | : | | |
| 2 | 010 | 1.4-14 A30 | × | | × | | 1 | | x : | | | | | | | | | | | |
| 3 | 010 | 1-4-14 0930 | | х | X | | 1 | | , | × | | | | | | | | 1 | | |
| 1-8-13 CEM77 | | | | | | | | | • | | | | _ | | | | | | | <u> </u> |
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| | | | | | _ | | | | | | | | | | | | | | Field pH | calibration |
| | | Container Type | | + | - | | - | Р | Р | Р | | | | | | | | | on | |
| | G = Gla | Preservative Preser | | | | | VOA | NO | | S | | Ļ | <u> </u> | | | | | <u>. </u> | Buffer: | |
| | NQ = n | one S = Sulfui | _ | d pH | 12 | | | viais acid p | H2 | | | H = H B = N | | | 2 | | | Sodium Zinc ac | Thiosulfa | ate |
| Turnard | ound Time Request | ed: (Please circle) | | | | | | Reling | | d / | 1 | | Date/ | | | Rec | eived | Line ac | etate | Date/Time |
| Expedit | MAL or EXPEDITE ted results requeste | d by: | | | | | | By: |) · [| 1 | \mathcal{D} | | 1-4- | 14 | 1000 AM | Ву: | | | | |
| Who st | nould AIC contact wi 870-312-1752 Fax: | ith questions: | | | | | | Relino | uishe | d V | | | Date/ | Time | | | eived i | d Lab | | Date/Time |
| | 870-312-1752 Fax: Attention to: | Ms. Larken Penning | ton | | | | | Ву: | | | | | • | | | Ву: | | | | |
| | Address to: | Post Office Box 231 | lion | | | | } | Comm | ente: | | | | | | | Щ. | _1 | 12 | <i></i> | 1-4-14 1245 |
| • | | El Dorado, AR 717 Lpennington@edc- | 31 | m | | | | COMM | ients: | | | | | | | | - | ا <i>ل</i> ، | <i>y</i> | |
| - | | | | | | * | | | | | | | | | | | | | | |

FORM 0060



January 13, 2014 Control No. 174142 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 5, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Overbey boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 13, 2014 Control No. 174142 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 5, 2014 Daily - Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------|-------------------------|
| 174142-1 | 010 01-05-14 0930 | 05-Jan-2014 0930 |
| 174142-2 | 010 01-05-14 0930 | 05-Jan-2014 0930 |

Qualifiers:

D Result is from a secondary dilution factor

<u>References:</u>

"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.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 13, 2014 Control No. 174142 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174142-1

Sample Identification: 010 01-05-14 0930

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

AIC No. 174142-2

Sample Identification: 010 01-05-14 0930

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | 4.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 05-Jan-2 | 014 1230 by 295 | Batch: M4215 | |



January 13, 2014 Control No. 174142 Page 4 of 4

DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174139-1 | < 2 mg/l | | | 06Jan14 1236 by 302 | 11Jan14 1015 by 302 | | |
| | Batch: W46191 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 06Jan14 1236 by 302 | 11Jan14 1016 by 302 | | |
| Total Suspended Solids | | 174112-1 | < 4 mg/l | | | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | | |
| | Batch: W46219 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | | |
| Total Suspended Solids | | 174137-1 | 260 mg/l | | | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | | |
| | Batch: W46219 | Duplicate | 260 mg/l | 1.53 | 20.0 | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 1 mg/l | 102 | 80.0-120 | | | W46189 | 06Jan14 0948 by 93 | 06Jan14 1354 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 84.6 | 84.5-115 | | | W46191 | 06Jan14 1236 by 302 | 11Jan14 1013 by 302 | | |
| Phosphorus | 5 mg/l | 106 | 85.0-115 | | | S36053 | 06Jan14 1040 by 305 | 06Jan14 1538 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

| Analyte | Sample | Spike Amount | % | Limits | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-------------|-------------------|-----------------|----------|--------|---------------------|---------------------|-----|-----------|
| Ammonia as N with Distillation | 174099-1 | 1 mg/l | 100 | 80.0-120 | W46189 | 06Jan14 0948 by 93 | 06Jan14 1449 by 93 | 5 | <u> D</u> |
| | 174099-1 | 1 mg/l | 102 | 80.0-120 | W46189 | 06Jan14 0948 by 93 | 06Jan14 1450 by 93 | 5 | D |
| | Relative Pe | rcent Difference: | 1.10 | 25.0 | W46189 | | | | D |
| Phosphorus | 174103-1 | 5 mg/l | 108 | 75.0-125 | S36053 | 06Jan14 1040 by 305 | 06Jan14 1541 by 305 | | |
| | 174103-1 | 5 mg/l | 10 9 | 75.0-125 | S36053 | 06Jan14 1040 by 305 | 06Jan14 1544 by 305 | | |
| | Relative Pe | rcent Difference: | 0.0612 | 20.0 | S36053 | | | | |

LABORATORY BLANK RESULTS

| Analyte | Result | RL | PQL | QC Sample | Preparation Date | Analysis Date | Qual |
|--------------------------------|-------------|------|------|--------------|---------------------|---------------------|------|
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46189-1 | 06Jan14 0948 by 93 | 06Jan14 1352 by 93 | - |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46191-1 | 06Jan14 1236 by 302 | 11Jan14 1012 by 302 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46219-1 | 08Jan14 1457 by 308 | 09Jan14 1044 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36053-1 | 06Jan14 1040 by 305 | 06Jan14 1536 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4215-1 | | 05Jan14 1230 by 295 | |



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

| | · · · · · · · · · · · · · · · · · · · | | | | | | | T | , | | | | | | | | | | | | | 1 OF 1 | |
|-------------------|---------------------------------------|---------------|----------|-------|------|----------|----------|----------|-----------|-------------|-----------------------|-----|------|---------|-------|-----|-----|-------|----------------|---------------|--------------|---------------------------------------|-----------|
| Client | El Dorado | Chemical Co | omnany | , | | PO | No. | NO OF | ļ | | <u> </u> | ANA | YSES | REQ | UEST | ED | , | | | | AIC CO | NTROL NO: | |
| Client: Projec | t | - Chemical Ci | ompany | | | 1 | | 105 | | | g | i | | ļ. | | | | | | | | 14142 | _ |
| Refere | ence: Daily - | Permit AR00 | 00752 | | | <u> </u> | | В | 6 | | NH3N, Total Phosphoru | ŀ | l | l | | ŀ | | 1 | | | AIC PRO | POSAL NO: | 1 |
| Projec | t | | | | | 1 1 | MATRIX | ۱ŏ | Š | L. | ٤ | | l | ļ, | ļ | | | ĺ | | | Carrier: | | \dashv |
| Manag | | rken Penning | ton | | | W | | T | CBOD, TSS | <u>S</u> ; | <u> </u> | | | | | 1 | l | | | | Carrier. | Gold Star | 1 |
| Sampl | ed | | į | G | С | Α | s | Т | | ပ | 5 | ŀ | | | | | | | | | Receive | d Temperature C | \exists |
| By: AIC | U. SART | AIN | | R | 0 | T | 0 | L | บิ | | z | | | | | | | | | | | -1.8 | |
| No. | Sample Identification | Date/Time | | A | M | E | | E | | Ĭ | <u> </u> | | | | | | | | | | | | |
| 1 | | Collected | | В | Р | R | <u> </u> | s | | | z | | | | | | | | | | | Remarks | |
| 1 | 010 | 01-05-14 | 0930 | | X | × | | 1 | Х | | | | | | | | | | | | | • | |
| ス | 010 | 01-05-14 | 0930 | x | | × | | 1 | | Х | | | | | | | | | | | | · · · · · · · · · · · · · · · · · · · | ٦ |
| | 010 | 01-05-14 | رجمر | | X | х | | 1 | | | Х | | | | | | | | | | | · · · · · · · · · · · · · · · · · · · | ┪ |
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| | | <u> </u> | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | , | _, | | | | | | | | | | Field pH | calibration | |
| | | Container | | | | | | | Р | Pι | P | | | | | | | | | | on | @ | 7 |
| | | Preserva | | [| | | | | NO | T | S | | | | | | - | | | | Buffer: | | - 1 |
| | G = Gla | | = Plasti | | | | | VOA | | | | | | Ci to p | | | | | T = S | odium | Thiosulfa | ate | ┪ |
| Tumar | NO = nound Time Requests | | = Sulfui | nc ac | id p | H2 | N = | | acid p | | | | | aOH to | | 2 | | | Z = Zi | nc ace | etate | | ┛ |
| NOR | MAL or EXPEDITE | DIN Please C | orcie) . | | | | | | Relind | uishe | ď | | | Date/ | Time | | | Recei | ived | | | Date/Time | 7 |
| Expedi | ted results requested | .D 114 L | MIS | | | | | ł | By: | // - | •/ | / 1 | 5 | | - 1/1 | | | Ву: | | | | | |
| Who sl | nould AIC contact wi | th questions: | | | | | _ | ŀ | Reling | Yun. | 4 | | | 01-05 | | 101 | OAM | | <u> </u> | \mathcal{L} | | | ᆀ |
| | 870-312-1752 Fax: | 400000113. | | | | | | | By: | juisne ! | a | | | Date/ | ıme | | | | vedin | Łab | | Date/Time | ı |
| Report | Attention to: | Ms. Larken | Penning | ton | | | | | Uy. | | | | | | | | | Ву: | XI) | \times |), | E 1/5/14 1230 | |
| Report | Address to: | Post Office I | Box 231 | | | | | İ | Comn | nents: | | | | | | | | | -27 | \leftarrow | / | MULTINE LESS | \dashv |
| | | El Dorado, | | | | | | | | | | | | | | | | | | • | • | 1-5-14 | |
| | | Lpennington | n@edc-a | ark.c | om | | | | | 1 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | , | | | | | | | FORM 0060 | |



January 13, 2014 Control No. 174163 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 6, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc

El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 13, 2014 Control No. 174163 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 6, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|---------------------------|-------------------|-------|
| 174163-1 | 010 1/5/14 945 1/6/14 945 | 06-Jan-2014 0945 | |
| 174163-2 | 010 1/6/14 945 | 06-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 13, 2014 Control No. 174163 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174163-1

Sample Identification: 010 1/5/14 945 1/6/14 945

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

AIC No. 174163-2

Sample Identification: 010 1/6/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | 9.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 06-Jan-2 | 014 1515 by 295 | Batch: M4216 | |



January 13, 2014 Control No. 174163 Page 4 of 4

DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174139-1 | < 2 mg/l | | | 06Jan14 1236 by 302 | 11Jan14 1015 by 302 | | |
| | Batch: W46191 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 06Jan14 1236 by 302 | 11Jan14 1016 by 302 | • | |
| Total Suspended Solids | | 174164-1 | < 4 mg/i | | | 08Jan14 1623 by 308 | 09Jan14 1051 by 308 | | |
| | Batch: W46223 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 08Jan14 1623 by 308 | 09Jan14 1051 by 308 | | |
| Total Suspended Solids | | 174165-1 | 12 mg/l | | | 08Jan14 1623 by 308 | 09Jan14 1051 by 308 | | |
| | Batch: W46223 | Duplicate | 10 mg/l | 14.3 | 20.0 | 08Jan14 1623 by 308 | 09Jan14 1051 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|-------|----------|-------|-------|--------|---------------------|---------------------|----------|------|
| | | | | - KFD | | | 07Jan14 0959 by 93 | 08Jan14 1226 by 93 | <u> </u> | Quai |
| Ammonia as N with Distillation | 1 mg/l | 97.6 | 80.0-120 | | | W46198 | 07Jan 14 0959 by 95 | 06Jan 14 1226 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/i | 84.6 | 84.5-115 | | | W46191 | 06Jan14 1236 by 302 | 11Jan14 1013 by 302 | | |
| | _00g | 0 1.0 | 0 | | | ****** | | | | |
| Phosphorus | 5 mg/l | 106 | 85.0-115 | | | S36053 | 06Jan14 1040 by 305 | 06Jan14 1538 by 305 | | |
| Nitrate as N | 4 mg/l | 97.6 | 90.0-110 | | | C16350 | 06Jan14 1029 by 07 | 06Jan14 1103 by 07 | | |
| Nitrate as N | 4 mg/i | 97.6 | 90.0-110 | | | C16350 | 06Jan14 1029 by 07 | 06Jan14 1103 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46198-1 | 07Jan14 0959 by 93 | 08Jan14 1225 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46191-1 | 06Jan14 1236 by 302 | 11Jan14 1012 by 302 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46223-1 | 08Jan14 1623 by 308 | 09Jan14 1051 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36053-1 | 06Jan14 1040 by 305 | 06Jan14 1536 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16350-1 | 06Jan14 1029 by 07 | 06Jan14 1036 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4216-1 | | 06Jan14 1515 by 295 | |



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

| PO No. NOI | | | | | | ANALYSES REQUESTED | | | | | | | | PAGE 1 OF 1 | | | | | | | | |
|---|-----------------------|---------------------|-------|-------|------------|--------------------|------------|----------------|--------------|-----------------------|--------------|-------------|---------|-------------|--------------|-----|---|-----------|--------------|----------|---------------|-----|
| Client: | El Dorado | Chemical Company | | | PO | No. | NO | | ! | | ANAL | YSE | REQ | UEST | ED | | | | | | NTROL NO: | |
| Projec | | onemical Company | | | i | | OF | | { | 1 5 | | 1 | | |] | | | l | | | 174163 | |
| Refere | nce: Daily - | Permit AR0000752 | | | | | В | CBOD, TSS,NO3N | Ι, | NH3N, Total Phosphoru | | | ľ | | 1 | | | | | AIC PR | OPOSAL NO: | |
| Project | | | | - | ĺν | MATRIX | 0 | ž | <u>ا</u> ا | Ĕ | | | | | | | | | l | Carrier: | | |
| Manag | | rken Pennington | | | W | | 1 + | SS | Coli. F | <u></u> | l | | | l | | | | ŀ | | Carner. | Gold Star | |
| Sample | ed la da a | Ω | G | O | Α | s | T | ٦. | ŏ | ğ | | | | | | | | | | Receive | d Temperature | - C |
| By: AIC | Samuel Juriur | Kinnington | Į R J | 0 | T | 0 | L | Ĭ | 1 | 🚽 | | | ł | | | | | | | | 1,2 | |
| | Sample Identification | Date/Time Collected | A | M | E | | Ε | ប៊ | '. | 면 | | | | | 1 1 | | | | | | | |
| | | | В | Р | R | | S | | <u> </u> | Z | <u> </u> | ļ | | | | | | | | | Remarks | |
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| ı | 010 | 1/5/14-1/0/14 | | Х | X | | 1 | | | × | | | | | | | | | | | | |
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| | | Container Type | | | | | | Р | Ð | Р | | | | | | | | | | on_ | | |
| | • | Preservative | | | | | | NO | T | S | | | | | | | | | | Buffer: | | _ |
| ļ | G = Gla | | | | | | VOA | - | | | | H = H | CI to p | H2 | | | | T = S | | Thiosulf | ate | |
| NO = none S = Sulfuric acid pH2 N = Nitri | | | | | | | | B = N | | | NaOH to pH12 | | | | Z = Zinc ace | | | | | | | |
| Turnaround Time Requested: (Please circle) NORMAL or EXPEDITED IN DAYS | | | | | Relino | | _ | | | Date/Time | | | | Received | | | | Date/Time | | | | |
| Expedited results requested by: | | | - 1 | By: (| <u>ا</u> ۾ | W. D. 7 | | | 1/4/14/10:00 | | | | By: | | | | | | | | | |
| Who sh | ould AIC contact wi | th questions: | | | · | | | | NY NY | moraninally | | 10114 10:00 | | | | | | | | | | |
| Phone 870-312-1752 Fax: | | | | ľ | Relino | lnisüe | ال ba | | U | Date/Time | | | 1 | Recei | vedin | Lab | | Date/Time | | | | |
| Report Attention to: Ms. Larken Pennington | | | | | Ву: | 3 y : | | | | | | | | | | | | 1320 | | | | |
| Report Address to: Post Office Box 231 | | | | ł | Comments: | | | | | | | Day | | 1320 | | | | | | | | |
| El Dorado, AR 71731 | | | | 1 | Comm | Somments. | | | | | | | | | | | | | | | | |
| | • | Lpennington@edc- | | m | | | | | | | _ | | | | | | | | | | | |



January 13, 2014 Control No. 174186 Page 1 of 5

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

This report contains the analytical results and supporting information for samples submitted on January 7, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Overbev Soratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 13, 2014 Control No. 174186 Page 2 of 5

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 7, 2014 Daily / Weekly - Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-----------------------------|-------------------|-------|
| 174186-1 | 010 1/6/14 945 - 1/7/14 945 | 07-Jan-2014 0945 | |
| 174186-2 | 010 1/7/14 945 | 07-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 13, 2014 Control No. 174186 Page 3 of 5

ANALYTICAL RESULTS

AIC No. 174186-1

Sample Identification: 010 1/6/14 945 - 1/7/14 945

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

AIC No. 174186-2

Sample Identification: 010 1/7/14 945

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



January 13, 2014 Control No. 174186 Page 4 of 5

DUPLICATE RESULTS

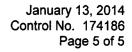
| Analyte | | AIC No. | Result | RPD | RPD Limit | Preparation Date | Analysis Date | Dil | Qual |
|------------------------|---------------|-----------------------|------------------------|------|--------------|--|--|-----|------|
| Oil and Grease | Batch: B8732 | 174205-2 Duplicate | < 5 mg/l < 5 mg/l | 0.00 | 20.0 | 08Jan14 1317 by 295 08Jan14 1317 by 295 | 08Jan14 1511 by 295 08Jan14 1511 by 295 | | |
| Oil and Grease | Batch: B8732 | 174208-2 Duplicate | 6.8 mg/l 6.0 mg/l | 12.5 | 20.0 | 08Jan14 1317 by 295 08Jan14 1317 by 295 | 08Jan14 1511 by 295 08Jan14 1511 by 295 | | |
| Carbonaceous BOD 5-day | Batch: W46217 | 174186-1 Duplicate | < 2 mg/l < 2 mg/l | 0.00 | 20.0 | 08Jan14 1348 by 285 08Jan14 1348 by 285 | 13Jan14 1049 by 285 13Jan14 1050 by 285 | | |
| Total Dissolved Solids | Batch: W46222 | 174161-1 Duplicate | 1400 mg/l 1500 mg/l | 1.66 | 10.0 | 08Jan14 1541 by 308 08Jan14 1542 by 308 | 09Jan14 1158 by 308 09Jan14 1156 by 308 | | |
| Total Suspended Solids | Batch: W46223 | 174164-1 Duplicate | < 4 mg/l < 4 mg/l | 0.00 | 20.0 | 08Jan14 1623 by 308 08Jan14 1623 by 308 | 09Jan14 1051 by 308 09Jan14 1051 by 308 | | |
| Total Suspended Solids | Batch: W46223 | 174165-1 Duplicate | 12 mg/l 10 mg/l | 14.3 | 20.0 | 08Jan14 1623 by 308 08Jan14 1623 by 308 | 09Jan14 1051 by 308 09Jan14 1051 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|-------|----------|------|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 97.6 | 80.0-120 | | | W46198 | 07Jan14 0959 by 93 | 08Jan14 1226 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 98.0 | 84.5-115 | | | W46217 | 08Jan14 1348 by 285 | 13Jan14 1051 by 285 | | |
| Phosphorus | 5 mg/l | . 106 | 85.0-115 | | | S36060 | 07Jan14 1620 by 271 | 08Jan14 1325 by 305 | | |
| Chloride | 20 mg/l | 106 | 90.0-110 | | | C16355 | 07Jan14 1533 by 07 | 07Jan14 1609 by 07 | | |
| Sulfate | 20 mg/l | 105 | 90.0-110 | | | C16355 | 07Jan14 1533 by 07 | 07Jan14 1609 by 07 | | |
| Oil and Grease | 40 mg/l | 89.5 | 78.0-114 | | | B8732 | 08Jan14 0814 by 295 | 08Jan14 1004 by 295 | | |
| | 40 mg/l | 92.5 | 78.0-114 | 3.30 | 20.0 | B8732 | 08Jan14 0814 by 295 | 08Jan14 1004 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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





LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46222-1 | 08Jan14 1542 by 308 | 09Jan14 1156 by 308 | - — |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46198-1 | 07Jan14 0959 by 93 | 08Jan14 1225 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46217-1 | 08Jan14 1348 by 285 | 13Jan14 1046 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46223-1 | 08Jan14 1623 by 308 | 09Jan14 1051 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36060-1 | 07Jan14 1620 by 271 | 08Jan14 1322 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16355-1 | 07Jan14 1533 by 07 | 07Jan14 1542 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16355-1 | 07Jan14 1533 by 07 | 07Jan14 1542 by 07 | |
| Oil and Grease | < 2 mg/l | 2 | 5 | B8732-1 | 08Jan14 0814 by 295 | 08Jan14 1004 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4220-1 | | 07Jan14 1554 by 295 | |



174186

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|------------|--|---------------------------------------|-------------|--------|----------|------------|--------|-----------|----------------|-----------------------|--|---------|-------|------|----------|--------------|-----------|------------|-----------------------|
| Client | FI Dorade | o Chemical Company | | | PO | No. | NO | | | | ANAL | YSES | REO | UEST | ED | | | AIC C | CONTROL NO: |
| Projec | | o Chemical Company | <u>' — </u> | | 1 | | OF | | | 8 | | | | 1 | | | | | |
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| | hould AIC contact w 870-312-1752 Fax: | viin questions: | | | | | | | quishe | ģ | | • | Date/ | Time | | Rece | ived in l | Lab | Date/Time ノー フーノ イ |
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| | : Attention to: | Ms. Larken Pennin | | | | | | | | | | | | | | 100 | ya: | Loper | . 1330 |
| rzebou | Audress to: | Post Office Box 23 | | | | | | Comr | nents: | | | | | | | _ | | , | |
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|------------------|-----------------------|---------------------------------------|-------|----------|--------|---------------|---------|----------|--------------|--------------|-------------------------|---------------|-------|----------|------|--------------|--|--------------|--------------|--------------|------------|---------------------------|--------------|
| Client | El Dorado | Chemical Company | , | | 100 | NO. | | OF | | ा ठ | τ | ANA | ALYSE | SRE | QUES | TED | | | | | AIC CO | NTROLNO | DEH |
| Projec | t | | | | 1 | | 1 | ا '` | 1 | 8 | 1 | | | 1 | | | | 1 | 1 | 1 | <i>/</i> = | }'' \&\ / | 177 |
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| Phone | 870-312-1752 Fax: | | | | | | | | By: | , | • | | U | Date | rime | | | | | Lab | | Date/Time | 4 |
| | Attention to: | Ms. Larken Penning | gton | | | | | L | | _ i | | | | | | | | By: | i and 22 | The | ten | 1330 | |
| Report | Address to: | Post Office Box 231 | | | | | | [| Comn | nents: | | | | · | | | | 1_12 | - | 7 | | 1220 | |
| | | El Dorado, AR 717 Lpennington@edc- | | om | | | | | | | | | | | | | | | | | | | |
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El Dorado Chemical Company ATTN: Ms. Larken Pennington 4500 North West Avenue El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on January 8, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Steve Bradford

Deputy Laboratory Director

This document has been distributed to the following:

PDF cc: El Do

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



January 16, 2014 Control No. 174211 Page 2 of 6

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 8, 2014 Daily / Monthly - Permit AR0000752 P.O. No. 357042

Receipt Details:

A Chain of Custody was provided. The samples were delivered in two (2) ice chests. Ice chest #1 was delivered with a custody seal intact and signed Ice chest #2 was delivered with a custody seal intact and signed

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|---|-------------------|-------|
| 174211-1 | 010 1/7/14 9:45-1:50 - 1/8/14 4:50-9:45 | 08-Jan-2014 0945 | |
| 174211-2 | 010 1/8/14 9:45 | 08-Jan-2014 0945 | |

Qualifiers:

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

References:

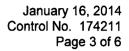
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

[&]quot;Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).





ANALYTICAL RESULTS

AIC No. 174211-1

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

| Analyte | | Result | RL | Units | Qualifie |
|---|--|-----------------------------------|------------------------------|-------------------------------|--------------|
| Chromium, Hexavalent M 3500-Cr B 2009 | Prep: 09-Jan-2014 1334 by 308 | < 0.007 Analyzed: 09-Ja | 0.007 in-2014 1445 by 308 | mg/l Batch: W46235 | |
| Ammonia as N with Distilla M 4500-NH3 B,G 1997 | tion Prep: 09-Jan-2014 0839 by 302 | 13 Analyzed: 10-Ja | 3 n-2014 1425 by 93 | mg/l Batch: W46226 | D Dil: 26 |
| Carbonaceous BOD 5-day M 5210 B 2001 | Prep: 09-Jan-2014 1153 by 285 | < 2 Analyzed: 14-Ja | 2 n-2014 1040 by 285 | mg/l Batch: W46232 | |
| otal Suspended Solids ISGS 3765 | Prep: 10-Jan-2014 1004 by 285 | < 4 Analyzed: 13-Ja | 4 n-2014 1433 by 285 | mg/l Batch: W46249 | |
| Phosphorus PA 200.7 | Prep: 09-Jan-2014 1103 by 235 | 0.10 Analyzed: 09-Ja | 0.02 n-2014 1628 by 305 | mg/l Batch: S36065 | |
| flercury, low level PA 245.7 | Prep: 09-Jan-2014 0927 by 311 | 0.011 Analyzed: 09-Ja | 0.0050 n-2014 1218 by 311 | ug/l Batch: S36066 | |
| litrate as N PA 300.0 | Prep: 09-Jan-2014 1128 by 07 | 28 Analyzed: 09-Ja | 0.5 n-2014 1411 by 07 | mg/l Batch: C16362 | D Dil: 10 |
| otal Recoverable Trivalent | Chromium Prep: 09-Jan-2014 0934 by 235 | < 0.007 Analyzed: 09-Ja | 0.007 n-2014 1518 by 305 | mg/l Batch: S36067 | |
| otal Recoverable Cadmiun PA 200.8 | n Prep: 09-Jan-2014 0931 by 235 | 0.00039 Analyzed: 09-Ja | 0.0001 n-2014 1518 by 305 | mg/l Batch: S36067 | |
| otal Recoverable Copper PA 200.8 | Prep: 09-Jan-2014 0931 by 235 | 0.0090 Analyzed: 09-Ja | 0.001 n-2014 1518 by 305 | mg/l Batch: S36067 | |
| otal Recoverable Lead PA 200.8 | Prep: 09-Jan-2014 0931 by 235 | 0.0050 Analyzed: 09-Jai | 0.001 n-2014 1518 by 305 | mg/l Batch: \$36067 | |
| otal Recoverable Nickel PA 200.8 | Prep: 09-Jan-2014 0931 by 235 | < 0.01 Analyzed: 09-Jai | 0.01 n-2014 1518 by 305 | mg/i Batch: S36067 | |
| otal Recoverable Selenium PA 200.8 | n Prep: 09-Jan-2014 0931 by 235 | < 0.002 Analyzed: 09-Jai | 0.002 n-2014 1518 by 305 | mg/l Batch: S36067 | |
| otal Recoverable Silver PA 200.8 | Prep: 09-Jan-2014 0931 by 235 | < 0.0002 Analyzed: 09-Jai | 0.0002 n-2014 1518 by 305 | mg/l Batch: S36067 | |
| otal Recoverable Zinc PA 200.8 | Prep: 09-Jan-2014 0931 by 235 | 1.2 Analyzed: 10-Jai | 0.02 n-2014 1124 by 305 | mg/l Batch: S36067 | D Dil: 10 |
| IC No. 174211-2 ample Identification: 010 | 1/8/14 9:45 | | | | |
| nalyte | | Result | RL | Units | Qualifier |
| otal Cyanide M 4500-CN C,E 1999 | Prep: 13-Jan-2014 0834 by 308 | < 0.01 Analyzed: 16-Jar | 0.01 n-2014 0936 by 302 | mg/I Batch: W46263 | |
| ecal Coliform M 9222 D 1997 | | < 1 Analyzed: 08-Jar | 1 n-2014 1431 by 21 | /100ml Batch: M4231 | |



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174210-1 | 5.5 mg/l | | | 09Jan14 1153 by 285 | 14Jan14 1037 by 285 | | - — |
| | Batch: W46232 | Duplicate | 5.9 mg/l | 6.97 | 20.0 | 09Jan14 1153 by 285 | 14Jan14 1039 by 285 | | |
| Total Suspended Solids | | 174206-1 | 56 mg/l | | | 10Jan14 1004 by 285 | 13Jan14 1433 by 285 | | |
| | Batch: W46249 | Duplicate | 55 mg/l | 2.88 | 20.0 | 10Jan14 1004 by 285 | 13Jan14 1433 by 285 | | |
| Total Suspended Solids | | 174207-1 | 160 mg/l | | | 10Jan14 1004 by 285 | 13Jan14 1433 by 285 | | |
| | Batch: W46249 | Duplicate | 160 mg/l | 2.48 | 20.0 | 10Jan14 1004 by 285 | 13Jan14 1433 by 285 | | • |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Chromium, Hexavalent | 0.05 mg/l | 106 | 80.0-120 | | | W46235 | 09Jan14 1334 by 308 | 09Jan14 1445 by 308 | | |
| Total Cyanide | 0.1 mg/l | 92.7 | 85.0-115 | | | W46263 | 13Jan14 0834 by 308 | 16Jan14 0934 by 302 | | |
| Ammonia as N with Distillation | 1 mg/l | 95.4 | 80.0-120 | | | W46226 | 09Jan14 1154 by 93 | 10Jan14 1226 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 110 | 84.5-115 | | | W46232 | 09Jan14 1153 by 285 | 14Jan14 1049 by 285 | | |
| Phosphorus | 5 mg/l | 105 | 85.0-115 | | | S36065 | 09Jan14 0906 by 235 | 09Jan14 1443 by 305 | | |
| Mercury, low level | 0.01 ug/l | 89.4 | 76.0-113 | | | S36066 | 09Jan14 0927 by 311 | 09Jan14 1158 by 311 | | |
| Nitrate as N | 4 mg/l | 102 | 90.0-110 | | | C16362 | 09Jan14 1019 by 07 | 09Jan14 1054 by 07 | | |
| Total Recoverable Cadmium | 0.05 mg/l | 101 | 85.0-115 | | | S36067 | 09Jan14 0931 by 235 | 09Jan14 1502 by 305 | | |
| Total Recoverable Copper | 0.05 mg/l | 103 | 85.0-115 | | | S36067 | 09Jan14 0931 by 235 | 09Jan14 1502 by 305 | | |
| Total Recoverable Lead | 0.05 mg/l | 98.5 | 85.0-115 | | | S36067 | 09Jan14 0931 by 235 | 09Jan14 1502 by 305 | | |
| Total Recoverable Nickel | 0.05 mg/l | 99.7 | 85.0-115 | | | S36067 | 09Jan14 0931 by 235 | 09Jan14 1502 by 305 | | |
| Total Recoverable Selenium | 0.05 mg/l | 101 | 85.0-115 | | | S36067 | 09Jan14 0931 by 235 | 09Jan14 1502 by 305 | | |
| Total Recoverable Silver | 0.02 mg/l | 104 | 85.0-115 | | | S36067 | 09Jan14 0931 by 235 | 09Jan14 1502 by 305 | | |
| Total Recoverable Zinc | 0.05 mg/l | 104 | 85.0-115 | | | S36067 | 09Jan14 0931 by 235 | 09Jan14 1502 by 305 | | |



MATRIX SPIKE SAMPLE RESULTS

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



January 16, 2014 Control No. 174211 Page 6 of 6

LABORATORY BLANK RESULTS

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|--------------------------------|---------------|--------|--------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Chromium, Hexavalent | < 0.007 mg/l | 0.007 | 0.007 | W46235-1 | 09Jan14 1334 by 308 | 09Jan14 1445 by 308 | |
| Total Cyanide | < 0.01 mg/l | 0.01 | 0.01 | W46263-1 | 13Jan14 0834 by 308 | 16Jan14 0932 by 302 | |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46226-5 | 09Jan14 1154 by 93 | 10Jan14 1224 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46232-1 | 09Jan14 1153 by 285 | 14Jan14 1035 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46249-1 | 10Jan14 1004 by 285 | 13Jan14 1433 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36065-1 | 09Jan14 0906 by 235 | 09Jan14 1440 by 305 | |
| Mercury, low level | < 0.0018 ug/l | 0.0018 | 0.0050 | S36066-1 | 09Jan14 0927 by 311 | 09Jan14 1148 by 311 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16362-1 | 09Jan14 1019 by 07 | 09Jan14 1028 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4231-1 | | 08Jan14 1432 by 304 | |
| Total Recoverable Cadmium | < 0.0001 mg/l | 0.0001 | 0.0001 | S36067-1 | 09Jan14 0931 by 235 | 09Jan14 1457 by 305 | |
| Total Recoverable Copper | < 0.0005 mg/i | 0.0005 | 0.0005 | S36067-1 | 09Jan14 0931 by 235 | 09Jan14 1457 by 305 | |
| Total Recoverable Lead | < 0.0005 mg/l | 0.0005 | 0.0005 | S36067-1 | 09Jan14 0931 by 235 | 09Jan14 1457 by 305 | |
| Total Recoverable Nickel | < 0.01 mg/l | 0.01 | 0.01 | S36067-1 | 09Jan14 0931 by 235 | 09Jan14 1457 by 305 | |
| Total Recoverable Selenium | < 0.002 mg/l | 0.002 | 0.002 | S36067-1 | 09Jan14 0931 by 235 | 09Jan14 1457 by 305 | |
| Total Recoverable Silver | < 0.0002 mg/l | 0.0002 | 0.0002 | S36067-1 | 09Jan14 0931 by 235 | 09Jan14 1457 by 305 | |
| Total Recoverable Zinc | < 0.002 mg/l | 0.002 | 0.002 | S36067-1 | 09Jan14 0931 by 235 | 09Jan14 1457 by 305 | |



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| Client | : El Dorado | o Chemical Company | , | | PO I | No. | | NO OF | | T | 1 4 | ANAL | YSES | REC | UEST | ED | 1 | | γ- | 1 | | NTROL NO: | |
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| | | none S = Sulfui | | cid pl | H2 | | V = V N = N | | vials acid p | pH2 | _ | | | ICI to I | pH2 to pH1 | 2 | | | T = So Z = Zi | | Thiosulfa etate | ate | |
| NOR | NO = none S = Sulfuric acid urnaround Time Requested: (Please circle) NORMAL or EXPEDITED IN DAYS | | | | | | | | | quishe | d . l/ | Davi | | Date/ | Time | | | Rece By: | | | | Date/Time | |
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| | Vho should AIC contact with questions: | | | | | | | | Relina | quishe | d | | U | Date/ | Time | | | Rece | ived in | Lab | | Date/Time | |
| | Phone 870-312-1752 Fax: | | | | | | | | Ву: | ٠ | | | | | | | | ر :By | / | 11 | <i>-</i> , | Date/Time /~ 8-17 | / |
| Report Attention to: Ms. Larken Pennington | | | | | | - | - | | | · · | | =: - | - =: = | <u> </u> | | | | W | ear. | Hoy | عكن | 1713 | |
| Report Address to: Post Office Box 231 | | | | | | | | ľ | Comn | nents: | | | | | | | | | | | | <u></u> | |
| El Dorado, AR 71731 Lpennington@edc-ark.com | | | | | | | | ł | | | | | | | | | | | | | | | |
| | | <u>,om</u> | | | | | | | | | | | | | | | | | | | | | |



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| ŀ | eport Attention to: Ms. Larken Pennington | | | | | | Relinquished Date/Time Received in Lab By: Comments: Total Recoverable Metals = Ag.LL, Cd.LL, Cr.*, Cu.LL, Ni, Pb.LL, | | | | | 1 | 1-8-19 | | | | | | | | | |
| | eport Address to: Post Office Box 231 | | | | | | | C | · · | Takal | | 1.1 | | | | | | 2/_ | Hosp | 100 | 1315 | |
| report | El Dorado, AR 71731 | | | | | | ł | Comn | nents: | otal | reco/ | /erapi | e Meta | is = A | g.LL, C | .d.LL | , Cr'', | Cu.LL, | Ni, P | b.LL, Se. | LL, Zn | |
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FORM 0060



January 14, 2014 Control No. 174271 Page 1 of 5

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

This report contains the analytical results and supporting information for samples submitted on January 9, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Jøhn Overbey Laboratory Directør

This document has been distributed to the following:

PDF cc:

El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 14, 2014 Control No. 174271 Page 2 of 5

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 9, 2014 Daily-Permit AR0000752 Weekly-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|----------------------------------|-------------------|-------|
| 174271-1 | Outfall 010 1/814 945 1/9/14 945 | 09-Jan-2014 0945 | |
| 174271-2 | Outfall 010 1/9/14 945 | 09-Jan-2014 0945 | |

Qualifiers:

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

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

[&]quot;Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 14, 2014 Control No. 174271 Page 3 of 5

ANALYTICAL RESULTS

AIC No. 174271-1

Sample Identification: Outfall 010 1/814 945 1/9/14 945

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

AIC No. 174271-2

Sample Identification: Outfall 010 1/9/14 945

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



January 14, 2014 Control No. 174271 Page 4 of 5

DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|-----------|-------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174210-1 | 5.5 mg/l | | | 09Jan14 1153 by 285 | 14Jan14 1037 by 285 | | |
| | Batch: W46232 | Duplicate | 5.9 mg/l | 6.97 | 20.0 | 09Jan14 1153 by 285 | 14Jan14 1039 by 285 | | |
| Total Dissolved Solids | | 174268-2 | 280 mg/l | | | 10Jan14 1540 by 302 | 14Jan14 0928 by 302 | | |
| | Batch: W46258 | Duplicate | 280 mg/l | 2.15 | 10.0 | 10Jan14 1540 by 302 | 14Jan14 0928 by 302 | | |
| Total Suspended Solids | | 174228-5 | 240 mg/l | | | 13Jan14 1542 by 285 | 14Jan14 1311 by 285 | | |
| | Batch: W46271 | Duplicate | 240 mg/l | 0.837 | 20.0 | 13Jan14 1543 by 285 | 14Jan14 1311 by 285 | | |
| Total Suspended Solids | | 174228-6 | 4400 mg/l | | | 13Jan14 1542 by 285 | 14Jan14 1311 by 285 | | |
| | Batch: W46271 | Duplicate | 4300 mg/l | 0.917 | 20.0 | 13Jan14 1543 by 285 | 14Jan14 1311 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| A a b . 4 a | Spike | | 4 | | | | | | | |
|--------------------------------|----------|------|----------|------|--------------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | <u>Limit</u> | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 95.4 | 80.0-120 | | | W46226 | 09Jan14 1154 by 93 | 10Jan14 1226 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/i | 110 | 84.5-115 | | | W46232 | 09Jan14 1153 by 285 | 14Jan14 1049 by 285 | | |
| Phosphorus | 5 mg/l | 104 | 85.0-115 | | | S36070 | 09Jan14 1119 by 235 | 10Jan14 1213 by 305 | | |
| Chloride | 20 mg/l | 108 | 90.0-110 | | | C16362 | 09Jan14 1019 by 07 | 09Jan14 1054 by 07 | | |
| Sulfate | 20 mg/l | 105 | 90.0-110 | | | C16362 | 09Jan14 1019 by 07 | 09Jan14 1054 by 07 | | |
| Oil and Grease | 40 mg/l | 95.0 | 78.0-114 | | | B8736 | 10Jan14 0905 by 295 | 10Jan14 1320 by 295 | | |
| | 40 mg/l | 99.5 | 78.0-114 | 4.63 | 20.0 | B8736 | 10Jan14 0905 by 295 | 10Jan14 1320 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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



January 14, 2014 Control No. 174271 Page 5 of 5

LABORATORY BLANK RESULTS

| | • | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46258-1 | 10Jan14 1540 by 302 | 14Jan14 0928 by 302 | |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46226-5 | 09Jan14 1154 by 93 | 10Jan14 1224 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/i | 2 | 2 | W46232-1 | 09Jan14 1153 by 285 | 14Jan14 1035 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46271-1 | 13Jan14 1543 by 285 | 14Jan14 1311 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36070-1 | 09Jan14 1119 by 235 | 10Jan14 1210 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16362-1 | 09Jan14 1019 by 07 | 09Jan14 1028 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16362-1 | 09Jan14 1019 by 07 | 09Jan14 1028 by 07 | |
| Oil and Grease | < 2 mg/l | 2 | 5 | B8736-1 | 10Jan14 0905 by 295 | 10Jan14 1320 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4236-1 | | 09Jan14 1451 by 295 | |



| | | | | | - | | | | | : | | | | | | | | 1 OF 1 | | | | |
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| Turnar | ound Time Requeste | ed: (Please circle) | | | | | | | | uishe | d | | | Date/ | | <u> </u> | Rec | eived | Line ac | ze to te | Date/Time | |
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| Who s | ho should AIC contact with questions: | | | | | | | F | Reling | uishe | d | | 714 | Date/ | | 70.0- | Rec | eived i | n Lab | | Date/Time | |
| Phone | hone 870-312-1752 Fax: | | | | | | By: | | | | _ | سر | $\overline{}$ | Date/Time | | | | | | | | |
| | Report Attention to: Ms. Larken Pennington | | | | | | L | | | | | | | | | 1 | The same | mul | مكم | BIS | | |
| Report | Report Address to: Post Office Box 231 | | | | | | | Comm | nents: | | | | | | | | 1 | - | | | | |
| | El Dorado, AR 71731 Lpennington@edc-ark.com | | | | | | | | | | | | | | | | | ¢ . | • | , | | |
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FORM 0060



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| lumar | round Time Request | ed: (Please circle) | | | | | | quishe | ed | Λ | | Date/ | Time | | Rece | eived | | | Date/Time | |
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| Who s | Expedited results requested by: | | | | | <u> </u> | ()\A | men | FOUN | खाय | 47 | 114 | 10,00 | | | | | l | | |
| Phone | Who should AIC contact with questions: Phone 870-312-1752 Fax; | | | | | 1 | quishe | ed | | J | Date/ | Time | | | eived in | Lab | ľ | Date/Time | | |
| | Report Attention to: Ms. Larken Pennington | | | | Ву: | | | | | ŀ | | | BY: | - | | , | 1/9/14 | | | |
| | Report Address to: Post Office Box 231 | | | | | Com | ments | | | | L | | | 174 | THE PARTY | 44 | pril _ | 1312. | | |
| , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | El Dorado, AR 71731 | | | | Com | ments. | | | | | | | (| | 1 | 1 | | į | | |
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FORM 0060



January 16, 2014 Control No. 174336 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 10, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Steve Bradford

Deputy Laboratory Director

This document has been distributed to the following:

PDF cc

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

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

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

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

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



January 16, 2014 Control No. 174336 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 10, 2014 Daily - Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|------------------------------|-------------------------|
| 174336-1 | 010 1/9/14 945 - 1/10/14 945 | 10-Jan-2014 0945 |
| 174336-2 | 010 1/10/14 945 | 10-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 16, 2014 Control No. 174336 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174336-1

Sample Identification: 010 1/9/14 945 - 1/10/14 945

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

AIC No. 174336-2

Sample Identification: 010 1/10/14 945

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



January 16, 2014 Control No. 174336 Page 4 of 4

DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|-------------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174279-1 | < 2 mg/l | | | 10Jan14 0959 by 285 | 15Jan14 0949 by 285 | | - — |
| | Batch: W46246 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 10Jan14 0959 by 285 | 15Jan14 0952 by 285 | | |
| Total Suspended Solids | | 174282-1 | 52 mg/l | | | 14Jan14 1318 by 285 | 15Jan14 1507 by 285 | | |
| | Batch: W46281 | Duplicate | 50 mg/l | 3.12 | 20.0 | 14Jan14 1318 by 285 | 15Jan14 1507 by 285 | | |
| Total Suspended Solids | | 174283-1 | 15 mg/l | | | 14Jan14 1318 by 285 | 15Jan14 1507 by 285 | | |
| | Batch: W46281 | Duplicate | 15 mg/l | 2.67 | 20.0 | 14Jan14 1318 by 285 | 15Jan14 1507 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 97.2 | 80.0-120 | | | W46264 | 13Jan14 0915 by 93 | 14Jan14 1225 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 104 | 84.5-115 | | | W46246 | 10Jan14 0959 by 285 | 15Jan14 1140 by 285 | | |
| Phosphorus | 5 mg/l | 105 | 85.0-115 | | | S36080 | 13Jan14 0913 by 271 | 13Jan14 1710 by 305 | | |
| Nitrate as N | 4 mg/l | 95.0 | 90.0-110 | | | C16363 | 10Jan14 1028 by 07 | 10Jan14 1101 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| Analyte | Result | RL | PQL | QC Sample | Preparation Date | Analysis Date | Qual |
|--------------------------------|-------------|------|------|--------------|---------------------|---------------------|------|
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46264-1 | 13Jan14 0915 by 93 | 14Jan14 1223 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46246-1 | 10Jan14 0959 by 285 | 15Jan14 0945 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46281-1 | 14Jan14 1318 by 285 | 15Jan14 1507 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36080-1 | 13Jan14 0913 by 271 | 13Jan14 1708 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16363-1 | 10Jan14 1028 by 07 | 10Jan14 1034 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4242-1 | | 10Jan14 1547 by 295 | |



| | | | | 15 | A 11 | 1 | _ | | | | | | | | | 11.41 | | 1 OF 1 |
|--|--|---------------------|---------------|-----------------|-------------------------|------------|----------------|-------------|-----------------|-------------|-------|--------------|--------|---------------|--------------|----------------------|--|-----------------|
| Client: | El Dorado | Chemical Company | | 12 | O No. | NO | | | | ANAL' | YSE | <u>s REQ</u> | UEST | ED | | | | NTROL NO: |
| Projec | | Chemical Company | | | | OF | ۱ ـ | ١, | ह | | | l | l | 1 1 | | | <i>تل</i> ــــــــــــــــــــــــــــــــــــ | 14336 |
| Refere | | Permit AR0000752 | | - | | 4 _ | CBOD, TSS,NO3N | l ` | Total Phosphoru | | | | | | | | AIC PRO | OPOSAL NO: |
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| | Sample | Date/Time | A | | Ė |] E | ĕ | | ΙŽ | | | i | | | 1 | | | 0.6 |
| | Identification | Collected | В | | R L | s | ١٥ | | NH3N, | | | | | ľ | | | | |
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| 2 | 010 | V1.114 945 | x | > | × | 1 | | X | | | | | | | | | | |
| 1 | 010 | 19/14-1/10/14 | | x > | x | 1 | | | X | | | | | | - | | + | |
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| Who st | Vho should AIC contact with questions: | | | | | ł | Relind | uicho | الم | - 70 9 | 7 | Date/ | Cimo o | | D | | | |
| | Phone 870-312-1752 Fax: | | | | By: | اعربي الخر | - | , | | שמוני/ | ııııe | | | ved in Lab | | Date/Time り-10-14 | | |
| Report Attention to: Ms. Larken Pennington | | | | | ∪ _j . | : | | | | | | | By | ~ 1/ = | 2 | | | |
| | Address to: | Post-Office Box 231 | | | | Ì | Comm | ente: | | | | <u> </u> | | | 1 14 | e Hey | 70 | 1330 |
| • | | El Dorado, AR 717 | | | | j | | | | | | | | | | | | į |
| | | Lpennington@edc- | | m | | ļ | | - | | | | | | | | | | ļ |
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FORM 0060



January 20, 2014 Control No. 174356 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 11, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Jøhn 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



January 20, 2014 Control No. 174356 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 11, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-------------------------------------|-------------------|-------|
| 174356-1 | Outfall 010 1/10/14 945 1/11/14 945 | 11-Jan-2014 0945 | |
| 174356-2 | Outfall 010 1/11/14 945 | 11-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 20, 2014 Control No. 174356 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174356-1

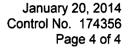
Sample Identification: Outfall 010 1/10/14 945 1/11/14 945

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

AIC No. 174356-2

Sample Identification: Outfall 010 1/11/14 945

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





DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174359-1 | < 2 mg/l | | | 13Jan14 0740 by 285 | 18Jan14 1225 by 285 | | |
| | Batch: W46268 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 13Jan14 0740 by 285 | 18Jan14 1227 by 285 | | |
| Total Suspended Solids | | 174338-1 | 16 mg/l | | | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | | |
| | Batch: W46302 | Duplicate | 18 mg/l | 11.5 | 20.0 | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | | |
| Total Suspended Solids | | 174339-1 | 24 mg/l | | | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | | |
| | Batch: W46302 | Duplicate | 28 mg/l | 13.7 | 20.0 | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 97.2 | 80.0-120 | | | W46264 | 13Jan14 0915 by 93 | 14Jan14 1225 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 99.7 | 84.5-115 | | | W46268 | 13Jan14 0740 by 285 | 18Jan14 1224 by 285 | | |
| Phosphorus | 5 mg/l | 105 | 85.0-115 | | | S36080 | 13Jan14 0913 by 271 | 13Jan14 1710 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46264-1 | 13Jan14 0915 by 93 | 14Jan14 1223 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46268-1 | 13Jan14 0740 by 285 | 18Jan14 1223 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46302-1 | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36080-1 | 13Jan14 0913 by 271 | 13Jan14 1708 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4243-1 | | 11Jan14 1320 by 310 | |



| | | | | | _ | V.P. | | | , | | | | | | | | | P/ | AGE 1 OF 1 |
|--------------------|----------------------|-----------------------|---|---------------|--|-------------|---------------|----------------------------|-------------------------|-----------------|--------------|------|----------|---------------|-------|--------|----------|---------------|---------------------------------------|
| Client | · Fl Dorac | do Chemical Company | | | PO | No. | NO OF | | , | | ANAL | YSE | S REC | UEST | ED | | | Al | C CONTROL NO: |
| Projec | | to Chemical Company | - | | | | Jor |] | | g | | | | | | | l | I 📙 | 174356 |
| Refer | ence: Daily | - Permit AR0000752 | | ŀ | | | ⊢ в | ြ | 1 | Total Phosphoru | | | | | | | : | | C PROPOSAL NO: |
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| | Sample | Date/Time | A | M | E R | 1 | E | | | NH3N, | | | | 1 | | - 1 | 1 | - | |
| No. | Identification | Collected | 8 | Р | R | <u> </u> | <u> </u> | | | Ż | | | | | | | | | Remarks |
| | 010 | 11014-14414 | | x | х | | 1 | X | | | | | | | | | | | otface 010 |
| | 010 | 1/11/M945 | × | | Х | | 1 | | X. | | | | | | | | | , | 1) |
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| Turna | | sted: (Please circle) | | , o p | <u>. </u> | | | | | ed . | | | | | | Rece | | nc acetat | Date/Time |
| | | TED IN DAYS | | | | | | Bv: | 100 | .\/. | 0. | -1 | Date | / 1 | | By: | eiveo | | Date/Time |
| Exped | ited results request | ed by: | | | | | | -,, \ | \mathcal{M}_{λ} | New | (PAM | nati | h V | 114 | [0:00 | Sy. | | | |
| Who s | should AIC contact v | with questions: | | | | | | Reline | quishe | d | 1 12212 | - 1 | Date/ | Time | | Rece | eived in | Lab | Date/Time |
| | 870-312-1752 Fax: | | | | | | | Ву: | | | | U | | | | Bw | | 0 | Date/Time |
| | t Attention to: | Ms. Larken Pennin | - | | | | | | | | | | | | | K ')/i | Mar In | lere | 1245 |
| Repor | t Address to: | Post Office Box 23 | | | | | | Comr | neņts: | | | | | | | -01 |) | | · · · · · · · · · · · · · · · · · · · |
| 1 | | El Dorado, AR 717 | | | | | | | • | | | | | | | | | | |
| | | Lpennington@edc- | ark.cc | m | | | | | | | | | | | | | | | |

FORM 0060



January 20, 2014 Control No. 174361 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 12, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Overbev boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 20, 2014 Control No. 174361 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 12, 2014 Daily - Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------------------|-------------------------|
| 174361-1 | 010 1/11/14 945 - 1/12/14 945 | 12-Jan-2014 0945 |
| 174361-2 | 010 1/12/14 945 | 12-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 20, 2014 Control No. 174361 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174361-1

Sample Identification: 010 1/11/14 945 - 1/12/14 945

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

AIC No. 174361-2

Sample Identification: 010 1/12/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | 3.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 12-Jan-2 | 014 1400 by 304 | Batch: M4244 | |



January 20, 2014 Control No. 174361 Page 4 of 4

DUPLICATE RESULTS

| Analyte | | AIC No. | Result | RPD | RPD Limit | Preparation Date | Analysis Date | Dil | Qual |
|------------------------|---------------|-----------|----------|------|--------------|---------------------|---------------------|-----|------|
| Carbonaceous BOD 5-day | | 174359-1 | < 2 mg/l | | | 13Jan14 0740 by 285 | 18Jan14 1225 by 285 | | |
| • | Batch: W46268 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 13Jan14 0740 by 285 | 18Jan14 1227 by 285 | | |
| Total Suspended Solids | | 174338-1 | 16 mg/i | | | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | | |
| · | Batch: W46302 | Duplicate | 18 mg/l | 11.5 | 20.0 | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | | |
| Total Suspended Solids | | 174339-1 | 24 mg/l | | | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | | |
| · | Batch: W46302 | Duplicate | 28 mg/l | 13.7 | 20.0 | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dii | Qual |
| Ammonia as N with Distillation | 1 mg/l | 97.2 | 80.0-120 | | | W46264 | 13Jan14 0915 by 93 | 14Jan14 1225 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 99.7 | 84.5-115 | | | W46268 | 13Jan14 0740 by 285 | 18Jan14 1224 by 285 | | |
| Phosphorus | 5 mg/l | 104 | 85.0-115 | | | S36081 | 13Jan14 0947 by 271 | 13Jan14 1815 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46264-1 | 13Jan14 0915 by 93 | 14Jan14 1223 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46268-1 | 13Jan14 0740 by 285 | 18Jan14 1223 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46302-1 | 15Jan14 1524 by 308 | 16Jan14 1136 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36081-1 | 13Jan14 0947 by 271 | 13Jan14 1812 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4244-1 | | 12Jan14 1400 by 310 | |



| · | | | _ | | | | | | | ~ | | | | - | | | | | PAGE | 1 OF 1 | |
|--|--------------------------|--------------------------|--------|----|------------|--|---------|-----------------------|--------------|---|--------------|------------------------|--------------|-----|-----------|--|------------------------|-----------|----------------------|---------------|---|
| | | | | PO | No. | NO | | ANALYSES REQUESTED | | | | | | | | | | | NTROL NO; | - | |
| Client: El Dorado Chemical Company Project | | | ł | | OF | ł | | 2 | | | | | | 1 | 1 1 | | | 74361 | | | |
| Reference: Daily - Permit AR0000752 | | | | | ┨╻ | / | | NH3N, Total Phosphoru | | | | | | | | | AIC PRO | POSAL NO: | | | |
| Project | | | | ĺN | MATRIX | 0 | TSS | LL. | 5 | | | | | 1 1 | | | - | Carrier: | ··· | | |
| Manager: Ms. Larken Pennington | | | W | | 1 T | Ö | Coli. F | a a | | | | | 1 1 | | | | Carrier. | Gold Star | | | |
| Sampled Obelogo | | Businanta | G | C | Α | s | T | CBOD, TSS | ပ | Ď | | l | | | | | 1 1 | Ì | Received | d Temperature | C |
| By: AIC | LU W | 1 lennington | R | 0 | T | 0 | L | O | 1 | z | | | | | | 1 | 1 [| 1 | | 0.2 | |
| | Sample Identification | Date/Time J Collected | A B | M | E | | E | | | 또 | | | | ŀ | | | | [| | | |
| , · | | · | - | | · · | ┝┶┤─ | + 3 | ├ | | | | | | | | | 1 1 | | | Remarks | |
| | 010 | 1112-12/14 | | X | Х | | 1 | X | | | | | | | | | |] | | | |
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| 1 | 010 | 1114-11214 | | х | х | | 1 | | | Х | | | | - | | | | | | | |
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| | | Container Type | | | | | | P | Р | Р | | | | | | | | | on | @ | |
| | | Preservative | | | | | | NO | Т | S | | | | | | | | | Buffer: | | |
| | | | | | | | | vials | | | | | = HCl to pH2 | | | | T = Sodium Thiosulfate | | | | |
| NO = none S = Sulfuric acid pH2 N = Nitric Turnaround Time Requested: (Please circle) | | | | | | | | | | | | IaOH to pH12 Date/Time | | | | Z = Zinc acetate Received | | | 5 . | | |
| NORMAL or EXPEDITED IN DAYS | | | | | | | | Relinquished By: | | | | | \mathbf{I} | | | By: | eivea | | ļ | Date/Time | |
| Expedited results requested by: | | | | | | | | By: Adulenkungton | | | | | 1/12 | IH | 10,00 | Joy. | | | | | |
| Who should AIC contact with questions: | | | | | | | | Reline | | |) | Date/ | | | Rece | Received in Lab | | | Date/Time | | |
| Phone 870-312-1752 Fax: | | | | | | | | By: | | | | | | By: | | | | HC 1 | Date/Time | | |
| Report Attention to: Ms. Larken Pennington | | | | | | | | | | | | | | | 1 General | | | ₩ | 1220 | <u> </u> | |
| Report | Address to: | Post Office Box 23 | | | | | | Comr | omments: | | | | | | | | | V | | | • |
| El Dorado, AR 71731 <u>Lpennington@edc-ark.com</u> | | | | | | | 1 | • | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

FORM 0060



January 20, 2014 Control No. 174373 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 13, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Overbey boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 20, 2014 Control No. 174373 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 13, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------------------------|-------------------------|
| 174373-1 | Outfall 010 1/12/14 945 1/13/14 945 | 13-Jan-2014 0945 |
| 174373-2 | Outfall 010 1/13/14 945 | 13-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

[&]quot;Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)". Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 20, 2014 Control No. 174373 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174373-1

Sample Identification: Outfall 010 1/12/14 945 1/13/14 945

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

AIC No. 174373-2

Sample Identification: Outfall 010 1/13/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | <1 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 13-Jan-2 | 014 1432 by 295 | Batch: M4246 | |



January 20, 2014 Control No. 174373 Page 4 of 4

DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174372-1 | 5.3 mg/l | | | 15Jan14 0813 by 285 | 20Jan14 1036 by 285 | | |
| | Batch: W46291 | Duplicate | 5.5 mg/l | 3.50 | 20.0 | 15Jan14 0813 by 285 | 20Jan14 1038 by 285 | | |
| Total Suspended Solids | | 174374-1 | 9.6 mg/l | | | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | | |
| | Batch: W46308 | Duplicate | 11 mg/l | 15.4 | 20.0 | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | | |
| Total Suspended Solids | | 174375-1 | 4.4 mg/l | | | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | | |
| | Batch: W46308 | Duplicate | 4.4 mg/l | 0.00 | 20.0 | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 101 | 80.0-120 | | | W46276 | 14Jan14 1012 by 93 | 17Jan14 2025 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 90.8 | 84.5-115 | | | W46291 | 15Jan14 0813 by 285 | 20Jan14 1035 by 285 | | |
| Phosphorus | 5 mg/l | 104 | 85.0-115 | | | S36081 | 13Jan14 0947 by 271 | 13Jan14 1815 by 305 | | |
| Nitrate as N | 4 mg/l | 102 | 90.0-110 | | | C16378 | 13Jan14 1733 by 07 | 13Jan14 2154 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46276-1 | 14Jan14 1012 by 93 | 17Jan14 2024 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46291-1 | 15Jan14 0813 by 285 | 20Jan14 1034 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46308-1 | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36081-1 | 13Jan14 0947 by 271 | 13Jan14 1812 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16378-1 | 13Jan14 1733 by 07 | 13Jan14 2127 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4246-1 | | 13Jan14 1432 by 295 | |



| | | | | | 100 | 4.4 | | | , | | - | | | | <u> </u> | ··· . | | | | | 1 OF 1 | |
|---------------------|----------------------------------|--|--------|-------|-----|-------|---------------|----------|----------------|--------------------------|-----------------|-------------|-------------|----------|--|-----------------|-------------|---------------|--|----------|---|-------------|
| Client | : El Dorado | Chemical Company | | | PO | NO. | | NO OF | | | Т = | ANAI | LYSE | S REC | UEST | ED | | | | AIC CO | NTROL NO: | |
| Projec | | J. J. J. J. J. J. J. J. J. J. J. J. J. J | | | | | | UF | 1 | l | Total Phosphoru | | | • | | 1 | | | - | 10000 | 19313 | |
| Refere | | Permit AR0000752 | | | | | $\neg \dashv$ | В | CBOD, TSS,NO3N | | spł | | l | ĺ | | 1 } | ł | - 1 | | AIC PRO | OPOSAL NO: | |
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| Manag | ger: Ms. La | rken Pennington | | | W | | | T |] ŠŠ | S. Sij | a a | ł | ł | | | 1 | | ı | | Carrier. | Gold Star | |
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| | 010 | 1/12/14-1/13/14 945-945 | | X | X | | | 1 | | | × | | | 1 | | | | | | 1 | <u>ــــــــــــــــــــــــــــــــــــ</u> | ' |
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| Expedi | ited results requested | d by: | | | | _ | | | | $\overline{\mathcal{M}}$ | yur k | enna | uw | (1) | 4114 | (0:00 | | | | | 1 | |
| | hould AIC contact wi | th questions: | | | | | | | Relind | luishe | d | | U - | Date/ | Time | | Re | ceived | in Lab | | Date/Time, | |
| | 870-312-1752 Fax: | Ma Lada D | | | | | | | By: | | | | | | | | By | | | | Date/Time | [|
| | t Attention to: t Address to: | Ms. Larken Penning | | | | | | ļ | | | · · | | | | | | L_` | | mmu_ | 1 Day | 1330 | |
| Lyshou | Address (o. | Post Office Box 231 | | | | | | | Comn | nents: | | | | | | | | | 7 | | | |
| 1 | | El Dorado, AR 717 Lpennington@edc- | | | | | | | | İ | | | | | | | | | • | • | | |
| | | rheimidroumsac- | ark.C | OM | | | | | | | | | | | | | | | | | | |

FORM 0060



January 20, 2014 Control No. 174415 Page 1 of 5

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

This report contains the analytical results and supporting information for samples submitted on January 14, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Overbey boratory 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



January 20, 2014 Control No. 174415 Page 2 of 5

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 14, 2014 Daily-Permit AR0000752 Weekly-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Not | es |
|---------------|-------------------------------------|-----------------------|----|
| 174415-1 | Outfall 010 1/13/14 945 1/14/14 945 | 14-Jan-2014 0945 | |
| 174415-2 | Outfall 010 1/14/14 945 | 14-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174415-1

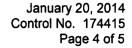
Sample Identification: Outfall 010 1/13/14 945 1/14/14 945

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

AIC No. 174415-2

Sample Identification: Outfall 010 1/14/14 945

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





DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD_ | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Oil and Grease | | 174450-2 | < 5 mg/l | | | 17Jan14 0810 by 295 | 17Jan14 1058 by 295 | | |
| | Batch: B8747 | Duplicate | < 5 mg/l | 0.00 | 20.0 | 17Jan14 1033 by 295 | 17Jan14 1058 by 295 | | |
| Total Dissolved Solids | | 174389-1 | 230 mg/l | | | 14Jan14 1513 by 285 | 15Jan14 1633 by 285 | | |
| | Batch: W46283 | Duplicate | 220 mg/l | 3.57 | 10.0 | 14Jan14 1513 by 285 | 15Jan14 1633 by 285 | | |
| Total Dissolved Solids | | 174403-1 | 120 mg/l | | | 14Jan14 1513 by 285 | 15Jan14 1633 by 285 | | |
| | Batch: W46283 | Duplicate | 120 mg/l | 5.86 | 10.0 | 14Jan14 1513 by 285 | 15Jan14 1633 by 285 | | |
| Carbonaceous BOD 5-day | | 174372-1 | 5.3 mg/l | | | 15Jan14 0813 by 285 | 20Jan14 1036 by 285 | | |
| | Batch: W46291 | Duplicate | 5.5 mg/l | 3.50 | 20.0 | 15Jan14 0813 by 285 | 20Jan14 1038 by 285 | | |
| Total Suspended Solids | | 174374-1 | 9.6 mg/l | | | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | | |
| | Batch: W46308 | Duplicate | 11 mg/l | 15.4 | 20.0 | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | | |
| Total Suspended Solids | | 174375-1 | 4.4 mg/l | | | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | | |
| | Batch: W46308 | Duplicate | 4.4 mg/l | 0.00 | 20.0 | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|------|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dii | Qual |
| Ammonia as N with Distillation | 1 mg/i | 101 | 80.0-120 | | | W46276 | 14Jan14 1012 by 93 | 17Jan14 2025 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 90.8 | 84.5-115 | | | W46291 | 15Jan14 0813 by 285 | 20Jan14 1035 by 285 | | |
| Phosphorus | 5 mg/l | 106 | 85.0-115 | | | S36094 | 14Jan14 1640 by 271 | 15Jan14 1227 by 305 | | |
| Chloride | 20 mg/i | 104 | 90.0-110 | | | C16380 | 14Jan14 1434 by 07 | 14Jan14 1516 by 07 | | |
| Sulfate | 20 mg/l | 108 | 90.0-110 | | | C16380 | 14Jan14 1434 by 07 | 14Jan14 1516 by 07 | | |
| Oil and Grease | 40 mg/l | 102 | 78.0-114 | | | B8747 | 17Jan14 0811 by 295 | 17Jan14 1058 by 295 | | |
| | 40 mg/l | 95.0 | 78.0-114 | 7.11 | 20.0 | B8747 | 17Jan14 0811 by 295 | 17Jan14 1058 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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



January 20, 2014 Control No. 174415 Page 5 of 5

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46283-1 | 14Jan14 1513 by 285 | 15Jan14 1633 by 285 | |
| Ammonia as N with Distillation | < 0.1 mg/i | 0.1 | 0.1 | W46276-1 | 14Jan14 1012 by 93 | 17Jan14 2024 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46291-1 | 15Jan14 0813 by 285 | 20Jan14 1034 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46308-1 | 15Jan14 1612 by 308 | 16Jan14 1141 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36094-1 | 14Jan14 1640 by 271 | 15Jan14 1224 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16380-1 | 14Jan14 1434 by 07 | 14Jan14 1449 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16380-1 | 14Jan14 1434 by 07 | 14Jan14 1449 by 07 | |
| Oil and Grease | < 2 mg/l | 2 | 5 | B8747-1 | 17Jan14 0811 by 295 | 17Jan14 1058 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4248-1 | | 14Jan14 1538 by 295 | |



| | | | | | | | | | | | | | | | | | | | | | | 1 OF 1 | |
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| | t Attention to: | Ms. Larken Pennin | ston | | | | | ١ | oy. | ı | | | | | | | | EV: | ١ | | | 1/14/14 | ا سے زد |
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| | hould AIC contact w | | - | | · | _ | | Relin | quish | ed | | 100 | Date/ | | -,00 | Rece | ived in L | ab | Da | te/Time | |
| | 870-312-1752 Fax: | • | | | | | | Ву: | 1 | | .(| J | | - | | By. | | | | 14/14 | |
| | t Attention to: | Ms. Larken Pennin | | | | | | | | | | | | | | 1 | -lem | $\sqrt{2}$ | | 1315 | |
| Report | t Address to: | Post Office Box 23 | | | | | | Com | ments | | | | | _ | | | 7 | 7 | | | \neg |
| | | El Dorado, AR 717 | | | | | | 1 | ; | | | | | | | | | - | • | | |
| | | Lpennington@edc- | ark.co | om_ | | | | | 1 | | | | _ | | _ | | | | | | |

FORM 0060

January 16, 2014 Control No. 174459 Page 1 of 4

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

This report contains the analytical results and supporting information for the sample submitted on January 15, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Deputy Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 16, 2014 Control No. 174459 Page 2 of 4

SAMPLE INFORMATION

Project Description:

One (1) water sample(s) received on January 15, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-----------------------------|-------------------|-------|
| 174459-1 | 010 1/14/14 945 1/15/14 945 | 15-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 16, 2014 Control No. 174459 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174459-1

Sample Identification: 010 1/14/14 945 1/15/14 945

| Analyte | | Result | RL | Units | Qualifier |
|------------------------|-------------------------------|------------------|--------------------|---------------|-----------|
| Total Recoverable Zinc | | 1.4 | 0.01 | mg/l | D |
| EPA 200.7 | Prep: 15-Jan-2014 1509 by 305 | Analyzed: 16-Jai | 1-2014 1122 by 305 | Batch: S36101 | Dil: 5 |



January 16, 2014 Control No. 174459 Page 4 of 4

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|------------------------|-----------|-----|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Total Recoverable Zinc | 0.05 mg/l | 106 | 85.0-115 | | | S36101 | 15Jan14 1136 by 305 | 15Jan14 1505 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

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



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| Client | : El Dorac | do Chemical Company | , | | PO | No. | NC OF | | | T = | ANAI | LYSE | SREC | UEST | ED | | | | | AIC CO | NTROL NO: |
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| Manag | | arken Pennington | | | W | | ٦Ť | 8 | Coli. F | # | آتہ ا | i | 1 | | 1 1 | | 1 |]] | ١٢ | Carrier: | 0-14-04 |
| Sampi By: | leo larke | n Pennington | G | С | Α | s | T | CBOD, TSS,NO3N | ပိ' | NH3N, Total Phosphoru | Metal: Zinc | J | | | !] | | | | - | Peceivo | Gold Star d Temperature (|
| | Sample | Date/Time | | 0 | T | 0 | L | ١፳ | | z | 豆 | | | 1 | | | | 1 1 |], | CCEIVE | |
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| Who sh | nould AIC contact w | rith questions: | | | | _ | | Relina | uishe | <u>-7 3″ 7 ∖</u> d | - IAM | AM (| Date/ | <u> </u> | 10.0 | | | | | | |
| Phone | 870-312-1752 Fax: | • | | | | | | By: | 1 | - | (| j | Date/ | ıme | | | | ved in L | .ab | | Date/Time |
| • | Attention to: | Ms. Larken Penning | ton | | | | l | - ,. | 4 | | | | | | | ķ | Bà. J | v | | | 1/15/14 1 <u>3</u> 15* |
| Report | Address to: | Post Office Box 231 | | | | | ŀ | Comm | ents: | | | | | | | [| <u>~</u> | | 459 | | 1315 |
| | | El Dorado, AR 717. Lpennington@edc-a | 31 | m | | | | ~~ | | | | | | | | | , | | f. | 1 | |
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FORM 0060



January 21, 2014 Control No. 174461 Page 1 of 4

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

This report contains the analytical results and supporting information for samples submitted on January 15, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey Soratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 21, 2014 Control No. 174461 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 15, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time N | lotes |
|---------------|-----------------------------|---------------------|-------|
| 174461-1 | 010 1/14/14 945 1/15/14 945 | 15-Jan-2014 0945 | |
| 174461-2 | 010 1/15/14 945 | 15-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174461-1

Sample Identification: 010 1/14/14 945 1/15/14 945

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

AIC No. 174461-2

Sample Identification: 010 1/15/14 945

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



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|-------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174441-1 | 230 mg/l | | | 16Jan14 1105 by 285 | 21Jan14 1126 by 285 | | |
| • | Batch: W46315 | Duplicate | 230 mg/l | 0.221 | 20.0 | 16Jan14 1106 by 285 | 21Jan14 1139 by 285 | | |
| Total Suspended Solids | | 174430-1 | < 4 mg/l | | | 16Jan14 1540 by 308 | 17Jan14 1047 by 308 | | |
| • | Batch: W46324 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 16Jan14 1540 by 308 | 17Jan14 1047 by 308 | | |
| Total Suspended Solids | | 174418-3 | 10 mg/l | | | 16Jan14 1540 by 308 | 17Jan14 1047 by 308 | | |
| • | Batch: W46324 | Duplicate | 9.6 mg/l | 4.08 | 20.0 | 16Jan14 1540 by 308 | 17Jan14 1047 by 308 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 1 mg/l | 103 | 80.0-120 | | | W46314 | 16Jan14 1042 by 93 | 17Jan14 2059 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 99.9 | 84.5-115 | | | W46315 | 16Jan14 1106 by 285 | 21Jan14 1124 by 285 | | |
| Phosphorus | 5 mg/l | 110 | 85.0-115 | | | S36106 | 15Jan14 1632 by 311 | 16Jan14 1448 by 305 | | |
| Nitrate as N | 4 mg/l | 101 | 90.0-110 | | | C16386 | 15Jan14 1407 by 07 | 15Jan14 1444 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

| Analyte | Sample | Spike Amount | % | Limits | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-------------|-------------------|------|----------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 174462-1 | 1 mg/l | 116 | 80.0-120 | W46314 | 16Jan14 1042 by 93 | 17Jan14 2248 by 302 | 5 | D |
| 7 Will District Co. | 174462-1 | 1 mg/l | 101 | 80.0-120 | W46314 | 16Jan14 1042 by 93 | 17Jan14 2250 by 302 | 5 | D |
| | Relative Pe | rcent Difference: | 3.33 | 25.0 | W46314 | | | | Đ |
| Phosphorus | 174461-1 | 5 mg/l | 107 | 75.0-125 | S36106 | 15Jan14 1632 by 311 | 16Jan14 1451 by 305 | | |
| | 174461-1 | 5 mg/l | 109 | 75.0-125 | S36106 | 15Jan14 1632 by 311 | 16Jan14 1453 by 305 | | |
| | Relative Pe | rcent Difference: | 1.70 | 20.0 | S36106 | | | | |
| Nitrate as N | 174458-2 | 4 mg/l | 98.2 | 80.0-120 | C16386 | 15Jan14 1407 by 07 | 15Jan14 1511 by 07 | | |
| villato do 11 | 174458-2 | 4 mg/l | 104 | 80.0-120 | C16386 | 15Jan14 1407 by 07 | 15Jan14 1538 by 07 | | |
| | Relative Pe | rcent Difference: | 5.20 | 10.0 | C16386 | | | | |

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46314-1 | 16Jan14 1042 by 93 | 17Jan14 2057 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46315-1 | 16Jan14 1106 by 285 | 21Jan14 1123 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46324-1 | 16Jan14 1540 by 308 | 17Jan14 1047 by 308 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36106-1 | 15Jan14 1632 by 311 | 16Jan14 1445 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16386-1 | 15Jan14 1407 by 07 | 15Jan14 1418 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4249-1 | | 15Jan14 1528 by 295 | |





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|-----------------|--|---|--------------|--------------|----------|------|--------------|----------|----------------|----------------|-----------------------|-------------|-------|--|--------------|---------------|----|--|--------------------|-----------|-----------------------|
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| Who sl | hould AIC contact with | n questions: | | | | | | - 1 | Bali-a | | <u> Xim</u> | Line | 4W | 11 | <u> </u> | 1/0: | 00 | | | | |
| Phone | 870-312-1752 Fax: | · 1·· | | | | | | | Reling By: | uisne | 3 | (| J | Date/1 | lime | | | | ved in L | .ab | Date/Time |
| | Attention to: | Ms. Larken Penning | ton | | | | | - 1 | - y. | ; ; | | | i | | | | 4 | By: \ | 1 | \sim | 1/15/14 |
| Report | Address to: | Post Office Box 231 | | | | | | i | Comm | ents: | | | | L | | | | $\neg \neg$ | <u>~~~</u> | W Les | 1315 |
| | Į | El Dorado, AR 7173 Lpennington@edc-a | 31 | | | | | | - | 1. | | | | | | | | i | | 1 J | - |
| | ************************************** | S. J. De Car. | ٠٨.۵ | <i>/</i> !!! | - | | | | | | | - | | | | | _ | | | | |

FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 16, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Overbev boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 22, 2014 Control No. 174515 Page 2 of 5

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 16, 2014 Daily, Weekly-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-----------------------------|-------------------|-------|
| 174515-1 | 010 1/15/14 945 1/16/14 945 | 16-Jan-2014 0945 | |
| 174515-2 | 010 1/16/14 945 | 16-Jan-2014 0945 | |

Qualifiers:

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

References:

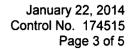
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

[&]quot;Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).





ANALYTICAL RESULTS

AIC No. 174515-1

Sample Identification: 010 1/15/14 945 1/16/14 945

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

AIC No. 174515-2

Sample Identification: 010 1/16/14 945

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



DUPLICATE RESULTS

| Analyte | | AIC No. | Result | RPD | RPD Limit | Preparation Date | Analysis Date | Dil | Qual |
|------------------------|---------------|-----------|-----------|-------|--------------|---------------------|---------------------|-----|------|
| Carbonaceous BOD 5-day | | 174510-2 | 4.5 mg/l | | | 17Jan14 1057 by 285 | 22Jan14 0941 by 285 | - | |
| | Batch: W46333 | Duplicate | 4.8 mg/l | 7.71 | 20.0 | 17Jan14 1057 by 285 | 22Jan14 1103 by 285 | | |
| Total Suspended Solids | | 174513-3 | 64 mg/l | | | 20Jan14 1339 by 285 | 21Jan14 1114 by 285 | | |
| | Batch: W46355 | Duplicate | 62 mg/l | 3.17 | 20.0 | 20Jan14 1340 by 285 | 21Jan14 1114 by 285 | | |
| Total Suspended Solids | | 174535-4 | 4500 mg/l | | | 20Jan14 1339 by 285 | 21Jan14 1114 by 285 | | |
| | Batch: W46355 | Duplicate | 4600 mg/l | 0.659 | 20.0 | 20Jan14 1340 by 285 | 21Jan14 1114 by 285 | | |
| Total Dissolved Solids | | 174511-2 | 700 mg/l | | | 20Jan14 1446 by 285 | 21Jan14 1403 by 285 | | |
| | Batch: W46357 | Duplicate | 690 mg/l | 1.45 | 10.0 | 20Jan14 1447 by 285 | 21Jan14 1403 by 285 | | |
| Total Dissolved Solids | | 174510-3 | 260 mg/l | | | 20Jan14 1446 by 285 | 21Jan14 1403 by 285 | | |
| | Batch: W46357 | Duplicate | 270 mg/l | 2.64 | 10.0 | 20Jan14 1447 by 285 | 21Jan14 1403 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-------|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 103 | 80.0-120 | | | W46314 | 16Jan14 1042 by 93 | 17Jan14 2059 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 98.2 | 84.5-115 | | | W46333 | 17Jan14 1057 by 285 | 22Jan14 0939 by 285 | | |
| Phosphorus | 5 mg/l | 105 | 85.0-115 | | | S36109 | 16Jan14 1120 by 305 | 17Jan14 1354 by 305 | | |
| Chloride | 20 mg/l | 101 | 90.0-110 | | | C16388 | 16Jan14 1525 by 07 | 16Jan14 1558 by 07 | | |
| Sulfate | 20 mg/l | 99.9 | 90.0-110 | | | C16388 | 16Jan14 1525 by 07 | 16Jan14 1558 by 07 | | |
| Oil and Grease | 40 mg/l | 110 | 78.0-114 | | | B8748 | 17Jan14 1219 by 295 | 17Jan14 1655 by 295 | | |
| | 40 mg/l | 110 | 78.0-114 | 0.909 | 20.0 | B8748 | 17Jan14 1219 by 295 | 17Jan14 1655 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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



January 22, 2014 Control No. 174515 Page 5 of 5

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46357-1 | 20Jan14 1447 by 285 | 21Jan14 1403 by 285 | , |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46314-1 | 16Jan14 1042 by 93 | 17Jan14 2057 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46333-1 | 17Jan14 1057 by 285 | 22Jan14 0938 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46355-1 | 20Jan14 1340 by 285 | 21Jan14 1114 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36109-1 | 16Jan14 1120 by 305 | 17Jan14 1350 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16388-1 | 16Jan14 1525 by 07 | 16Jan14 1531 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16388-1 | 16Jan14 1525 by 07 | 16Jan14 1531 by 07 | |
| Oil and Grease | < 2 mg/l | 2 | 5 | B8748-1 | 17Jan14 1219 by 295 | 17Jan14 1655 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4252-1 | | 16Jan14 1534 by 295 | |



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| | | El Dorado, AR 717: <u>Lpennington@edc-a</u> | | | | | - 1 | | | | | | | | | | | | | | | |
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FORM 0060



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| Phone | iould AIC contact wi 870-312-1752 Fax: | un questions: | | | | - 1 | Relind | quishe | đ | (|) | Date/ | Time | | Rece | ived in | Lab | | Date/Time | |
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FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 17, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Overbey boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 22, 2014 Control No. 174574 Page 2 of 4

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 17, 2014 Daily - Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-------------------------------|-------------------|-------|
| 174574-1 | 010 1/16/14 945 - 1/17/14 945 | 17-Jan-2014 0945 | |
| 174574-2 | 010 1/17/14 945 | 17-Jan-2014 0945 | |

Qualifiers:

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

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174574-1

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

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

AIC No. 174574-2

Sample Identification: 010 1/17/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | < 1 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 17-Jan-2 | 014 1451 by 295 | Batch: M4255 | |



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174510-2 | 4.5 mg/l | | | 17Jan14 1057 by 285 | 22Jan14 0941 by 285 | | |
| · | Batch: W46333 | Duplicate | 4.8 mg/l | 7.71 | 20.0 | 17Jan14 1057 by 285 | 22Jan14 1103 by 285 | | |
| Total Suspended Solids | | 174563-1 | 25 mg/l | | | 21Jan14 1143 by 285 | 22Jan14 0958 by 285 | | |
| | Batch: W46370 | Duplicate | 24 mg/l | 4.08 | 20.0 | 21Jan14 1144 by 285 | 22Jan14 0958 by 285 | | |
| Total Suspended Solids | | 174566-1 | 8.8 mg/l | | | 21Jan14 1143 by 285 | 22Jan14 0958 by 285 | | |
| | Batch: W46370 | Duplicate | 9.2 mg/l | 4.44 | 20.0 | 21Jan14 1144 by 285 | 22Jan14 0958 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 1 mg/l | 107 | 80.0-120 | | | W46345 | 20Jan14 0920 by 93 | 21Jan14 0905 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 98.2 | 84.5-115 | | | W46333 | 17Jan14 1057 by 285 | 22Jan14 0939 by 285 | | |
| Phosphorus | 5 mg/l | 103 | 85.0-115 | | | S36121 | 20Jan14 0943 by 271 | 20Jan14 2112 by 305 | | |
| Nitrate as N | 4 mg/l | 93.3 | 90.0-110 | | | C16395 | 17Jan14 1555 by 07 | 17Jan14 2204 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46345-1 | 20Jan14 0920 by 93 | 21Jan14 0903 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46333-1 | 17Jan14 1057 by 285 | 22Jan14 0938 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46370-1 | 21Jan14 1144 by 285 | 22Jan14 0958 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36121-1 | 20Jan14 0943 by 271 | 20Jan14 2107 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16395-1 | 17Jan14 1555 by 07 | 17Jan14 2137 by 07 | |
| Fecal Coliform | < 1 /100ml | · 1 | 1 | M4255-1 | | 17Jan14 1451 by 295 | |



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| Client: | | Chemical Company | | | | | OF | _ | 1 | ΙŠ | 1 | | | | | | | | 7457Y |
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| Who sl | hould AIC contact wit | h questions: | | | | | | Reline | quishe | d | | | Date/ | Time | | Recei | ved in Lab | ************************************* | Date/Time |
| | 870-312-1752 Fax: | | | | | | | By: | | | | U | | | | By:/ | | | Date/Time |
| | Attention to: | Ms. Larken Penning | | | | | | | _ | | | | | | | lus | on Hay | olo | 1270 |
| Report | Address to: | Post Office Box 23 | 1 | | | | [| Comn | nents: | | Ÿ ., | | | | | | | | <u> </u> |
| | | El Dorado, AR 717 | 31 | | | | İ | | | | | | | | | | | | |
| | | Lpennington@edc- | ark.cc | m | | | | | 1 | | | | | | | | | | |
| - | | | | | | | | | | | | | | | | | | | FORM 0060 |



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

This report contains the analytical results and supporting information for the sample submitted on January 18, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

óhn Overbev boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 23, 2014 Control No. 174596 Page 2 of 4

SAMPLE INFORMATION

Project Description:

One (1) water sample(s) received on January 18, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|------------------|-------------------|-------|
| 174596-1 | 010 1-18-14 0930 | 18-Jan-2014 0930 | |

Qualifiers:

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

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174596-1

Sample Identification: 010 1-18-14 0930

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



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174603-1 | 12 mg/l | | | 18Jan14 1525 by 93 | 23Jan14 0946 by 93 | | |
| · | Batch: W46340 | Duplicate | 12 mg/l | 2.81 | 20.0 | 18Jan14 1525 by 93 | 23Jan14 0948 by 93 | | |
| Total Suspended Solids | | 174563-1 | 25 mg/l | | | 21Jan14 1143 by 285 | 22Jan14 0958 by 285 | | |
| | Batch: W46370 | Duplicate | 24 mg/l | 4.08 | 20.0 | 21Jan14 1144 by 285 | 22Jan14 0958 by 285 | | |
| Total Suspended Solids | | 174566-1 | 8.8 mg/l | | | 21Jan14 1143 by 285 | 22Jan14 0958 by 285 | | |
| | Batch: W46370 | Duplicate | 9.2 mg/l | 4.44 | 20.0 | 21Jan14 1144 by 285 | 22Jan14 0958 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | ·% | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dii | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 1 mg/l | 107 | 80.0-120 | | | W46345 | 20Jan14 0920 by 93 | 21Jan14 0905 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 88.1 | 84.5-115 | | | W46340 | 18Jan14 1525 by 93 | 23Jan14 0944 by 93 | | |
| Phosphorus | 5 mg/l | 103 | 85.0-115 | | | S36121 | 20Jan14 0943 by 271 | 20Jan14 2112 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46345-1 | 20Jan14 0920 by 93 | 21Jan14 0903 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46340-1 | 18Jan14 1525 by 93 | 23Jan14 0943 by 93 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46370-1 | 21Jan14 1144 by 285 | 22Jan14 0958 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36121-1 | 20Jan14 0943 by 271 | 20Jan14 2107 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4256-1 | | 18Jan14 1315 by 295 | |



| | | | - | | | | | | | ì | | | | | | | | | | | PAGE | 1 OF 1 | |
|------------|--------------------------------|---------------------------------------|---------------|----------|-------------|------|----------|--------|---------------|--------------|-----------------|--------------|--|--------------|------|--------------|----|-------------|--------|--------|--------------|---------------------------------------|------------|
| Client | El Domdo | Chemical Company | | | PO | No. | | NO | | , | T = | ANA | LYSE | S REC | UEST | ED | 1 | 7 | | , | AIC CO | NTROL NO | : |
| Projec | | Chemical Company | | | { | | - 1 | OF | | | 절 | | İ | | ł | İ | ļ | | | | 110 000 | 74596 | |
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| Projec | | - | | | <u>L.</u> N | IATR | IX | 0 | TS | LL | ا <u>چ</u> | | | 1 | 1 | | | | | | Carrier: | | |
| Manag | | ken Pennington | | | W | | | Т | Ŏ. | Coli. F | <u>a</u> | | | ľ | Ì | | 1 | | 1 | | | Gold Star | |
| Samp | D: SARTAIN | J | G | C | A | S | | Т | 3800, TSS | ပ | Þ | | | | | | | 1 | | | Receive | d Temperat | ure C |
| By: AIC | Sample Sample | Date/Time | R | О М | T | 0 | | Ľ | | ' | ž | | | 1 | | } | | | 1 | | ļ | -1.9 | |
| No. | Identification | Collected | В | P | E | | | E | | | NH3N, | | | ŀ | ļ | | | | | | | Damadu | |
| Y | 010 | | $\overline{}$ | | 1 | | | | | - | 1 | | | | | | +- | + | 1 | + | | Remarks | |
| 1 | 010 | 1-18-14 0930 | X | 8 | X | | | 1 | Х | | | | ļ | <u> </u> | | <u> </u> | | | | | | | |
| | 010 | 1-18-14 0930 | × | | х | | | 1 | | × | | | | | | | | | | | | | |
| | 010 | 1-18-14 0930 | Χ | 10 | x | | | 1 | | | × | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | Field pH | calibration | |
| | | Container Type | L | | | | | | Р | Р | Р | | | | | | | | | | on | @ | |
| | | Preservative | L | L | <u></u> i | | | لــــا | NO | T | S | | | | | | | | | | Buffer: | | |
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| | ited results requested | | | | | | | - 1 | J, . | | l , | w | | 1-18. | 14 | AL | Ø | Dy. | | | | | |
| Who s | hould AIC contact wi | | | | | | | Ì | Relino | quishe | d | | | Date/ | | | | Rece | ivelit | 7Lab | | Date/Time | |
| 14 | 870-312-1752 Fax: | | | | | | | | Ву: | | | | | - | | | | Ву: | X | | | | |
| | t Attention to: | Ms. Larken Pennin | | | | | | ļ | | · | | | | | | | | | 7 | 20/2 | | 1 18/14 | 1250 |
| Repor | t Address to: | Post Office Box 23 | | | | | | | Comn | nents: | | | | | | | | | 12 | | | · · · · · · · · · · · · · · · · · · · | |
| | | El Dorado, AR 717 Lpennington@edc- | | · om | | | | ł | | | | | | | | | | | • | | - | | |
| | | Prelimitation (mserc- | OIN.C | <u> </u> | | | | | | | - | | | | | | | | | | | | |

FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 19, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc:

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

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

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

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

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



January 27, 2014 Control No. 174597 Page 2 of 4

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 19, 2014 Daily - Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------|-------------------------|
| 174597-1 | 010 01-19-14 0930 | 19-Jan-2014 0930 |
| 174597-2 | 010 01-19-14 0930 | 19-Jan-2014 0930 |

Qualifiers:

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

References:

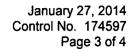
"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).





ANALYTICAL RESULTS

AIC No. 174597-1

Sample Identification: 010 01-19-14 0930

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

AIC No. 174597-2

Sample Identification: 010 01-19-14 0930

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



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174595-1 | < 2 mg/l | | | 20Jan14 1405 by 285 | 25Jan14 1248 by 285 | | |
| • | Batch: W46356 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 20Jan14 1405 by 285 | 25Jan14 1246 by 285 | | |
| Total Suspended Solids | | 174597-1 | < 4 mg/l | | | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | | |
| | Batch: W46373 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | | |
| Total Suspended Solids | | 174598-1 | < 4 mg/l | | | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | | |
| · | Batch: W46373 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 107 | 80.0-120 | | | W46345 | 20Jan14 0920 by 93 | 21Jan14 0905 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 96.9 | 84.5-115 | | | W46356 | 20Jan14 1405 by 285 | 25Jan14 1246 by 285 | | |
| Phosphorus | 5 mg/l | 103 | 85.0-115 | | | S36121 | 20Jan14 0943 by 271 | 20Jan14 2112 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

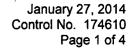
LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46345-1 | 20Jan14 0920 by 93 | 21Jan14 0903 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46356-1 | 20Jan14 1405 by 285 | 25Jan14 1245 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46373-1 | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36121-1 | 20Jan14 0943 by 271 | 20Jan14 2107 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4257-1 | | 19Jan14 1315 by 295 | |



| | | | | | | | | | | | | | | | | | | | | | PAGE | 1 OF 1 | |
|------------------|-------------------------|---------------------------------------|-------|----------|--------|----------|-------------------|---------------|-----------------|-----------------------------|-----------------------|----------|-------------|--|------|------|------|----------|-----------------|--------------|-----------|---------------|--------|
| Client: | El Dorado | Chemical Company | , | | PO N | No. | | VO OF | | } | 2 | ANA | LYSES | REQ | UEST | ED | | <u> </u> | 1 | 1 | | NTROL NO: | |
| Projec | at . | | | | | | | - 1 | | } | NH3N, Total Phosphoru | | | | | | | | | • | | POSAL NO: | |
| Refere Projec | | Permit AR0000752 | | | ١. | **** | | В | TSS | 3 | စ္က | | l | | | | | | | | | | |
| Manac | ner Melad | ken Pennington | | 1 | l wi | MATRIX | | 입 | Ţ | الساد از ن جا | 효 | ĺ | | | | | | | | | Carrier: | Gold Star | |
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| | | Container Type | | | لــــا | | | ightharpoonup | Р | Р | Р | | | | | | | | | | on | @ | |
| | | Preservative | Щ. | لا | لــــا | | | | NO | Τ. | S | | | | | | | | | | Buffer: | | ı |
| | G = Gla NO = no | | | id p | H2 | | / = VO 1 = Nit | | vials acid p | H2 | | | | ICI to I | | 2 | | | T = S Z = Zi | | Thiosulfa | ite | |
| Turnai | ound Time Requeste | | | | | | | | Reling | | d | | | Date/ | | | | Recei | | | 0.0.0 | Date/Time | |
| NOF | RMAL or EXPEDITE | D IN DAYS | | | | | | | By: // | | | 1 2 | h | | | | | By: | | | | | |
| | lited results requested | | | | | - | | L | <u> </u> | ine | 1 / | kul | <u>'/</u> | 01-19 | 7-14 | 1010 | 1974 | | | $\widehat{}$ | | <u> </u> | |
| | should AIC contact wit | th questions: | | | | | | | Relino | uishe | ď | | | Date/ | Time | | , | | ive in | Cab | | Date/Time | |
| | 870-312-1752 Fax: | | | | | | | - 1 | Ву: | Ī | | | | | | | | By: | | \ | _ | | |
| | | Ms. Larken Penning | _ | | | | | - | | | | | | <u>. </u> | | | | | \ | Δ | <u> </u> | 1 19 14 133 | ٥_ |
| Kepon | t Address to: | Post Office Box 23 | | | | | | ľ | Comn | nents: | | | | | | | | | -¥/ | - 71 | | • | l |
| | | El Dorado, AR 717 Lpennington@edc- | | | | | | | | 1 | | | | | | | | | | | | | İ |
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FORM 0060





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

This report contains the analytical results and supporting information for samples submitted on January 20, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

ATTN: Ms. Larken Pennington Ipennington@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



January 27, 2014 Control No. 174610 Page 2 of 4

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 20, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes | |
|---------------|-----------------------------|-------------------------|--|
| 174610-1 | 010 1/19/14 945 1/20/14 945 | 20-Jan-2014 0945 | |
| 174610-2 | 010 1/20/14 945 | 20-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174610-1

Sample Identification: 010 1/19/14 945 1/20/14 945

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

AIC No. 174610-2

Sample Identification: 010 1/20/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | 8.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 20-Jan-2 | 014 1354 by 295 | Batch: M4258 | |



DUPLICATE RESULTS

| , | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174595-1 | < 2 mg/l | | | 20Jan14 1405 by 285 | 25Jan14 1248 by 285 | | |
| · | Batch: W46356 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 20Jan14 1405 by 285 | 25Jan14 1246 by 285 | | |
| Total Suspended Solids | | 174597-1 | < 4 mg/l | | | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | | |
| | Batch: W46373 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | | |
| Total Suspended Solids | | 174598-1 | < 4 mg/l | | | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | | |
| | Batch: W46373 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 101 | 80.0-120 | | | W46369 | 21Jan14 0954 by 93 | 22Jan14 1409 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 96.9 | 84.5-115 | | | W46356 | 20Jan14 1405 by 285 | 25Jan14 1246 by 285 | | |
| Phosphorus | 5 mg/l | 103 | 85.0-115 | | | S36138 | 21Jan14 1629 by 271 | 22Jan14 1357 by 305 | | |
| Nitrate as N | 4 mg/l | 93.2 | 90.0-110 | | | C16398 | 20Jan14 1537 by 07 | 20Jan14 1653 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46369-1 | 21Jan14 0954 by 93 | 22Jan14 1407 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46356-1 | 20Jan14 1405 by 285 | 25Jan14 1245 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46373-1 | 21Jan14 1419 by 285 | 23Jan14 0810 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36138-1 | 21Jan14 1629 by 271 | 22Jan14 1354 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16398-1 | 20Jan14 1537 by 07 | 20Jan14 1626 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4258-1 | | 20Jan14 1355 by 295 | |



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| Client: | El Dorado | Chemical Company | | ٦ | O No |). | NO OF | | | Ē | ANALY | SES | REQ | UEST | ED | | | | | | TROL NO: | |
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| Project Manag | er: Ms. La | rken Pennington | | _ | MA W | TRIX_ | 0 | ISS,N | Coll | at Pho | | | | | | - | | | | Carrier: | Gold Star | - |
| Sample By: | Larker | a Pennington | G R | CO | Т | s o | T L | CBOD, TSS,NO3N | Ŭ | NH3N, Total Phosphoru | | | ļ | , | | - | | | | Received | Temperat | ure C |
| | Sample Identification | Date/Time / Collected | A B | M P | E R | | E S | 3 | , | NH3 | | | | | | | | | | | Remarks | |
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| | | Container Type | | \dashv | | | <u> </u> | Р | Р | Р | | _ | | | | | | | | on | @ | |
| | | Preservative | | L | | | | NO | T | <u> </u> | | | | | | | <u> </u> | | | Buffer: | | |
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| NOR Expedi | ound Time Request MAL or EXPEDITE ted results requeste | ED IN DAYS | | | | | | Reline By: | qyishe MM | d | ? Unv i | 17 | Date/I | | 10: | ٥ <u>٠</u> | Rece By: | | | | Date/Time | |
| Phone Report | nould AIC contact w 870-312-1752 Fax: Attention to: | Ms. Larken Pennin | _ | | | | | Reline By: | quishe | | <i>)</i> | ,] | Date/1 | Time | | | Rece | ived in | Lab | u | Date/Time ハフットソ | _ |
| Report | Address to: | Post Office Box 23 El Dorado, AR 717 Lpennington@edo | '31 | om_ | | | | Comr | nents | | | | | | | | | , | | | | |
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El Dorado Chemical Company ATTN: Ms. Larken Pennington 4500 North West Avenue El Dorado, AR 71730

This report contains the analytical results and supporting information for samples submitted on January 21, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

hn Overbev boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



January 27, 2014 Control No. 174654 Page 2 of 5

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 21, 2014 Daily, Weekly-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-----------------------------|-------------------------|
| 174654-1 | 010 1/20/14 945 1/21/14 945 | 21-Jan-2014 0945 |
| 174654-2 | 010 1/21/14 945 | 21-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174654-1

Sample Identification: 010 1/20/14 945 1/21/14 945

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

AIC No. 174654-2

Sample Identification: 010 1/21/14 945

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



DUPLICATE RESULTS

| Analyte | | AIC No. | Result | RPD | RPD Limit | Preparation Date | Analysis Date | Dil | Qual |
|------------------------|---------------|-----------|----------|-------|--------------|---------------------|---------------------|-----|------|
| Oil and Grease | | 174687-2 | < 5 mg/l | | | 24Jan14 0838 by 295 | 24Jan14 1126 by 295 | - = | |
| | Batch: B8758 | Duplicate | < 5 mg/l | 0.00 | 20.0 | 24Jan14 1009 by 295 | 24Jan14 1126 by 295 | | |
| Carbonaceous BOD 5-day | | 174642-1 | 18 mg/l | | | 22Jan14 1355 by 285 | 27Jan14 0944 by 285 | | |
| | Batch: W46394 | Duplicate | 18 mg/l | 1.11 | 20.0 | 22Jan14 1355 by 285 | 27Jan14 0945 by 285 | | |
| Total Suspended Solids | | 174639-1 | < 4 mg/l | | | 22Jan14 1518 by 285 | 23Jan14 1027 by 285 | | |
| | Batch: W46396 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 22Jan14 1518 by 285 | 23Jan14 1027 by 285 | | |
| Total Suspended Solids | | 174642-1 | < 4 mg/l | | | 22Jan14 1518 by 285 | 23Jan14 1027 by 285 | | |
| | Batch: W46396 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 22Jan14 1518 by 285 | 23Jan14 1027 by 285 | | |
| Total Dissolved Solids | | 174653-1 | 320 mg/l | | | 23Jan14 1624 by 285 | 24Jan14 1542 by 285 | | |
| | Batch: W46417 | Duplicate | 320 mg/l | 0.629 | 10.0 | 23Jan14 1624 by 285 | 24Jan14 1542 by 285 | | |
| Total Dissolved Solids | | 174652-2 | 480 mg/l | | | 23Jan14 1624 by 285 | 24Jan14 1542 by 285 | | |
| | Batch: W46417 | Duplicate | 480 mg/l | 0.413 | 10.0 | 23Jan14 1624 by 285 | 24Jan14 1542 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|----------|----------|------|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | <u>%</u> | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/i | 101 | 80.0-120 | | | W46369 | 21Jan14 0954 by 93 | 22Jan14 1409 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 95.6 | 84.5-115 | | | W46394 | 22Jan14 1355 by 285 | 27Jan14 0942 by 285 | | |
| Phosphorus | 5 mg/l | 103 | 85.0-115 | | | S36138 | 21Jan14 1629 by 271 | 22Jan14 1357 by 305 | | |
| Chloride | 20 mg/l | 94.7 | 90.0-110 | | | C16402 | 21Jan14 1616 by 07 | 21Jan14 1700 by 07 | | |
| Sulfate | 20 mg/l | 99.2 | 90.0-110 | | | C16402 | 21Jan14 1616 by 07 | 21Jan14 1700 by 07 | | |
| Oil and Grease | 40 mg/l | 110 | 78.0-114 | | | B8758 | 24Jan14 0839 by 295 | 24Jan14 1126 by 295 | | |
| | 40 mg/l | 100 | 78.0-114 | 9.07 | 20.0 | B8758 | 24Jan14 0839 by 295 | 24Jan14 1126 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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



LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46417-1 | 23Jan14 1624 by 285 | 24Jan14 1542 by 285 | |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46369-1 | 21Jan14 0954 by 93 | 22Jan14 1407 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46394-1 | 22Jan14 1355 by 285 | 27Jan14 0941 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46396-1 | 22Jan14 1518 by 285 | 23Jan14 1027 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36138-1 | 21Jan14 1629 by 271 | 22Jan14 1354 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16402-1 | 21Jan14 1616 by 07 | 21Jan14 1633 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16402-1 | 21Jan14 1616 by 07 | 21Jan14 1633 by 07 | |
| Oil and Grease | < 5 mg/l | 5 | 5 | B8758-1 | 24Jan14 0839 by 295 | 24Jan14 1126 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4259-1 | | 21Jan14 1323 by 295 | |



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| | 870-312-1752 Fax: | ar questions. | | | ۲. | - | - | By: | quisiii 7 | ; U | 1 | | Dater | ime | - | Rece | ived in | Lao | | Date/Time | |
| | Attention to: | Ms. Larken Pennin | aton | | | | | J., | ķ | | | | | | | | Newer | D. D | | 1,21-14 | <u>-</u> |
| | Address to: | Post Office Box 23 | | | | | | Comr | nents | : | | | — — | | | | -4/CKV | | | 17.13 | |
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| Who si | hould AIC contact w | ith questions: | | | | | | Re | lingui | ishe | d d | 1171 | <u> </u> | Date/ | Time | | | Pece | ived in | ı lah | | Date/Time | ⊣ |
| | 870-312-1752 Fax: | 4 | | | | | | Ву | | ٠٠٠,٠ | | | J | Date | Time | | | Rw | IVEU II | 1 | | 1-21.14 | ı |
| Report | Attention to: | Ms. Larken Penning | gton | | | | | ' | | • | | | | | | | | | ر آورم، | 7 | . h | 13:15 | |
| Report | Address to: | Post Office Box 23 | | | | | | Co | mme | nts: | _ | | _ | | | | | <u>.</u> | -Ancy | 714 | | 1 2 .1 = | |
| | | El Dorado, AR 717 | | | | | | | | 1 | | | | | | | | | | | | | ļ |
| | | Lpennington@edc- | ark.c | om | | | | | | 1 | | T strain and the | | | | | | | | | | | |

FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 22, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

ATTN: Ms. Larken Pennington Ipennington@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



January 28, 2014 Control No. 174697 Page 2 of 4

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 22, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes | |
|---------------|-------------------------------------|-------------------------|--|
| 174697-1 | Outfall 010 1/21/14 945 1/22/14 945 | 22-Jan-2014 0945 | |
| 174697-2 | Outfall 010 1/22/14 945 | 22-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174697-1

Sample Identification: Outfall 010 1/21/14 945 1/22/14 945

| oumpic identification. Out | an 010 1/2 // 17 040 1/22/14 | 0-10 | | | |
|---|--------------------------------------|----------------------------------|----------------------------|------------------------------|--------------|
| Analyte | | Result | RL | Units | Qualifier |
| Ammonia as N with Distillat SM 4500-NH3 B,G 1997 | tion Prep: 23-Jan-2014 1028 by 93 | 9.5 Analyzed: 23-Jar | 0.5 n-2014 1858 by 93 | mg/l Batch: W46404 | D Dil: 5 |
| Carbonaceous BOD 5-day SM 5210 B 2001 | Prep: 23-Jan-2014 1031 by 285 | < 2 Analyzed: 28-Jar | 2 n-2014 1042 by 285 | mg/l Batch: W46406 | |
| Total Suspended Solids USGS 3765 | Prep: 24-Jan-2014 0816 by 285 | 6.8 Analyzed: 27-Jar | 4 n-2014 0914 by 285 | mg/l Batch: W46424 | |
| Phosphorus EPA 200.7 | Prep: 22-Jan-2014 1659 by 305 | 0.079 Analyzed: 23-Jar | 0.02 n-2014 1550 by 305 | mg/l Batch: S36143 | |
| Nitrate as N EPA 300.0 | Prep: 23-Jan-2014 0852 by 07 | 24 Analyzed: 23-Jar | 0.5 n-2014 1443 by 07 | mg/l Batch: C16407 | D Dil: 10 |

AIC No. 174697-2

Sample Identification: Outfall 010 1/22/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|------------------|--------------|-----------|
| Fecal Coliform | 2.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 22-Jan-2 | 2014 1420 by 295 | Batch: M4262 | |



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|-----------|-------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174676-1 | < 2 mg/l | | | 23Jan14 1031 by 285 | 28Jan14 1029 by 285 | | |
| · | Batch: W46406 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 23Jan14 1031 by 285 | 28Jan14 1032 by 285 | | |
| Total Suspended Solids | | 174759-1 | 4.4 mg/l | | | 24Jan14 0816 by 285 | 24Jan14 0959 by 285 | | |
| | Batch: W46424 | Duplicate | 4.8 mg/l | 8.70 | 20.0 | 24Jan14 0817 by 285 | 24Jan14 0959 by 285 | | |
| Total Suspended Solids | | 174706-3 | 3600 mg/l | | | 24Jan14 0816 by 285 | 27Jan14 0914 by 285 | | |
| | Batch: W46424 | Duplicate | 3600 mg/l | 0.551 | 20.0 | 24Jan14 0817 by 285 | 24Jan14 0959 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 94.8 | 80.0-120 | | | W46404 | 23Jan14 1029 by 93 | 23Jan14 1809 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 104 | 84.5-115 | | | W46406 | 23Jan14 1031 by 285 | 28Jan14 1027 by 285 | | |
| Phosphorus | 5 mg/l | 105 | 85.0-115 | | | S36143 | 22Jan14 1700 by 305 | 23Jan14 1535 by 305 | | |
| Nitrate as N | 4 mg/l | 95.8 | 90.0-110 | | | C16407 | 23Jan14 0853 by 07 | 23Jan14 1229 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

| Amaluda | Commis | Spike | 0/ | Limite | Detah | Dramanatian Data | Amahasia Data | D:: | 01 |
|--------------------------------|-------------|-------------------|-----------|----------|--------|---------------------|---------------------|-----|------|
| Analyte | Sample | Amount | <u> %</u> | Limits | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 174703-1 | 1 mg/l | 93.8 | 80.0-120 | W46404 | 23Jan14 1029 by 93 | 24Jan14 1249 by 93 | 2 | D |
| | 174703-1 | 1 mg/l | 91.8 | 80.0-120 | W46404 | 23Jan14 1029 by 93 | 24Jan14 1251 by 93 | 2 | D |
| | Relative Pe | rcent Difference: | 0.766 | 25.0 | W46404 | | | | D |
| Phosphorus | 174696-2 | 5 mg/l | 104 | 75.0-125 | S36143 | 22Jan14 1700 by 305 | 23Jan14 1538 by 305 | | |
| | 174696-2 | 5 mg/l | 104 | 75.0-125 | S36143 | 22Jan14 1700 by 305 | 23Jan14 1541 by 305 | | |
| | Relative Pe | rcent Difference: | 0.840 | 20.0 | S36143 | | | | |
| Nitrate as N | 174710-1 | 4 mg/l | 92.1 | 80.0-120 | C16407 | 23Jan14 0853 by 07 | 23Jan14 1255 by 07 | | |
| | 174710-1 | 4 mg/l | 88.9 | 80.0-120 | C16407 | 23Jan14 0853 by 07 | 23Jan14 1322 by 07 | | |
| | Relative Pe | rcent Difference: | 3.51 | 10.0 | C16407 | | | | |

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46404-1 | 23Jan14 1029 by 93 | 23Jan14 1807 by 93 | . —— |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46406-1 | 23Jan14 1031 by 285 | 28Jan14 1026 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46424-1 | 24Jan14 0817 by 285 | 24Jan14 0959 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36143-1 | 22Jan14 1700 by 305 | 23Jan14 1504 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16407-1 | 23Jan14 0853 by 07 | 23Jan14 1202 by 07 | |
| Fecal Coliform | < 1 /100ml | , 1 | 1 | M4262-1 | | 22Jan14 1333 by 295 | |



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| | 870-312-1752 Fax: | • | | | | | | ļ | Ву: | | | | • | | | | By: | | | $\overline{}$ | Date/Tir | 714 |
| • | | Mŝ. Larken Pennin | gton | | | | | ļ | | • | | | | | | ~~~~ | - -/- | hom | mul | ستنكر ا | 1-3 | |
| | Address to: | Post Office Box 23 | | | | | | | Comr | nents | ; | | | | | | | 1 | - | 7 | | - |
| | | El Dorado, AR 717 | | | | | | | | | | | | | | | | 1 | | • | | |
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January 30, 2014 Control No. 174750 Page 1 of 5

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

This report contains the analytical results and supporting information for samples submitted on January 23, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

ATTN: Ms. Larken Pennington Ipennington@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



January 30, 2014 Control No. 174750 Page 2 of 5

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 23, 2014 Daily-Permit AR0000752 Weekly-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-------------------------------------|-------------------|-------|
| 174750-1 | Outfall 010 1/22/14 945 1/23/14 945 | 23-Jan-2014 0945 | |
| 174750-2 | Outfall 010 1/23/14 945 | 23-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174750-1

Sample Identification: Outfall 010 1/22/14 945 1/23/14 945

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

AIC No. 174750-2

Sample Identification: Outfall 010 1/23/14 945

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



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174676-1 | < 2 mg/l | | | 23Jan14 1031 by 285 | 28Jan14 1029 by 285 | | |
| • | Batch: W46406 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 23Jan14 1031 by 285 | 28Jan14 1032 by 285 | | |
| Total Suspended Solids | | 174739-1 | 48 mg/l | | | 27Jan14 1313 by 285 | 28Jan14 0858 by 285 | | |
| | Batch: W46442 | Duplicate | 47 mg/l | 2.11 | 20.0 | 27Jan14 1313 by 285 | 28Jan14 0858 by 285 | | |
| Total Suspended Solids | | 174740-1 | < 4 mg/l | | | 27Jan14 1313 by 285 | 28Jan14 0858 by 285 | | |
| • | Batch: W46442 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 27Jan14 1313 by 285 | 28Jan14 0858 by 285 | | |
| Total Dissolved Solids | | 174746-2 | 320 mg/l | | | 28Jan14 1640 by 285 | 30Jan14 0857 by 285 | | |
| | Batch: W46464 | Duplicate | 330 mg/l | 1.23 | 10.0 | 28Jan14 1641 by 285 | 30Jan14 0857 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|------|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 98.4 | 80.0-120 | | | W46426 | 24Jan14 0940 by 93 | 28Jan14 1921 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 104 | 84.5-115 | | | W46406 | 23Jan14 1031 by 285 | 28Jan14 1027 by 285 | | |
| Phosphorus | 5 mg/l | 106 | 85.0-115 | | | S36149 | 23Jan14 1649 by 311 | 24Jan14 1138 by 305 | | |
| Chloride | 20 mg/l | 96.7 | 90.0-110 | | | C16407 | 23Jan14 0853 by 07 | 23Jan14 1229 by 07 | | |
| Sulfate | 20 mg/l | 104 | 90.0-110 | | | C16407 | 23Jan14 0853 by 07 | 23Jan14 1229 by 07 | | |
| Oil and Grease | 40 mg/l | 88.0 | 78.0-114 | | | B8759 | 24Jan14 0927 by 295 | 24Jan14 1330 by 295 | | |
| | 40 mg/l | 88.0 | 78.0-114 | 0.00 | 20.0 | B8759 | 24Jan14 0927 by 295 | 24Jan14 1330 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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



LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46464-1 | 28Jan14 1641 by 285 | 30Jan14 0857 by 285 | |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46426-1 | 24Jan14 0940 by 93 | 28Jan14 1919 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46406-1 | 23Jan14 1031 by 285 | 28Jan14 1026 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46442-1 | 27Jan14 1313 by 285 | 28Jan14 0858 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36149-1 | 23Jan14 1649 by 311 | 24Jan14 1135 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16407-1 | 23Jan14 0853 by 07 | 23Jan14 1202 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16407-1 | 23Jan14 0853 by 07 | 23Jan14 1202 by 07 | |
| Oil and Grease | < 2 mg/l | 2 | 5 | B8759-1 | 24Jan14 0927 by 295 | 24Jan14 1330 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4265-1 | , | 23Jan14 1525 by 295 | |



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| | 870-312-1752 Fax: | iui quesuviis. | | | | | By: | 40.011 | Ī - | | J | | | | BY: | | | _ | 1/23 /14 | |
| | t Attention to: | Ms. Larken Pennir | aton | | | | - '. | | | | | | | | | 0 YYYY 1 | mul | 7 | 1330 | |
| | t Address to: | Post Office Box 23 | - | | | | Com | ments | : | | | | | | | | 7 | - | | _ |
| | | El Dorado, AR 71 | | | | | | _ | į. | | | | | | 1 | | | | | |
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| ŀ | Client: | Fl Dorado (| Chemical Company | | | PO | No. | | NO OF | | হি | T | ANAL | YSES | REQ | UEST | ED | | т | 1 | , | | NTROL NO: | |
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| 3) | | Lee | 1/23/14/0:20 | 7 | | X | | | | | | X | | | | | | | | | | ield nH | calibration | |
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| | | 870-312-1752 Fax: | | | | | | | | By: | 4 | - | | 0 | - | · iiiie | | | By: | aved in | Cab | | Date/Time | 1 |
| | , | t Attention to: | Ms. Larken Pennin | | | | | | Į | | • | | | | | | | | 127 | 4 7 ~~ | mC |) | 1330 | |
| ļ | Report | t Address to: | Post Office Box 23 | | | | | | [| Com | nents: | | | | | | | | | . <u></u> | 1 | 1 | · | $\neg \neg$ |
| | | | El Dorado, AR 717 | | | | | | | | ; | | | | | | | | , | | | • | | ļ |
| | <u> </u> | | Lpennington@edc- | ark.C | :OM | | | | | - | · · | | | | | - | | | | | | | | |

FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 24, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey

Laboratory Director

This document has been distributed to the following:

PDF cc:

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

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

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

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

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



January 29, 2014 Control No. 174791 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 24, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------------------------|-------------------------|
| 174791-1 | Outfall 010 1/23/14 945 1/24/14 945 | 24-Jan-2014 0945 |
| 174791-2 | Outfall 010 1/24/14 945 | 24-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



January 29, 2014 Control No. 174791 Page 3 of 4

ANALYTICAL RESULTS

AIC No. 174791-1

Sample Identification: Outfall 010 1/23/14 945 1/24/14 945

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

AIC No. 174791-2

Sample Identification: Outfall 010 1/24/14 945

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



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|-------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174733-1 | < 2 mg/i | | - | 24Jan14 0809 by 285 | 29Jan14 0931 by 285 | | |
| _ | Batch: W46423 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 24Jan14 0809 by 285 | 29Jan14 0933 by 285 | | |
| Total Suspended Solids | | 174787-1 | < 4 mg/l | | | 28Jan14 1057 by 285 | 29Jan14 0926 by 285 | | |
| | Batch: W46454 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | | |
| Total Suspended Solids | | 174788-1 | 120 mg/l | | | 28Jan14 1057 by 285 | 29Jan14 0926 by 285 | | |
| | Batch: W46454 | Duplicate | 120 mg/l | 0.851 | 20.0 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 110 | 80.0-120 | | | W46441 | 27Jan14 1037 by 93 | 28Jan14 1954 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 89.4 | 84.5-115 | | | W46423 | 24Jan14 0809 by 285 | 29Jan14 0928 by 285 | | |
| Phosphorus | 5 mg/l | 109 | 85.0-115 | | | S36154 | 27Jan14 0917 by 271 | 27Jan14 1750 by 305 | | |
| Nitrate as N | 4 mg/l | 92.0 | 90.0-110 | | | C16413 | 24Jan14 1631 by 07 | 24Jan14 1844 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46441-1 | 27Jan14 1037 by 93 | 28Jan14 1953 by 93 | . —— |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46423-1 | 24Jan14 0809 by 285 | 29Jan14 0927 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46454-1 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36154-1 | 27Jan14 0917 by 271 | 27Jan14 1746 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16413-1 | 24Jan14 1631 by 07 | 24Jan14 1817 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4266-1 | | 24Jan14 1538 by 295 | |



| | | | | | | | _ | | | _ | | | | | | | | | | | 1 OF 1 | |
|--|---|---------------------|-------|-------|--------|--------|-------|-------------|----------|------------|--------------------|---------------|------|----------|----------|--------------|----------|-------|---------------|-----------|-------------|------------|
| Client: | El Dorado | Chemical Company | | | PO | No. | | 92 | - | | _= | ANA | YSE | SREC | UEST | (ED | | | | | NTROL NO: | |
| Project | t Doiago | Onemical Company | | | | | | Ur | | 1 | § | | | | | 1 1 | | | | | 74791 | |
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| Project | t | , | | | _ N | IATRI | IX | 0 | Z | u | <u>چ</u> ا | | | | 1 | | j | | | Carrier: | | |
| Manag | | rken Pennington | | | W | | | Т | LS | Coli F | <u>a</u> | | • | i | | 1 1 | | | 1 | | Gold Star | |
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| | Sample | Date/Time | Α | М | Ε | | ı | E | ပ | | NH3N. | | | | | | ı | | | <u> </u> | | |
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| | 010 | कियाय केपीय | | X | X | | | 1 | | | × | | | | | | | | | | 1 | |
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| | | | | | | | | | | | | | | | | | _ | | | Field pH | calibration | _ |
| | | Container Type | | | | | | | Р | Р | Р | | | <u> </u> | | | | | | on | | |
| | | Preservative | | | | | | | NO | Т | S | | | | | | | | | Buffer: | | |
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| NOR | Turnaround Time Requested: (Please circle) NORMAL or EXPEDITED IN DAYS | | | | | | | | Relind | uishe D | ed • | η. | | Date | Time | | Rece | eived | | | Date/Time | |
| Expedited results requested by: | | | | | | | | | By: C | Lan | Kenl | unu | when | d ib | 4/1/1 | (1:00 | Ву: | | | | | |
| Who should AIC contact with questions: | | | | | | | - | Relino | wiche | <u></u> | | () | Date | <u> </u> | (1.00 | | | | | | | |
| Phone 870-312-1752 Fax: | | | | | | | - 1 | Reint | 1015116 | ·u | | - | Date | ııme | | | eived in | Lab | | Date/Time | | |
| Report Attention to: Ms. Larken Pennington | | | | | | | | ∪ j. | | | | | 1 | | | By | י ו | (| $\overline{}$ | 1/24/14 | | |
| | Address to: | Post Office Box 231 | | | | | | ŀ | Comn | nents: | | | | | - | | | s y y | ω | Jan | 1330 | |
| | El Dorado, AR 71731 Lpennington@edc-ark.com | | | | | | | | | | | | | | | | | 1 | 1 | 1 | | * |

FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 25, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey Laboratory Director

This document has been distributed to the following:

PDF cc:

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

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

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

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

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



February 3, 2014 Control No. 174808 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 25, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------------------------|-------------------------|
| 174808-1 | Outfall 010 1/24/14 945 1/25/14 945 | 25-Jan-2014 0945 |
| 174808-2 | Outfall 010 1/25/14 945 | 25-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174808-1

Sample Identification: Outfall 010 1/24/14 945 1/25/14 945

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

AIC No. 174808-2

Sample Identification: Outfall 010 1/25/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | 1.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 25-Jan-2 | 014 1330 by 295 | Batch: M4267 | |



DUPLICATE RESULTS

| | | | | RPD | | | | |
|------------------------|----------------|----------|-------|-------|---------------------|---------------------|-----|------|
| Analyte | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | DII | Qual |
| Carbonaceous BOD 5-day | 174805-1 | < 2 mg/l | | | 27Jan14 0745 by 285 | 01Feb14 1123 by 285 | | |
| Batch: W4 | 6439 Duplicate | < 2 mg/l | 0.00 | 20.0 | 27Jan14 0745 by 285 | 01Feb14 1125 by 285 | | |
| Total Suspended Solids | 174787-1 | < 4 mg/l | | | 28Jan14 1057 by 285 | 29Jan14 0926 by 285 | | |
| Batch: W4 | 6454 Duplicate | < 4 mg/l | 0.00 | 20.0 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | | |
| Total Suspended Solids | 174788-1 | 120 mg/l | | | 28Jan14 1057 by 285 | 29Jan14 0926 by 285 | | |
| Batch: W4 | 6454 Duplicate | 120 mg/l | 0.851 | 20.0 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 110 | 80.0-120 | | | W46441 | 27Jan14 1037 by 93 | 28Jan14 1954 by 93 | | · · |
| Carbonaceous BOD 5-day | 200 mg/l | 92.9 | 84.5-115 | | | W46439 | 27Jan14 0745 by 285 | 01Feb14 1122 by 285 | | |
| Phosphorus | 5 mg/l | 107 | 85.0-115 | | | S36158 | 27Jan14 1621 by 271 | 28Jan14 1311 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46441-1 | 27Jan14 1037 by 93 | 28Jan14 1953 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46439-1 | 27Jan14 0745 by 285 | 01Feb14 1121 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46454-1 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36158-1 | 27Jan14 1621 by 271 | 28Jan14 1309 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4267-1 | | 25Jan14 1330 by 295 | |



| ſ | · · · · · · · · · · · · · · · · · · · | | | | | | | | | | | | | | | | | | PAGE | 1 OF 1 | |
|----------------|---------------------------------------|--|--------|-----------|----------|---------------------------------------|----------|-----------------|---------------|-----------------|-----|-------|--|----------|-------|----------|------------------|--|----------|--------------------------|----------|
| Client | | Chemical Company | · | | PO | No. | NO OF | | 1 | TS | ANA | LYSE | SREC | QUEST | ED | | - r | | | NTROL NO | D: |
| Projec | t | | | | 1 | | • | l | 1 | į | 1 | l | 1 | | 1 1 | | | | AIC DB | <u>14808</u> Oposal n | io. |
| Refere | | Permit AR0000752 | | | | · · · · · · · · · · · · · · · · · · · | | တ္တ | 1 | ldsc | | | | | 1 1 | | | | AICPR | OPUSAL N | 10: |
| Projec Mana | | okan Dagsiastas | | | | MATRIX | 0 | CBOD, TSS | Coli. F | Total Phosphoru | | | | 1 | | | | İ | Carrier: | | |
| Samp | der. INS. La | rken Pennington | | | W | | <u>T</u> | 2 | Ş | 豆 | | 1 | 1 | | 1 1 | | | | | Gold Sta | |
| Bv: | Arken | Rinington | G | CO | A T | S O | T | 8 | ~ | 6 | | | ĺ | | | | | 1 | | ed Tempera | ature C |
| By: AIC | Sample | Date/Time | A | M | E | | E | | { | NH3N, | | | | | | | | | | -0.8 | |
| No. | Identification | Collected | В | Р | R | L | s | | | 포 | 1 | | | | | | | | | Remarks | |
| | 010 | 1/24/14-1/25/14 | | х | х | | 1 | Х | 1 | | | | | | | | | 1 | 29 01 | | |
| | 010 | 1/25/14 945 | х | - | х | | 1 | | X: | | | | | | | + | | | CONTED | 1 11 010 | 1 |
| | 010 | 12414-12414 945-945 | | Х | X | | 1 | | | х | | | | | | | | | | | |
| | | | | | | | | | 1. | | | | | | | | | | | | <u> </u> |
| | | | | | | | | | | | | | | | | | | - | - | | |
| | | | | | | | | | | | | | | | | | | | | - | |
| <u> </u> | | | | | | | | | | ļ | ļ | | <u> </u> | <u> </u> | | <u> </u> | | | Field pH | calibration | |
| | | Container Type | | | | | | Р | Ρ, | Р | | | | | | | | | on | @ | |
| <u> </u> | G = GI | Preservative | ــــا | | | | | NO | T | S | | | <u> </u> | <u></u> | | | | | Buffer: | | |
| | NO = r | | | id ni | 12 | | VOA | vials acid ; | .บว' | | | | CI to | • | ^ | | | | Thiosulf | ate | |
| Turnar | ound Time Request | ed: (Please circle) | iic ac | au pi | 14 | 14 - | | Relino | | d | | B = 1 | laOH (| | 2 | Rec | | inc ac | etate | Date/Time | |
| NOR | RMAL or EXPEDIT | ED IN DAYS | | | | | | By: \ | \mathcal{Y} | آ. (|) - | | | | | By: | CIVCU | | | Date/Time | = |
| Exped | ited results requeste | d by: | | | | _ | | | NON | | Tun | In | 1 17 | 25/14 | 10:00 |]_, | | | | 1 | l |
| Who s | hould AIC contact w | ith questions: | | | | | | Relind | uishe | d | | - | Date/ | Time | | Rec | eive (ir | 1 Lab | * | Date/Time | • |
| • | 870-312-1752 Fax: Attention to: | Ma Ladina Osnati | | | | | 1 | By: | • | | | | | | | Ву: | | \times_{\sim} | | 1 | |
| | t Address to: | Ms. Larken Penning Post Office Box 23: | | | | | } | | 1 | | | | <u> </u> | | | | | | 1. | 1125/14 | 1250 |
| | riudicaa iu. | El Dorado, AR 717 | | | | | | Comn | nențs: | | | | | | | | . 76 | | V | | |
| | | Lpennington@edc- | | <u>om</u> | | | | | i | | | | | | | | | | | | |

FORM 0060



二十年 年 日日

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

This report contains the analytical results and supporting information for samples submitted on January 26, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey) aboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

ATTN: Ms. Larken Pennington Ipennington@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



February 3, 2014 Control No. 174809 Page 2 of 4

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 26, 2014 Daily - Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-------------------------------|-------------------|-------|
| 174809-1 | 010 1/25/14 945 - 1/26/14 945 | 26-Jan-2014 0945 | |
| 174809-2 | 010 1/26/14 945 | 26-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174809-1

Sample Identification: 010 1/25/14 945 - 1/26/14 945

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

AIC No. 174809-2

Sample Identification: 010 1/26/14 945

| Analyte | Result | RL | <u>Units</u> | Qualifier |
|----------------|--------------------|------------------|--------------|-----------|
| Fecal Coliform | 1.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 26-Jan-2 | 2014 1300 by 295 | Batch: M4268 | |



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|-------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174805-1 | < 2 mg/l | | | 27Jan14 0745 by 285 | 01Feb14 1123 by 285 | | |
| • | Batch: W46439 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 27Jan14 0745 by 285 | 01Feb14 1125 by 285 | | |
| Total Suspended Solids | | 174787-1 | < 4 mg/l | | | 28Jan14 1057 by 285 | 29Jan14 0926 by 285 | | |
| · | Batch: W46454 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | | |
| Total Suspended Solids | | 174788-1 | 120 mg/l | | | 28Jan14 1057 by 285 | 29Jan14 0926 by 285 | | |
| • | Batch: W46454 | Duplicate | 120 mg/l | 0.851 | 20.0 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Amalida | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | 70 | Limits | KPU | Limit | Daten | | . <u> </u> | ווט | Quai |
| Ammonia as N with Distillation | 1 mg/l | 110 | 80.0-120 | | | W46441 | 27Jan14 1037 by 93 | 28Jan14 1954 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 92.9 | 84.5-115 | | | W46439 | 27Jan14 0745 by 285 | 01Feb14 1122 by 285 | | |
| Phosphorus | 5 mg/l | 107 | 85.0-115 | | | S36158 | 27Jan14 1621 by 271 | 28Jan14 1311 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46441-1 | 27Jan14 1037 by 93 | 28Jan14 1953 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46439-1 | 27Jan14 0745 by 285 | 01Feb14 1121 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46454-1 | 28Jan14 1058 by 285 | 29Jan14 0926 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36158-1 | 27Jan14 1621 by 271 | 28Jan14 1309 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4268-1 | | 26Jan14 1300 by 295 | |



| | | | | | | | | | | | | _ | | | | | | | PAGE | 1 OF 1 |
|---------------------------------|----------------------------------|---|-------|-------|----|--------|---------|----------|---|-----------------------|------------|--------|--------|-------|-------|-----------|---------|-------------|-----------|---------------|
| | | · · · · · · · · · · · · · · · · · · · | - | | PO | No. | NO | | | | ANAL | YSES | REQ | UEST | ED | | | | AIC CON | TROL NO: |
| Client: | | Chemical Company | | | į | | OF | | | Š | | | | | | | | | | 4809 |
| Projec | | | | | | | ┙_ | ł | | Ě | | | | | | | | | AIC PRO | POSAL ND: |
| Refere | | Permit AR0000752 | | | | | B | TSS | ' ' | So | | | | | | | | | Carrier: | |
| Projec | | lan Donnington | | | _ | IATRIX | - 우 | | Coli. F | <u>ā</u> | ļ | | | | | 1 | 1 | | | Gold Star |
| Manag | | ken Pennington | G | С | W | s | + | 8 | B (| ota | İ | | | | | | | | | Temperature C |
| Sampl | eo Arkev | Rennuator | R | 0 | Ť | 0 | | CBOD, | | NH3N, Total Phosphoru | | 1 | | | | | | | | -1.3° |
| By: AIC | Sample | Date/Time | A | M | E | l ĭ l | E | | ' | ξ | | | | | | 1 | | | | |
| | Identification | Collected | В | Р | R | _ | l.s | | <u> </u> | Ż | <u> </u> | | | | | | | | | Remarks |
| | 010 | The ly thereby | | × | x | | 1 | × | , | | | | | , | | | | | | |
| Z | 010 | 1/24/14/945 | X | | x | | 1 | <u></u> | × | | | | | | | | | | | |
| | 010 | 1/25/14-1/24/14 | | × | x | | 1 | | | х | | | | | | | | ; | | |
| | | | | | | | | | | | | | | | | | | | | |
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| | | · | | | | | | | 1 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | Field pH | calibration |
| | | Container Type | | | | | | Р | Ρ | Р | | | | | | | | | on | @ |
| | | Preservative | | | | | | NO | Т | S | | | | | | 1 | | | Buffer: | |
| | G = Gla | ss P = Plast | ic | | | V | = VO/ | vials | • | | | H=F | ICI to | pH2 | · | | | | Thiosulfa | ite |
| ! | NO = n | one S = Sulfu | ric a | cid p | H2 | N | = Nitri | c acid | | | | B = N | aOH 1 | | 2 | | | inc ac | etate | |
| | round Time Requeste | | | | | | | | quish | ed | | | Date/ | | | Rece | eived | | | Date/Time |
| | RMAL or EXPEDITE | | | | | | | Ву: | ملك ا | M., | 0 | Nother | 1/2 | بداها | 10:0) | Ву: | | | | |
| Expedited results requested by: | | | | | | | | | | | <u>uuu</u> | MAN | | | 10.00 | - | | | | - · · · · |
| | should AIC contact wi | ith questions: | | | | | | | quish | ed | | Ü | (Date | Time | | 1 | ived in | Lab | | Date/Time |
| Ш | 870-312-1752 Fax: | Ma Ladian Dai- | -1 | | | | | Ву: | | | | | | | | By:< | len | Wom | | (1235) |
| | 1 Attention to: 1 Address to: | Ms. Larken Pennin Post Office Box 23 | - | | | | | Com | ments | | | | · | | | <u></u> _ | way | VV 0 | | (1833) |
| lizehoi | i Address (0: | El Dorado, AR 71 | | | | | | | جار ہے۔۔۔ ا | • | | | | | | | | | | |
| 1 | | Lpennington@edc | | com | | | | | | | | | | | | | | | | |
| L | | -2-111111111111111111111111111111111111 | - III | | | | | | | | | | | - | | | | | | |

FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 27, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey aboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

ATTN: Ms. Larken Pennington Ipennington@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



February 3, 2014 Control No. 174827 Page 2 of 4

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 27, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------------------------|-------------------------|
| 174827-1 | Outfall 010 1/26/14 945 1/27/14 945 | 27-Jan-2014 0945 |
| 174827-2 | Outfall 010 1/27/14 945 | 27-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174827-1

Sample Identification: Outfall 010 1/26/14 945 1/27/14 945

| Analyte | | Result | RL | Units | Qualifier |
|--|--------------------------------------|--------------------------------|-----------------------------|------------------------------|--------------|
| Ammonia as N with Distilla SM 4500-NH3 B,G 1997 | tion Prep: 28-Jan-2014 0945 by 93 | 8.4 Analyzed: 28-J | 0.5 an-2014 2208 by 93 | mg/l Batch: W46452 | D Dil: 5 |
| Carbonaceous BOD 5-day SM 5210 B 2001 | Prep: 27-Jan-2014 1555 by 285 | 3.1 Analyzed: 01-F | 2 Feb-2014 1216 by 285 | mg/l Batch: W46439 | |
| Total Suspended Solids USGS 3765 | Prep: 29-Jan-2014 1402 by 285 | < 4 Analyzed: 30-3 | 4 an-2014 0842 by 285 | mg/l Batch: W46475 | |
| Phosphorus EPA 200.7 | Prep: 27-Jan-2014 1620 by 271 | 0.068 Analyzed: 28-J | 0.02 an-2014 1403 by 305 | mg/l Batch: S36158 | |
| Nitrate as N EPA 300.0 | Prep: 27-Jan-2014 1410 by 07 | 24 Analyzed: 27- | 0.5 lan-2014 2006 by 07 | mg/l Batch: C16415 | D Dil: 10 |

AIC No. 174827-2

Sample Identification: Outfall 010 1/27/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|--------------------|-----------------|--------------|-----------|
| Fecal Coliform | 1.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 27-Jan-2 | 014 1529 by 295 | Batch: M4269 | |



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174805-1 | < 2 mg/l | | | 27Jan14 0745 by 285 | 01Feb14 1123 by 285 | | |
| , | Batch: W46439 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 27Jan14 0745 by 285 | 01Feb14 1125 by 285 | | |
| Total Suspended Solids | | 174822-1 | < 4 mg/l | | | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | | |
| • | Batch: W46475 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | | |
| Total Suspended Solids | | 174823-1 | 7.2 mg/l | | | 29Jan14 1402 by 285 | - | | |
| · | Batch: W46475 | Duplicate | 6.8 mg/l | 5.71 | 20.0 | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 1 mg/l | 102 | 80.0-120 | | | W46452 | 28Jan14 0945 by 93 | 28Jan14 2038 by 93 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 92.9 | 84.5-115 | | | W46439 | 27Jan14 0745 by 285 | 01Feb14 1122 by 285 | | |
| Phosphorus | 5 mg/l | 107 | 85.0-115 | | | S36158 | 27Jan14 1621 by 271 | 28Jan14 1311 by 305 | | |
| Nitrate as N | 4 mg/l | 99.2 | 90.0-110 | | | C16415 | 27Jan14 1341 by 07 | 27Jan14 1537 by 07 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

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|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46452-1 | 28Jan14 0945 by 93 | 28Jan14 2036 by 93 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46439-1 | 27Jan14 0745 by 285 | 01Feb14 1121 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46475-1 | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36158-1 | 27Jan14 1621 by 271 | 28Jan14 1309 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16415-1 | 27Jan14 1341 by 07 | 27Jan14 1349 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4269-1 | | 27Jan14 1529 by 295 | |



| | | | | | | | | _ | | | | | | | | | | PAGE | 1 OF 1 |
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| Client: | | Chemical Company | | | | | OF | _ | ١, | 8 | | | | i | | | 1 | | 174827 |
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| | lited results request | | | | | | | | <u> </u> | decir | ARMI | Melle | 12 | 1119 | 10:90 | <u> </u> | | | |
| | should AIC contact v | vith questions: | | | | | | B . | quishe | ed | | J | Date/ | Ime | | | ived in | Lab | Date/Time |
| | 870-312-1752 Fax: | Ma Ladias Ossala | _4 | | | | | Ву: | • | | | | | | | E V:) | | C_{λ} | 1/22/114 |
| | t Attention to: t Address to: | Ms. Larken Pennin Post Office Box 23 | | | | | | Com | nents | | | | L | | | | me | Local | 1315 |
| Kehor | r Address (0) | El Dorado, AR 717 | | | | | | Com | nenış. | | | | | | | | 1 | , 1 | |
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FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 28, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

Jøhn Overbey Laboratory Directør

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

ATTN: Ms. Larken Pennington Ipennington@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



February 3, 2014 Control No. 174864 Page 2 of 5

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 28, 2014 Daily, Weekly-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-------------------------------|-------------------|-------|
| 174864-1 | 010 1/27/14 9:45 1/28/14 9:45 | 28-Jan-2014 0945 | |
| 174864-2 | 010 1/28/14 9:45 | 28-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174864-1

Sample Identification: 010 1/27/14 9:45 1/28/14 9:45

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

AIC No. 174864-2

Sample Identification: 010 1/28/14 9:45

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



DUPLICATE RESULTS

| | | | - | | RPD | B | Aurabiata Basa | 5" | 01 |
|-------------------------------|---------------|-----------|-----------|-------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD_ | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174864-1 | < 2 mg/l | | | 29Jan14 0820 by 285 | 03Feb14 0957 by 285 | | |
| • | Batch: W46467 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 29Jan14 0821 by 285 | 03Feb14 0958 by 285 | | |
| Total Suspended Solids | | 174822-1 | < 4 mg/l | | | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | | |
| · | Batch: W46475 | Duplicate | < 4 mg/l | 0.00 | 20.0 | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | | |
| Total Suspended Solids | | 174823-1 | 7.2 mg/l | | | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | | |
| | Batch: W46475 | Duplicate | 6.8 mg/l | 5.71 | 20.0 | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | | |
| Total Dissolved Solids | | 174820-1 | 1300 mg/l | | | 29Jan14 1619 by 285 | 30Jan14 1601 by 285 | | |
| | Batch: W46477 | Duplicate | 1300 mg/l | 0.230 | 10.0 | 29Jan14 1619 by 285 | 30Jan14 1601 by 285 | | |
| Total Dissolved Solids | | 174820-2 | 1300 mg/l | | | 29Jan14 1619 by 285 | 30Jan14 1601 by 285 | | |
| | Batch: W46477 | Duplicate | 1300 mg/l | 0.618 | 10.0 | 29Jan14 1619 by 285 | 30Jan14 1601 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|--------------------|--------------|----------------------|-------|-------|----------------|--|--|-----|--------|
| Ammonia as N with Distillation | 1 mg/l | 96.7 | 80.0-120 | _ ::: | | W46469 | 29Jan14 0826 by 302 | 31Jan14 1400 by 308 | | _ ==== |
| Carbonaceous BOD 5-day | 200 mg/l | 100 | 84.5-115 | | | W46467 | 29Jan14 0821 by 285 | 03Feb14 0955 by 285 | | |
| Phosphorus | 5 mg/l | 102 | 85.0-115 | | | S36167 | 29Jan14 0952 by 271 | 29Jan14 1539 by 305 | | |
| Chloride | 20 mg/l | 104 | 90.0-110 | | | C16417 | 28Jan14 1410 by 07 | 28Jan14 1629 by 07 | | |
| Sulfate | 20 mg/l | 105 | 90.0-110 | | | C16417 | 28Jan14 1410 by 07 | 28Jan14 1629 by 07 | | |
| Oil and Grease | 40 mg/l 40 mg/l | 92.0 91.0 | 78.0-114 78.0-114 | 1.09 | 20.0 | B8767 B8767 | 29Jan14 0851 by 295 29Jan14 0851 by 295 | 29Jan14 1124 by 295 29Jan14 1124 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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



February 3, 2014 Control No. 174864 Page 5 of 5

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46477-1 | 29Jan14 1619 by 285 | 30Jan14 1601 by 285 | |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46469-1 | 29Jan14 0826 by 302 | 31Jan14 1358 by 308 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46467-1 | 29Jan14 0821 by 285 | 03Feb14 0954 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46475-1 | 29Jan14 1402 by 285 | 30Jan14 0842 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36167-1 | 29Jan14 0952 by 271 | 29Jan14 1537 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16417-1 | 28Jan14 1410 by 07 | 28Jan14 1508 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16417-1 | 28Jan14 1410 by 07 | 28Jan14 1508 by 07 | |
| Oil and Grease | < 2 mg/l | 2 | 5 | B8767-1 | 29Jan14 0851 by 295 | 29Jan14 1124 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4271-1 | | 28Jan14 1451 by 295 | |



| | | | | | | | | | | ! | | | | | | | | | | PAGE | 1 OF 1 | |
|---------------------|------------------------|---------------------|--------------|-------|--|--------|------------|----------|------------------|-----------------------|----------|-------------|--------|----------|--|------|--------------|-------------|-------------------|-----------|---------------------|-----|
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| | hould AIC contact wi | | | | | _ | | Relir | nquishe | ∌d | | υ | Date/ | | | | Receiv | ved in I | Lab | | Date/Time | |
| Phone | 870-312-1752 Fax: | | | | | | | Ву: | • | | | | | | | Ε | 31 | | $\overline{\cap}$ | | Date/Time 1 - 28-14 | |
| | Attention to: | Ms. Larken Penning | | | | | | L | | | | | | | | - 10 | Tha | nes | d. b | ممد | 13:10 | |
| Report | Address to: | Post Office Box 231 | | | | | | Com | ments | : | • | | | | | | | | | | <u> </u> | |
| } | | El Dorado, AR 717 | | | | | | 1 | : | | | | | | | | | | | | | |
| | | Lpennington@edc- | <u>ark.c</u> | om | | | | <u> </u> | l | | | | | | | | | | | | | |

FORM 0060



| | · · · · · · · · · · · · · · · · · · · | | | | | | | | • | | | | | | | | | | PAGE | 1 OF 1 | |
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| | G = Gla | | | 1 | | | | S vials | NO | | ــــــا | H = F | ICI to 1 | pH2 | | | T = S | | Buffer: Thiosulfa | ate | |
| Tumar | NO = no ound Time Requeste | | ric ac | id pl | 12 | N = | | acid | | | | | | o pH1 | 2 | | Z = Zi | | | | |
| NOR Expedi | MAL or EXPEDITE ted results requested | D IN DAYS | | | | · - | | Relin By: | quisne V | Min | Phin | NOTHE | Date/ | 1 | 1000 | Rece By: | ived | | | Date/Time | |
| Phone | hould AIC contact wil 870-312-1752 Fax: Attention to: | th questions: Ms. Larken Pennin | aton | | | | | Reline By: | quishe | ed | | D | Date/ | Time | | Rece | ived in | Lab | a | Date/Time | |
| | Address to: | Post Office Box 23 El Dorado, AR 717 Lpennington@edc- | 1 '31 | <u>om</u> | | | | Comr | nents | | ***** | | | | | | WO.ei | ANT | XL C | 13:18Pr | |
| | | | | | | | | | | | | | | | | | | | | FORM 0060 | |



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

This report contains the analytical results and supporting information for samples submitted on January 29, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

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

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

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

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

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



February 4, 2014 Control No. 174897 Page 2 of 4

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

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 29, 2014 Daily-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-------------------------------------|-------------------------|
| 174897-1 | Outfall 010 1/28/14 945 1/29/14 945 | 29-Jan-2014 0945 |
| 174897-2 | Outfall 010 1/29/14 945 | 29-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174897-1

Sample Identification: Outfall 010 1/28/14 945 1/29/14 945

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

AIC No. 174897-2

Sample Identification: Outfall 010 1/29/14 945

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



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174895-1 | 2.4 mg/l | | | 30Jan14 1026 by 285 | 04Feb14 1130 by 302 | | |
| · | Batch: W46482 | Duplicate | 2.2 mg/l | 7.86 | 20.0 | 30Jan14 1026 by 285 | 04Feb14 0906 by 285 | | |
| Total Suspended Solids | | 174867-1 | 7.2 mg/l | | | 31Jan14 1507 by 285 | 03Feb14 1329 by 285 | | |
| | Batch: W46498 | Duplicate | 6.8 mg/l | 5.71 | 20.0 | 31Jan14 1507 by 285 | 03Feb14 1329 by 285 | | |
| Total Suspended Solids | | 174868-1 | 7.2 mg/l | | | 31Jan14 1507 by 285 | 03Feb14 1329 by 285 | | |
| | Batch: W46498 | Duplicate | 7.2 mg/l | 0.00 | 20.0 | 31Jan14 1507 by 285 | 03Feb14 1329 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | | |
|--------------------------------|----------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|--|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual | |
| Ammonia as N with Distillation | 1 mg/l | 96.7 | 80.0-120 | | | W46469 | 29Jan14 0826 by 302 | 31Jan14 1400 by 308 | | | |
| Carbonaceous BOD 5-day | 200 mg/l | 86.7 | 84.5-115 | | | W46482 | 30Jan14 1026 by 285 | 04Feb14 0902 by 285 | | | |
| Phosphorus | 5 mg/l | 105 | 85.0-115 | | | S36172 | 29Jan14 1701 by 305 | 30Jan14 1411 by 305 | | | |
| Nitrate as N | 4 mg/l | 92.5 | 90.0-110 | | | C16423 | 29Jan14 1353 by 07 | 29Jan14 1807 by 07 | | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46469-1 | 29Jan14 0826 by 302 | 31Jan14 1358 by 308 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46482-1 | 30Jan14 1026 by 285 | 04Feb14 0901 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46498-1 | 31Jan14 1507 by 285 | 03Feb14 1329 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36172-1 | 29Jan14 1701 by 305 | 30Jan14 1408 by 305 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16423-1 | 29Jan14 1353 by 07 | 29Jan14 1647 by 07 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4272-1 | | 29Jan14 1531 by 304 | |



| · | | | | _ | | | _ | | | | | | | | | | | | PAGE | 1 OF 1 | |
|------------------|------------------------|---------------------|-------|-------|--------|-------------|--|----------------|------------|-----------------------|----------------|-------|--------------|--------|--------------|----------|----------|-------------|-----------|---------------------------------------|--|
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| | should AIC contact w | ith questions: | | | | | | Relin | quishe | ed . | 5 | | Date/ | | | | eived in | Lab | | Date/Tim | e |
| | e 870-312-1752 Fax: | | | | | | | Ву: | | | | | | | | By: | 1 | | _ | Date/Tim 1/29/1 | |
| | t Attention to: | Ms. Larken Pennin | | | | | | | | | | | | | | | Jum | <u> </u> | _بمك | 1315 | <u> </u> |
| Repor | rt Address to: | Post Office Box 23 | | | | | | Com | ments: | | | _ | | | | | } | | | | |
| | | El Dorado, AR 717 | | | | | | | | | | | | | | | | | • | | |
| | | Lpennington@edc- | ark.c | om | | | | L | | | | | | | | | | | | | |

FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 30, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

hn Overbey boratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company ATTN: Ms. Larken Pennington Ipennington@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



SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 30, 2014 Daily, Weekly-Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time | Notes |
|---------------|-------------------------------------|-------------------|-------|
| 174935-1 | Outfall 010 1/29/14 945 1/30/14 945 | 30-Jan-2014 0945 | |
| 174935-2 | Outfall 010 1/30/14 945 | 30-Jan-2014 0945 | |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



ANALYTICAL RESULTS

AIC No. 174935-1

Sample Identification: Outfall 010 1/29/14 945 1/30/14 945

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

AIC No. 174935-2

Sample Identification: Outfall 010 1/30/14 945

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



DUPLICATE RESULTS

| | | | | | RPD | | | | |
|------------------------|---------------|-----------|----------|-------|-------|---------------------|---------------------|-----|------|
| Analyte | | AIC No. | Result | RPD | Limit | Preparation Date | Analysis Date | Dil | Qual |
| Carbonaceous BOD 5-day | | 174935-1 | < 2 mg/l | | | 31Jan14 0819 by 285 | 05Feb14 0849 by 285 | | |
| | Batch: W46491 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 31Jan14 0819 by 285 | 05Feb14 0851 by 285 | | |
| Total Dissolved Solids | | 174911-1 | 770 mg/l | | | 31Jan14 1303 by 302 | 03Feb14 1526 by 302 | | |
| | Batch: W46494 | Duplicate | 780 mg/l | 0.515 | 10.0 | 31Jan14 1303 by 302 | 03Feb14 1526 by 302 | | |
| Total Dissolved Solids | | 174912-1 | 250 mg/l | | | 31Jan14 1303 by 302 | 03Feb14 1526 by 302 | | |
| | Batch: W46494 | Duplicate | 250 mg/l | 0.00 | 10.0 | 31Jan14 1303 by 302 | 03Feb14 1526 by 302 | | |
| Total Suspended Solids | | 174913-1 | 120 mg/l | | | 03Feb14 1433 by 285 | 04Feb14 0827 by 285 | | |
| | Batch: W46513 | Duplicate | 110 mg/l | 9.61 | 20.0 | 03Feb14 1433 by 285 | 04Feb14 0827 by 285 | | |
| Total Suspended Solids | | 174922-2 | 21 mg/l | | | 03Feb14 1433 by 285 | 04Feb14 0827 by 285 | | |
| | Batch: W46513 | Duplicate | 23 mg/l | 7.27 | 20.0 | 03Feb14 1433 by 285 | 04Feb14 0827 by 285 | | |

LABORATORY CONTROL SAMPLE RESULTS

| | Spike | | | | | | | | | |
|--------------------------------|----------|------|----------|------|-------|--------|---------------------|---------------------|-----|------|
| Analyte | Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
| Ammonia as N with Distillation | 1 mg/l | 99.6 | 80.0-120 | | | W46489 | 31Jan14 0810 by 302 | 31Jan14 1440 by 308 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 97.3 | 84.5-115 | | | W46491 | 31Jan14 0819 by 285 | 05Feb14 0848 by 285 | | |
| Phosphorus | 5 mg/l | 106 | 85.0-115 | | | S36180 | 30Jan14 1651 by 305 | 31Jan14 1307 by 305 | | |
| Chloride | 20 mg/l | 103 | 90.0-110 | | | C16425 | 30Jan14 1418 by 07 | 30Jan14 1455 by 07 | | |
| Nitrate as N | 4 mg/l | 96.9 | 90.0-110 | | | C16425 | 30Jan14 1418 by 07 | 30Jan14 1455 by 07 | | |
| Sulfate | 20 mg/l | 109 | 90.0-110 | | | C16425 | 30Jan14 1418 by 07 | 30Jan14 1455 by 07 | | |
| Oil and Grease | 40 mg/l | 101 | 78.0-114 | | | B8773 | 03Feb14 1307 by 295 | 04Feb14 0844 by 295 | | |
| | 40 mg/l | 105 | 78.0-114 | 3.88 | 20.0 | B8773 | 03Feb14 1307 by 295 | 04Feb14 0844 by 295 | | |

MATRIX SPIKE SAMPLE RESULTS

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



LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|-------------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Total Dissolved Solids | < 10 mg/l | 10 | 10 | W46494-1 | 31Jan14 1303 by 302 | 03Feb14 1526 by 302 | , |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46489-1 | 31Jan14 0810 by 302 | 31Jan14 1435 by 308 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46491-1 | 31Jan14 0819 by 285 | 05Feb14 0847 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46513-1 | 03Feb14 1433 by 285 | 04Feb14 0827 by 285 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36180-1 | 30Jan14 1651 by 305 | 31Jan14 1305 by 305 | |
| Chloride | < 0.2 mg/l | 0.2 | 0.2 | C16425-1 | 30Jan14 1418 by 07 | 30Jan14 1428 by 07 | |
| Nitrate as N | < 0.05 mg/l | 0.05 | 0.05 | C16425-1 | 30Jan14 1418 by 07 | 30Jan14 1428 by 07 | |
| Sulfate | < 0.2 mg/l | 0.2 | 0.2 | C16425-1 | 30Jan14 1418 by 07 | 30Jan14 1428 by 07 | |
| Oil and Grease | < 2 mg/l | 2 | 5 | B8773-1 | 03Feb14 1307 by 295 | 04Feb14 0844 by 295 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4273-1 | | 30Jan14 1508 by 295 | |



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| El Dorado, AR 71731 | | | | | | | | neniş. | • | | | | | | | j | | 1 | 1 | | | | |
| L | Lpennington@edc-ark.com | | | | | _ | | | | | _ | | | | | | | | | | | | |

FORM 0060



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| Who should AIC contact with questions: | | | | | | | Relin | Relinquished / Date/Time Received in Lal | | | | | | | Lab | | Date/Time | | | | |
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| Report Attention to: Ms. Larken Pennington | | | | | | L | | | | | | | | | imm | w.k. | Dur | 1/30/14 | , | | |
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| El Dorado, AR 71731 | | | | | | | | | | | | | | • | | • | | | | | |
| Lpennington@edc-ark.com | | | | | | | | 1 | | | _ | | | | | | | | | | |

FORM 0060



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

This report contains the analytical results and supporting information for samples submitted on January 31, 2014. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

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

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

John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: El Dorado Chemical Company

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

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

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

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

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



February 6, 2014 Control No. 174998 Page 2 of 4

SAMPLE INFORMATION

Project Description:

Two (2) water sample(s) received on January 31, 2014 Daily, Permit AR0000752 P.O. No. 357042

Receipt Details:

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

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

Sample Identification:

| Laboratory ID | Client Sample ID | Sampled Date/Time Notes |
|---------------|-----------------------------|-------------------------|
| 174998-1 | 010 1/30/14 945 1/31/14 945 | 31-Jan-2014 0945 |
| 174998-2 | 010 1/31/14 945 | 31-Jan-2014 0945 |

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", 21st edition.

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



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

ANALYTICAL RESULTS

AIC No. 174998-1

Sample Identification: 010 1/30/14 945 1/31/14 945

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

AIC No. 174998-2

Sample Identification: 010 1/31/14 945

| Analyte | Result | RL | Units | Qualifier |
|----------------|---------------------|-----------------|--------------|-----------|
| Fecal Coliform | 9.0 | 1 | /100ml | |
| SM 9222 D 1997 | Analyzed: 31-Jan-20 | 014 1541 by 295 | Batch: M4276 | |



El Dorado Chemical Company 4500 North West Avenue El Dorado, AR 71730 February 6, 2014 Control No. 174998 Page 4 of 4

DUPLICATE RESULTS

| Analyte | | AIC No. | Result | RPD | RPD Limit | Preparation Date | Analysis Date | Dil | Qual |
|------------------------|---------------|-----------|-----------|------|--------------|---------------------|---------------------|-----|------|
| Carbonaceous BOD 5-day | | 174935-1 | < 2 mg/l | | | 31Jan14 0819 by 285 | 05Feb14 0849 by 285 | | |
| | Batch: W46491 | Duplicate | < 2 mg/l | 0.00 | 20.0 | 31Jan14 0819 by 285 | 05Feb14 0851 by 285 | | |
| Total Suspended Solids | | 174944-3 | 130 mg/l | | | 04Feb14 0932 by 302 | 04Feb14 1627 by 302 | | |
| · | Batch: W46519 | Duplicate | 120 mg/l | 8.26 | 20.0 | 04Feb14 0932 by 302 | 04Feb14 1627 by 302 | | |
| Total Suspended Solids | | 174946-3 | 3600 mg/l | | | 04Feb14 0932 by 302 | 04Feb14 1627 by 302 | | |
| • | Batch: W46519 | Duplicate | 3600 mg/l | 1.12 | 20.0 | 04Feb14 0932 by 302 | 04Feb14 1627 by 302 | | |

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------------------|-----------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Ammonia as N with Distillation | 1 mg/l | 99.6 | 80.0-120 | | | W46506 | 03Feb14 0756 by 302 | 05Feb14 1914 by 302 | | |
| Carbonaceous BOD 5-day | 200 mg/l | 97.3 | 84.5-115 | | | W46491 | 31Jan14 0819 by 285 | 05Feb14 0848 by 285 | | |
| Phosphorus | 5 mg/l | 104 | 85.0-115 | | | S36189 | 03Feb14 0910 by 305 | 03Feb14 1616 by 305 | | |

MATRIX SPIKE SAMPLE RESULTS

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

LABORATORY BLANK RESULTS

| | | | | QC | | | |
|--------------------------------|-------------|------|------|----------|---------------------|---------------------|------|
| Analyte | Result | RL | PQL | Sample | Preparation Date | Analysis Date | Qual |
| Ammonia as N with Distillation | < 0.1 mg/l | 0.1 | 0.1 | W46506-1 | 03Feb14 0756 by 302 | 05Feb14 1912 by 302 | |
| Carbonaceous BOD 5-day | < 2 mg/l | 2 | 2 | W46491-1 | 31Jan14 0819 by 285 | 05Feb14 0847 by 285 | |
| Total Suspended Solids | < 4 mg/l | 4 | 4 | W46519-1 | 04Feb14 0932 by 302 | 04Feb14 1627 by 302 | |
| Phosphorus | < 0.02 mg/l | 0.02 | 0.02 | S36189-1 | 03Feb14 0910 by 305 | 03Feb14 1613 by 305 | |
| Fecal Coliform | < 1 /100ml | 1 | 1 | M4276-1 | | 31Jan14 1541 by 21 | |
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CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

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| Who s | hould AIC contact w | ith questions: | - | | | _ | | | quishe | | |) — | Date/ | | 1000 | Rece | eived in Lal | h | Date/Time |
| | 870-312-1752 Fax: | • | | | | | | Ву: | , | - | | | | | | By | | . | 1-31-14 |
| | t Attention to: | Ms. Larken Penning | gton | | | | |] | • | | | | Ì | | | T'X | hu K. | ايميلا | 13:19 |
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| | | El Dorado, AR 717 | | | | | | | • | | | | | | | | | • | |
| | | Lpennington@edc- | ark.c | om | ~ | | | | | | | | | | | | | | |

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

Bio-Analytical Laboratories' Executive Summary

Permittee:

El Dorado Chemical Company

P.O. Box 231

El Dorado, AR 71731

Project #:

X5316

Outfall:

Outfall 006 (contaminated storm water)

Permit #:

AR0000752/ AFIN #70-00040

Contact:

Ms. Larken Pennington

Test Dates:

January 10 - 12, 2014

Test Type:

48-hour acute toxicity test using *Pimephales promelas* (EPA 2000.0).

48-hour acute toxicity test using *Daphnia pulex* (EPA 2021.0)

Results:

For Pimephales promelas:

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

For Daphnia pulex:

- 1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D-0-Pass.
- 2. Report the NOEC for survival, Parameter TOM3D -100.0%.
- 3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D 0.00%.

This report contains a total of 29 pages, including this page. The results pertain only to the samples listed in the chain of custody documents in Appendix A. The information contained within meets the requirements set forth by ADEQ. The chemical data in this report is for monitoring purposes only and should not be reported on discharge monitoring reports.



Bio-Analytical Laboratories

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

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

EL DORADO CHEMICAL COMPANY El Dorado, Arkansas

> NPDES #AR0000752 AFIN #70-00040

EPA Methods 2000.0 and 2021.0

Project X5316

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

Prepared for:

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

Prepared by:

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

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1.0 Introduction

Bio-Analytical Laboratories (BAL), Doyline, Louisiana conducted two 48-hour acute toxicity tests for Outfall 006 at El Dorado Chemical Company, El Dorado, Arkansas. The test organisms used were the fathead minnow, *Pimephales promelas* and the cladoceran, *Daphnia pulex*. The purpose of this study is to determine if an appropriately dilute effluent sample adversely affects the survival of the test organism. Toxicity is defined as a statistically significant difference at the 95 percent confidence level between the survival of the test organisms in the critical dilution (the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions) compared to the survival of the test organisms in the control. The test endpoints are the No-Observed-Effect-Concentration (NOEC), which is defined as the highest effluent concentration that is not statistically different from the control, and the 48-hour LC₅₀, the concentration in which 50 percent of the test organisms died.

2.0 Methods and Materials

2.1 Test Methods

All methods followed were according to the latest edition of "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012), "Standard Methods for The Examination of Water and Wastewater. 20th Edition" (APHA 1998. Chemical results using this edition are listed in the report as SM 1997), and BAL's standard operating procedures.

2.2 Test Organisms

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

2.3 Dilution Water

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

2.4 Test Concentrations

The test concentrations used in the fathead minnow test were 100.0, 75.0, 56.0, 42.0, 32.0 and 22.0 percent effluent and a reconstituted water control. Due to the lack of available *Daphnia pulex* neonates, the test concentrations used in the daphnid test were 100.0 percent effluent and a reconstituted water control. The critical dilution was defined as 100.0 percent effluent. The tests were conducted using five replicates of eight animals each for a total of 40 animals per concentration.

2.5 Sample Collection

One sample of Outfall 006 was collected by El Dorado Chemical personnel on January 9, 2014. Upon completion of collection, the sample was packed in ice and delivered to the laboratory by BAL personnel. The temperature upon arrival was 3.0° 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^R amperometric titrator and recorded if present. The total ammonia level was measured using a HACH^R test strip. Dissolved oxygen (SM4500-O G 1997), pH (SM4500-H+ B 1997) and conductivity (SM2510-B 1997) measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity (SM2320-B 1997) and hardness (SM2340-C 1997) levels were measured on the control and the highest effluent concentration.

2.7 Monitoring of the Tests

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

2.8 Data Analysis

The NOEC and LC₅₀ values values were obtained by approved EPA methods of analysis, using the ToxCalc statistical program.

3.0 Results and Discussion

The results of the tests can be found in Table 1. Significant differences in survival were not noted in the critical dilution in either test after 48 hours of exposure (p=.05). The NOEC value for both tests was 100.0 percent effluent (p=.05). The 48-hour LC₅₀ values could not be determined because greater than 50.0 percent survival occurred in the tests. See Appendix C-Statistical Analysis, for more information.

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

| | The state of the s | ercentoury) al |
|---------------|--|----------------|
| Test Organism | Pimephales promelas | Daphnia pulex |
| Control | 100.0 | 100.0 |
| 22.0 | 100.0 | |
| 32.0 | 100.0 | |
| 42.0 | 100.0 | |
| 56.0 | 100.0 | |
| 75.0 | 100.0 | |
| 100.0 | 100.0 | 100.0 |

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

4.0 Conclusions

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

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

8240 Spurgin Road Post Office Box 521 Doyline, LA 71023 (318) 748-277: 1-800-259-1246 4ss: (318) 746-2773

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

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|----------------------------|-----------------------------|-------|-------|------------------------------|---------------|--------------------------|--------|--------------------------|----------------|----------------------------|-----------------------|-------------|--------------------|--------------------|---|---------------------------------------|
| Company: El Dorado Ch | emical Compan | y | | Phone: (870) 863-1484 | | | | An | alysis | : | - | | | | | Project Number: |
| Address: 4500 Norwest | Ave., El Dorad | o, AR | 7173 | Fax: 1 (870) 863-7499 | | | | Chronic | Chroni | Acute | Acute | Acute Mysid | Acute | Fecal (| | x5314 |
| Permit #: AR0000752/A | FIN 70-00040 | | | Purchase Order: | | | | c Ceriodaphnia | Chronic minnow | minnow(| Acute Daphnia species | Mysid | Acute Ceriodaphnia | Fecal Coliform | Temperatur | Temp. upon arrival: Upon arriva |
| Sampler's Sig | nature/Printed | 1 _ | 1. A. | L = 0 | ton | EI | XO | aphnia | W | Acute minnow(fresh/marine) | species | | hnia | | Thermomete Tech: 144 Date: 160(14 | r#: 89 |
| Date Start Date End | Time Start Time End | С | G | # and type of J container | Sample | / Identifi | cation | | | е) | | | | | Lab Control Number: | (below) |
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| COC Rev. 3.0 | | | | | | | | | | | | | | | | |

APPENDIX B RAW DATA SHEETS

Project# X5316 Client: EDCC/El Dorado Chemical Company Address: 4500 Northwest Ave El Dorado AR 71731 NPDES#AR0000752 Outfall 006 Technicians: EGB/AH/RC Date 11014 Time 1350 Test initiated: Date 1112114 Time_1345 Test terminated: 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 Aerate? Total Dechlor Salinity Hard-Alkal-Tech p.o. Minutes/ Residual (NH3) inated? ness inity (mg/L and %) Final Chlorine Amount? ma/L D.O(mg/L & %) (mg/L) SOOI Y/251 1353 8.0/93.93 440.6 10.OI NO N/A 308.0 41/25 16/89.6 Dilution Water Information Dilution Water Initial D.O (mg/L & %) ID# Aerate? Total Ammonia Hard-Alkal-Tech Minutes/D.O Residual (NH3) ness inity Chlorine (mg/L & 8) Ne Soft H20 *3*2.0 73 48.0 Test Species Information Species Pully Speci & pometas Test Species Info. Species: ID#: 1D#:BAI 50-TO ID#: PAU 1714 Age \mathbf{c} Test Container Size Test volume Feeding: Type Amount test initiation Aeration? Amount Condition of survivors Comments: 07 6 Hd

| Client El Dorado Chemical | | | | | | | | | | Te | st s | tart | ed: | Date | lol | <u>174</u> | | | 135 | | | |
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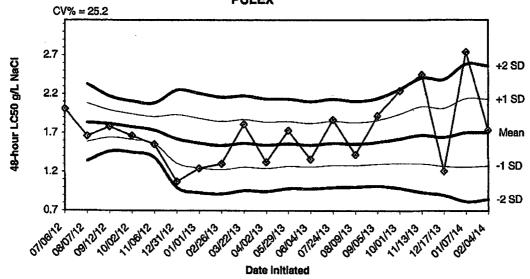
APPENDIX C STATISTICAL ANALYSIS

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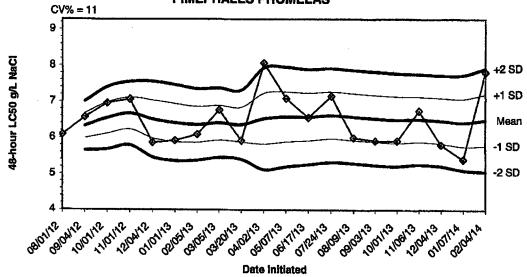
APPENDIX D QUALITY ASSURANCE CHARTS

2014 48-HOUR REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



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

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



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

APPENDIX E
AGENCY FORMS

Acute Forms Daphnia pulex Survival

Permittee: El Dorado Chemical - Outfall 006

NPDES Permit Number: AR0000752/ AFIN 70-00040

Composite Collected

From: 1/9/14

To: 1/9/14

From:

To:

Test Initiated: 1/10/14

Dilution Water Used:

Receiving Water

X Reconstituted Water

Dilution Series Results - Percent Survival

| TIME OF READING | REP | 0 | 100.0 | | | 1. 141 | |
|-----------------|------|-------|-------|--|---|--------|--|
| 24-hour | A | 100.0 | 100.0 | | | | |
| | В | 100.0 | 100.0 | | | | |
| | С | 100.0 | 100.0 | | | | |
| | D | 100.0 | 100.0 | | | | |
| | E | 100.0 | 100.0 | | | | |
| 48-hour | A | 100.0 | 100.0 | | | | |
| | В | 100.0 | 100.0 | | | | |
| | C | 100.0 | 100.0 | | | | |
| | D | 100.0 | 100.0 | | | | |
| | E | 100.0 | 100.0 | | | | |
| | Mean | 100.0 | 100.0 | | * | | |

- 1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
- a.) LOW FLOW OR CRITICAL DILUTION (100.0%)

YES

X NO

b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%)

YES

NO

2. Enter percent effluent corresponding to the LC_{50} below:

 $LC_{50} =$

N/A% effluent

95 % confidence limits: N/A

Method of LC $_{50}$ calculation: N/A

- 3. If you answered NO to 1.a) enter (P) otherwise enter (F): P
- 4. Enter response to item 3 on DMR Form, parameter TEM3D
- 5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
- 6. Enter response to item 5 on DMR Form, parameter TFM3D

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

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

Contact: Larken Pennington

Analyst: Haughton

Sample Collected

From:

Date 1/9/14

Time 0845

To:

Date 1/9/14 Date 1/10/14

Time 1445 Time 1425

Test Begin Test End

Date 1/12/14

Time 1345

| Parameter | | D.O. | | | Гетрегаци | e | | Alkalinity | | | Hardness | | | pН | |
|------------|-------|-------|-------|------|-----------|-------|-------|------------|-------|-------|----------|-------|------|-------|-------|
| Dilut/Time | Ohrs. | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs |
| 0 | 7.9 | 8.1 | 8.1 | 24.8 | 24.7 | 24.6 | 32.0 | | | 48.0 | | | 7.5 | 7.5 | 7.5 |
| 100.0 | 7.9 | 7.4 | 7.9 | 24.8 | 24.7 | 24.6 | 440.0 | | | 208.0 | | | 7.8 | 7.7 | 7.2 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

^{*}This Form is to be submitted with each DMR.

Alkalinity and hardness to be reported as mg/l CaCO₃

Acute Forms <u>Pimephales promelas</u> Survival

Permittee: El Dorado Chemical - Outfall 006

NPDES Permit Number: AR0000752/ AFIN 70-00040

Composite Collected

From: 1/9/14

To: 1/9/14

From:

To:

Test Initiated: 1/10/14

Dilution Water Used:

Receiving Water

X Reconstituted Water

Dilution Series Results - Percent Survival

| TIME OF READING | The state of the s | 1 | 1. 1. 1. 1. 1. 1. | Tana St | | | | 7952 35 |
|-----------------|--|-------|-------------------|---------|-------|-------|-------|---------|
| TIME OF READING | REP | 0 | 22.0 | 32.0 | 42.0 | 56.0 | 75.0 | 100.0 |
| 24-hour | A | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | В | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | С | 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 |
| • | В | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | C | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | D | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | E | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | Mean | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:

a.) LOW FLOW OR CRITICAL DILUTION (100.0%)

YES

X NO

b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%)

YES

NO

2. Enter percent effluent corresponding to the LC_{50} below:

 $LC_{50} =$

N/A% effluent

95 % confidence limits: N/A

Method of LC₅₀ calculation: N/A

- 3. If you answered NO to 1.a) enter (P) otherwise enter (F): P
- 4. Enter response to item 3 on DMR Form, parameter TEM3D
- 5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
- 6. Enter response to item 5 on DMR Form, parameter TFM3D

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

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

Contact: Larken Pennington Analyst: Haughton, Callahan

Sample Collected

From:

Date 1/9/14

Time 0845

To:

Date 1/9/14

Time 1445 Time 1425

Test Begin Test End Date 1/10/14 Date 1/12/14

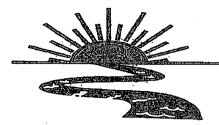
Time 1345

| Parameter | | D.O. | | | Temperatur | ė | | Alkalinity | 4 5 5 5 5 5 | | Hardness | | | pH . | |
|-------------|-------|-------|-------|------|------------|-------|-------|------------|-------------|-------|----------|-------|------|-------|-------|
| Dilut./Time | Ohrs. | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs |
| 0 | 7.9 | 8.1 | 8.0 | 24.7 | 24.7 | 24.6 | 32.0 | | | 48.0 | | | 7.5 | 7.5 | 7.4 |
| 22.0 | 7.9 | 8.0 | 7.8 | 24.7 | 24.7 | 24.6 | | | | | | | 7.5 | 7.4 | 7.2 |
| 32.0 | 7.9 | 7.9 | 7.7 | 24.7 | 24.7 | 24.6 | | | | | | | 7.6 | 7.5 | 7.2 |
| 42.0 | 7.9 | 7.8 | 7.6 | 24.7 | 24.7 | 24.6 | | | | | | | 7.6 | 7.6 | 7.3 |
| 56.0 | 7.9 | 7.7 | 7.5 | 24.7 | 24.7 | 24.6 | | | | | | | 7.7 | 7.7 | 7.4 |
| 75.0 | 7.9 | 7.6 | 7.4 | 24.7 | 24.7 | 24.6 | | | | | | | 7.7 | 7.7 | 7.4 |
| 100.0 | 7.9 | 7.4 | 7.2 | 24.7 | 24.7 | 24.6 | 440.0 | | | 208.0 | | | 7.8 | 7.7 | 7.4 |

^{*}This Form is to be submitted with each DMR.

Alkalinity and hardness to be reported as mg/l CaCO₃

APPENDIX F
REPORT QUALITY ASSURANCE FORM



Bio-Analytical Laboratories

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

REPORT QUALITY ASSURANCE FORM

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 X5317

Bio-Analytical Laboratories' Executive Summary

Permittee:

El Dorado Chemical Company

P.O. Box 231

El Dorado, AR 71731

Project #:

X5317

Outfall:

Outfall 007 (contaminated storm water)

Permit #:

AR0000752/ AFIN #70-00040

Contact:

Ms. Larken Pennington

Test Dates:

January 10 - 12, 2014

Test Type:

48-hour acute toxicity test using Pimephales promelas (EPA 2000.0).

48-hour acute toxicity test using Daphnia pulex (EPA 2021.0)

Results:

For Pimephales promelas:

- 1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C-1 Fail
- 2. Report the NOEC for survival, Parameter TOM6C 32.0%.
- 3. Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM6C 0.00%.
- -100.0 % survival occurred when the pH in the 100% effluent concentration was adjusted to a range of 6.0-9.0.

For Daphnia pulex:

- 1. If the NOEC for survival is less than the critical dilution (100.0%), enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D- 1-Fail.
- 2. Report the NOEC for survival, Parameter TOM3D -0.0%.
- 3.Report the highest (critical dilution or control) Coefficient of Variation, Parameter TQM3D 6.06%.
- -100.0 % survival occurred when the pH in the 100% effluent concentration was adjusted to a range of 6.0-9.0.

This report contains a total of 32 pages, including this page. The results pertain only to the samples listed in the chain of custody documents in Appendix A. The information contained within meets the requirements set forth by ADEQ. The chemical data in this report is for monitoring purposes only and should not be reported on discharge monitoring reports.



Bio-Analytical Laboratories

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 007 AT

EL DORADO CHEMICAL COMPANY El Dorado, Arkansas

> NPDES #AR0000752 AFIN #70-00040

EPA Methods 2000.0 and 2021.0

Project X5317

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

Prepared for:

Ms. Larken Pennington El Dorado Chemical Company P.O. Box 231 El Dorado, AR 71731 Prepared by: Ginger Briggs Bio-Analytical Laboratories P.O. Box 527 Doyline, LA 71023 ADEQ #88-0630

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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 LC₅₀, the concentration in which 50 percent of the test organisms died.

2.0 Methods and Materials

2.1 Test Methods

All methods followed were according to the latest edition of "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012), "Standard Methods for The Examination of Water and Wastewater. 20th Edition" (APHA 1998. Chemical results using this edition are listed in the report as SM 1997), and BAL's standard operating procedures.

2.2 Test Organisms

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

2.3 Dilution Water

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

2.4 Test Concentrations

The test concentrations used in the fathead minnow test were 100.0, 75.0, 56.0, 50.0, 42.0 and 32.0 percent effluent and a reconstituted water control. Due to the lack of available *Daphnia pulex* neonates, the test concentrations used in the daphnid test were 100.0 percent effluent and a reconstituted water control. The critical dilution was defined as 100.0 percent effluent. The tests were conducted using five replicates of eight animals each for a total of 40 animals per concentration.

2.5 Sample Collection

One sample of Outfall 007 was collected by El Dorado Chemical personnel on January 9, 2014. Upon completion of collection, the sample was packed in ice and delivered to the laboratory by BAL personnel. The temperature upon arrival was 0.7° 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^R amperometric titrator and recorded if present. The total ammonia level was measured using a HACH^R test strip. The pH of the effluent was adjusted from an initial pH of 4.3 to a pH range of 6.0-9.0, using 1.0 Normal Sodium Hydroxide solution (NaOH). An extra pH-adjusted 100.0 percent concentration was added to each test. Dissolved oxygen (SM4500-O G 1997), pH (SM4500-H+ B 1997) and conductivity (SM2510-B 1997) measurements were taken on the control and each test concentration at test initiation, at each renewal and at test termination. Alkalinity (SM2320-B 1997) and hardness (SM2340-C 1997) levels were measured on the control and the highest effluent concentration.

2.7 Monitoring of the Tests

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

2.8 Data Analysis

The NOEC and LC₅₀ values values were obtained by approved EPA methods of analysis, using the ToxCalc statistical program.

3.0 Results and Discussion

The results of the tests can be found in Table 1. Significant differences in survival were noted in the critical dilution in both tests after 24 hours of exposure (p=.05). The NOEC value for the *Daphnia pulex* and the fathead minnow test was zero and 32.0 percent effluent, respectively (p=.05). The 48-hour LC₅₀ value for the *Daphnia pulex* and the fathead minnow test was 50.0 and 36.87 percent effluent, respectively. Adjusting the pH to neutral significantly reduced the mortality in both tests. See Appendix C- Statistical Analysis, for more information.

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

| Percent Efficient 200 | als of the 40-nout Acute De | eresni Suzvival |
|-----------------------|-----------------------------|-----------------|
| Test Organism | Pimephales promelas | Daphnia pulex |
| Control | 100.0 | 97.5 |
| 32.0 | 100.0 | |
| 42.0 | 25.0 | |
| 50.0 | 0.0 | |
| 56.0 | 0.0 | |
| 75.0 | 0.0 | |
| 100.0 | 0.0 | 0.0 |
| 100.0 pH adjusted | 100.0 | 100.0 |

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

4.0 Conclusions

The sample of Outfall 007 collected from El Dorado Chemical Company, El Dorado, Arkansas, on January 9, 2014, was found to be lethally toxic to the fathead minnow test organisms and the *Daphnia pulex* test organisms in the 100.0 percent critical dilution after 48 hours of exposure (p=.05). The 48-hour LC₅₀ values for the *Daphnia pulex* and fathead minnow tests was 50.0 and 36.87 percent effluent, respectively (p=.05). Adjusting the pH to a range of 6.0-9.0 significantly reduced the toxicity of the sample.

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 Laboratorles

3240 Spurgin Road Past Office Bax 527 Doyline, LA 71028 (318) 748-2777 1-800-259-1246 Page (318) 748-2771

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

| <u> </u> | | | | | | | | | | | | | | | اها | poratory Use Only: |
|----------------------------|---------------------|-------|----------|--------------------------|------------|-------------------|------------|----------------------|----------------|----------------------------|-----------------------|-------------|--------------------|----------------|------------------------|---------------------------------------|
| Company: El Dorado Ch | emical Compan | y | | Phone: (870) 863-1484 | | | | An | alysis | • | | | | | | Project Number: |
| Address: 4500 Norwest | Ave., El Dorad | o, AF | 7173 | Fax: 1 (870) 863-7499 | | | | Chroni | Chroni | Acute 1 | Acute 1 | Acute Mysid | Acute (| Fecal (| · | X531 |
| Permit #: AR0000752/A | FIN 70-00040 | | | Purchase Order: | | | | Chronic Ceriodaphnia | Chronic minnow | ninnow(| Acute Daphnia species | Mysid | Acute Ceriodaphnia | Fecal Coliform | Temperat | Temp. upon arrival: JIO UPON QI |
| /) " . " | nature/Printed | 1 | | iation: Kenlenningt | 6 / | ED | W | aphnia | W | Acute minnow(fresh/marine) | species | : | hnia | | Date: 1/10 | eter #: 50 |
| Date Start Date End | Time Start Time End | С | G | # and type of container | Samp | t le Identific | cation | | | e) | | | | | Lab Control Number: | (below) |
| 19/14-19/14 | 8:50am- 2:50pm | X | | 6 haif gallon | | 00 | 7 | | | X | X | | | C | 8495 | 16 |
| <u> </u> | | | | v | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
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| Relinquished | by/Attiliation: | Ø1 | γ | EDIC | Date | 1 | Time: | Rec | eived | | ffilia | zon:) | <u> </u> | | Date: 10/14 | Time: 0945 |
| Relinquished | by/Affiliation: | 0 | | | Date | : | Time: | Rec | eived | by/A | ffiliat | tion: | | | Date: | Time: |
| Relinquished | by/Affiliation: | | 9 | 135 | Pote ///D | 14 | Time: 1210 | Rec | eived | by/A | ffiliat | ion: | | | Date: | Time: |
| Method of Shi Comments: | pment: | Lab | | Bus Fed Ex _ |] | DHL _ | UPS | | Clien | t | _Oth | ier | Trac | king # | | |
| COC Rev. 3.0 | | | | | | | | | | | | | | | | |

APPENDIX B RAW DATA SHEETS

| Project#_X53 | 317 | | | | - |
|---|---|--|---|------------------------------|--------|
| Client: EDCC/El | . Dorado Chemi | cal Company | | | |
| Address: 4500 N | Northwest Ave | El Dorado AR | 71731 | | |
| NPDES# <u>AR0000752</u> | Outfall (| 007 | | | |
| Technicians: EG | SB/AH/RC | | | | |
| Test initiated: | Date_ | 0114 Time_ | 1400 | | |
| Test terminated Dissolved Oxyge pH Meter: Conductivity Me Amperometric Ti | en Meter: Model #0 Model #0 eter: Model #0 trator: Model | del # YSI 55D Drion 230A+ Control Co. | Serial #06 Serial #109 Serial #809 Tter Serial | 5253 277 <mark>924</mark> | |
| ID# D.O. M | erate? Total Rinutes/ Residual Chlorine | Dechlor Ammonia inated? (NH3) Amount? mg/L | Salinity Hard- ness | Alkal- Tech inity | |
| and %) D | 0.0(mg/L (mg/L) : %) | | 3001 | 1008 | |
| C8195 (* /137.57 | 79,43.5% 20.01 | NO 3.0 | N/A 264.6 | Ø PH | |
| 1 " (14263 5 | हर्षावदाङ 🕝 | 1 | 1 1 | - + | |
| | Dilution | Water Inform | <u>nation</u> | | - |
| Dilution Water ID# | (mg/L & %) Minu | te? ites/D.0 (L & %) (L & %) (max.14) | Ammonia pH Har (NH3) pH nes | | |
| Soft H20 357 | 1 | | 7.348 | 0 32.0 56 | |
| 1 | | | | | |
| | Test Sp | ecies Informa | | | |
| Test Species Info. | Species: | Special Complete ID#: Pro 1714 | →Species: ID#: | Species: ID#: | |
| Age | 15AP | ~3dous | | | |
| Test Container Size | 30ml | appmi | | | |
| Test volume | ODMI | Origonia | | | i |
| Feeding: Type Amount | VCT. HIGGE | DAUX 40 FE | t Initiation | | |
| Aeration? | 0.10 | | * WHITE STEEN | | |
| Amount | NH. |) | | | I |
| Condition of survivors | Get | אוווצוע - | | | |
| Commonta | →43 | | | | |
| Pn | · 4.0 | | | | |

PH Adjusted - 7.7

Acutel Rev. 1.0

| Project# <u>X</u> | (5317 | | | | | | | | | | | | | Date | • | | | | 740 | | | |
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| Client E | Dorac | 10 C | he | بصر | CO | | : | | | | | | | Date ~ | • | | | | රුව | | | |
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| Test Dilution | Replicate | Test salinity | | # Liv | e Org | anism | s ; | <u> </u> | Diss | olved | Oxyge | n | | - | рĦ | | | <u> </u> | | , | | |
| 0/0 | | NA | 0 hr | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96. | 0 | 24 | 48 | 72 | 96 |
| 0 | A | | 8 | 8 | ュ | | | 19 | X.C | 4. 0 | | | 13 | 135 | 10 | | | 83. | % 1: | 310 | | · |
| | B | | 8 | 8 | 8 | | | | | | | | | | | | | | <u> </u> | | | i |
| | . ک | · | 8 | 8 | 8 | | | | | | | | | | | | _ | | | | | |
| | D | | 8 | 8 | 8 | | | | | | | | | | | | | | | | | |
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| wer chount | 8 | | 8 | 0 | | | | PHON | | | | | | | | | <u> </u> | | | | | |
| | C | | 8 | 0 | | <u>_</u> . | | <u> </u> | | | | | <u> </u> | <u> </u> | | | - | | | - | ļ | |
| | D | | 8 | 0 | | | | | | <u> </u> | _ | ļ | <u> </u> | | | | <u> </u> | | | - | | |
| | E | | 8 | 0 | | | | _ | | | | | : | | | | | ļ | _ | | | |
| | | iemistry 1 | ecin. | | | | | | | | | | | | | | | | O! | | | |
| | prerer | newal/post | renew | al | | | | C# | 7 | ar. | | <u> </u> | CH | Tow | <u> </u> | | | HH | S. | 4-34-4 | | |

| Project#_ | X5317 | | | · | | <u>-</u> | | | | | | | | Date | | | | Time. | 140 | 2 | | |
|------------------------|-----------|----------------------|----------------|-------------------|------------|----------|-------------------|------------|-------------|----------------------|--|----------|--------------|--------------|--------------|----|-----|------------|-----|----------------|-------|----|
| Client | 1 Dorac | 10 | Che | \mathcal{D}_{i} | Ω | | | | | Te | st e | nded | l: . | Date | 1/15 | 14 | : | | 133 | | | |
| Sample De Technicia | scription | _ | | | | | 481 481 481 | our our | 9A.1 237 | Te 72 72 72 | at S | neci | es_ <u>(</u> | 6hou 6hou | ul r r | | | ID | | | | |
| Test Dilution | Replicate | Test Salinit | ·Y | # Idv | e Org | anisu | s : | · . | Diss | olved | Oxyge | n. | | | Eq | | | <u>L</u> . | C | onduct | ivity | |
| 0/0 | | NF | | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 | 0 . | 24 | 48 | 72 | 96. | 0 | 24 | 48 | 72 | 96 |
| DH HQ1 | A | | 8 | 8 | 8 | | | 14 | 8% | gp | | | 110 | 15 | √.s | | | 164 | S u | (4)B | | · |
| PHROJ | B | | 8 | 8 | 8 | | | | | | | | | | | | | | | | | |
| | <u> </u> | | 8 | 8 | 8 | | | - | | | | | | <u> </u> | | | | | - | | | |
| | 0 | | 8 | 8 | 8 | | | | | | | | | | | | | | | | | |
| · | E | | 8 | 8 | 8 | | | _ | | | | | | | | | | - | | | | |
| | | | | | ļ | | | ļ., | | | <u> </u> | | _ | - | | | - | | 1 | | | |
| | A | | 8 | 0 | ļ | | <u> </u> | | / | | <u>. </u> | | | / | | | | | | · | | |
| | 3 | | 8 | | <u> </u> | | | | | | | | | | | | - | | | | | |
| | C | | 8 | | <u> </u> | <u> </u> | | <u> </u> | <u> </u> | | <u> </u> | _ | - | | | | | | | | | |
| | D | | 8 | | | | | | | <u>.</u> | | _ | + | | | | | - | - | | | |
| | E | | 8 | - | | | | _ | | | | <u> </u> | <u> </u> | | | | - | | | | | |
| - | C | iemistri newal/po | Tech strene | ra.1. | <u> </u> - | | | PH | ary or | <i>C</i> #4 | | | AH | OU DU | 144 | | | PH | PH | (1) | | |

| Project#_ | X5317 | | | • | | | | • | | Te | st s | tart | .ed: | Date | 1110 | firt | | | 143 | | | |
|------------------|-----------------|----------------------|----------------|-------|-------------|----------------------|-------------------|--------------|--|----------|----------|----------|----------|-------------------------|----------|----------|----|----------|----------|-----------------|--------|----|
| Client E | I pom | obc_ | 0 | en | <u> nic</u> | لد | | | | Te | st e | nđeđ | ł: | Date | 中国 | Trt | 1 | Time | 135 | Q ₂ | | |
| | scription n: | | 第一位 | 24hc | ur_f | ## T O | 481 481 481 | our_ our_ | ST ST ST | 0 72 | hour | | | 96hou 96hou 96hou | <u> </u> | (e) | 20 | ID | #BYE | 417 | 114, | |
| Test Dilution | Replicate | Test Salinity | | # Liv | e Org | anism | s , | | Diss | olved | Oxyge | na. S | | | pE | | | | C | onduct | ivity. | |
| 0/0 | ! | NA | | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 | 0 . | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 |
| 0 | A | | 8 | 8 | 8 | | | 19 | % | 80 | | | 13 | The second | 15 | | | 934 | W. | evi | • | |
| | B | | 8 | 8 | 8 | | | | | | | | | ļ | | | | | | | | , |
| | C | | 8 | 8 | 8 | | | | | | | | | <u> </u> | | | | | | | | |
| | D | | 8 | 8 | 8 | | | | | - | | | | | · | | | ļ | | ļ | | |
| · | E | | 8 | 8 | 8 | | | | | | | | | ļ | | | | | | | | |
| | | | | | | | | | 0 | | | | _ | 20 | | | | | 700 | | | |
| 32 | A | | 8 | 8 | 8 | | | 19 | 1/0 | 80 | | | 6.7 | 12 | 1.1 | | | Bo | *** | Б ⁰⁸ | | |
| | B | | 8 | 8 | 8 | | | | | | | | | | | | | | | | | |
| | C | | 8 | 8 | 8 | | | | | | | | | | | | | | | | | · |
| | D | | 8 | 8 | 8 | | | | · . | <u> </u> | | ļ. | <u> </u> | | | | | | | | | |
| | E | | 8 | 8 | 8 | | | | | | | <u> </u> | - | | | | | - | | | | |
| | prerei | iemstry newal/pos | Tech trenew | ral' | <u> -</u> | | | ar | CHI CHI CHI CHI CHI CHI CHI CHI CHI CHI | PH- | <u> </u> | | CH | DAY DAY | ₽₩ | | | pH | PH ON | CA. | | |

| Project#_ | X5317 | | <u>a</u> . | | | | | | ٠ | | | | | | | 1/10 | | | | 143 | | | |
|--|-----------------|----------|---------------------|------------|-------|-------|-------|-------------|------------|-------------------|----------------------|----------------------|------|----|----------------------|-------------|----------|----|----------|---------------|-------------------|-------|----|
| Client_E | 1 por | ods | 3 C | <u>ط</u> ا | e m | NCC | عد | | | | | | | | | गिञा | | | | ्राठ | | | |
| Sample De Technicia Time: Temperatu | scription n: | Ohou | 等 | 57 | | | | | our our | 31.7 21.0 | Te 72 72 72 | st S hour hour | peci | ! | 96ho 96ho 96ho | | rel E | 20 | ID | # <u>6</u> }A | 71 | 14, | |
| Test Dilution | Replicate | Tes | | | # Liv | e Org | anism | s. | | Diss | olved | Oxyge | 373 | | | Нq | | | | C | onduct | ivity | |
| 0/5 | | 14 | F | 0 hr | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 | 0 | | 48 11/14 | 72 | 96 | 0 | 24 | 48 | 72 | 96 |
| 49 | A | | | 8 | 4 | 0 | | | 19 | X | 8.0 | | | 58 | | 05 | | | 513 | 25% | 160 ¹⁴ | | |
| | B | | | 8 | 0 | | | | | | | | | | | | | | <u> </u> | | | | |
| | · C | | | Ä | 1 | 0 | · | | <u>.</u> | | | | | | | | | | | <u> </u> | | | |
| | D | | | 8 | 0 | _ | | | | | | | | | | | | | | | | | |
| | E | | | 8 | 5 | 7 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | ر ا | | | | | ~ | | | | | -2 | | | |
| 50 | A | | | 8 | 0 | | | ٠. | 19 | 39 | | | | 51 | 5.9 | | | | 1941 | \$ 0 P | | | |
| | В | | <u> </u> | 8 | 0 | | | | | | | | | | | | | | <u> </u> | | | | |
| | C | | | 8 | 0 | | | | · | | | | | | | | | | ļ | | | | |
| | D | | | 8 | 0 | | | | | | ÷ | | | | | | | | | | | | |
| | E | | _ | 8 | 0 | | | | | | | | · . | | | | | | | | | | |
| | | iem ts 🛎 | লা নাম বিচনা নাম | | | | | | | | | | | | عند | | | | | 74 | | | |
| | prere | newal/ | bostr | enew | al. | | | | C# | 01/ | CH | | | DH | Zu | ₽ # | | | SH. | لتكي | CH- | | |

| Project# | KESI | | | | • | | | | | | Te | st s | tart | ed: | Date | भाव | 14 | | Time | | | | |
|------------------|-----------------------------|--------|---------------|----------|-------|----------|-------|---------|------------|------|------------------------|---------------------------------|-------------|----------|-------------------------|----------|-----|----------|----------|------|----------|--------|----|
| Client E | 1 por | 200 | 3 (| <u>U</u> | en | <u> </u> | لد | | | | | | | | Date | • | | | Time | | | | |
| | scription n: re (°C): | | ENC. | \ | | | | | our our | | Te 72 72 2 72 | st S 2hour 2hour 2hour | peci | | 96hou 96hou 96hou | ır _ | (e) | 20 | ID | #632 | 41 | 114 | |
| Test Dilution | Replicate | Tes | | | # Liv | e Org | aniem | s : | | Diss | olveđ | Oxyge | 3 0. | | | pΞ | l . | | <u></u> | ¢ | onduc | tivity | |
| 0/0 | | 1 | A | 0 hr | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 | 0 . | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 |
| 56 | A | | , | 8 | 0 | | | | 19 | 3 | | | | 4.8 | L.R | | | | not | 1 | | | · |
| | B | | | 8 | 0 | ļ | | <u></u> | <u> </u> | | | ļ | | <u> </u> | | | | | | | | | · |
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| | D | | | 8 | 0 | | | | | | | | | | | <u> </u> | | | ļ | | | | |
| · | E | | | 8 | 0 | | | | | | | | | | | | | <u> </u> | <u> </u> | | | | |
| | | | | | | | | | | | | | | | | | | ting! | | 10 P | | ļ | |
| 75 | Q | | | 8 | Ø | | | | 19 | 34 | | | | 4:1 | y le | | | Sind. | RUS | das | | | |
| | B | | | 8 | ပ | | | | | | | | | | | | | <u> </u> | | | | | |
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| | Ç | | | 8 | 0 | | | | | | | | | | | | | | | | | | |
| | | iemist | 70 1 | 10) L | | | | | | | | | | • | مند | . Henry | | | | CHA! | | | |
| | brerer | ewal/ | ์ เรื่องสุ | renew | al | | | | OH | 7 | | | | į QV | \mathbb{Z}_{-} | | | | AH | /_ | - | | |

| Project#_ | X5317 | | | | | ., | | | | | | | | | Hol | | | | 140 | | | |
|---|-----------------|-----------------|---------|------|--------------|---------------|--------------------|------------|---------------|--------------------------|--------|----------|--|-------------------------|------|----------|----------|----------|---------------|-------|----------|-----------|
| Client E | 1 por | obc | Cb | en | 2 iCC | | | - | | | | | | | 1115 | | | | 1354 | | | |
| Sample Der Technician Time: Temperatur | scription n: | Ohour Ohour | 第のコ | 24hc | our F | 140 | _ 481 _ 481 | our our | ST. A | Te 72 5 72 2 72 | 2hour | • | | 96hon 96hon 96hon | ur | (e) [| 20 | ID | # <u>6364</u> | ~ | | |
| Test Dilution | Replicate | Test Salinit | | | e Org | anism | s . | | Diss | olved | Coryge | m. | | | D.H | | | | C | mduct | ivity | |
| 0/0 | | NIP | 0 hr | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 | 0 | 24 | 48 | 72 | 96 | 0 | 24 • 0 | 48 | 72 | 96 |
| 100 | A | | 8 | 0 | | | | 19 | 39 | | | | He | J. | | | ļ | 093 | | | | · |
| | B | | 8 | 0 | | · | | | | | | | | | | | | | JELY | | | |
| | . c | | 8 | 0 | | | | | | <u> </u> | | | | | | | ļ | | | | | |
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| | | | | | | | | | | | | | | 1 | | | | | 26.7 | . ^ | | |
| 100 | A_ | | 8 | 8 | 8 | | | 716 | 30 | Via | | | 116 | M. | 10 | | | 16 | Mil. | 480 | | |
| phagi. | B | | 8 | 8 | 8 | | | | | | | | | | | | <u> </u> | | | | ļ | |
| | C | | 8 | 8 | 8 | <u> </u> | | | | <u> </u> | | | | | | | ┞— | | | | | |
| | D | | 8 | 8 | 8 | | | | | ļ | | ļ. | <u> </u> | | | | | <u> </u> | | | | |
| | E | | 8 | 8 | 8 | | | | | | | L | - | | _ | | ļ | | | | ļ! | |
| | | nemistry | Téch | | | | | | رجيم | | | | | CAS | | | | A. 1 | - KAC | سفد | | |
| | prere | newal/po | strene | ral | | | | PH | 6 /2/2 | Stx. | | <u> </u> | KH | AN | PH | | | HH | AM | KW. | | <u>Ll</u> |

APPENDIX C STATISTICAL ANALYSIS

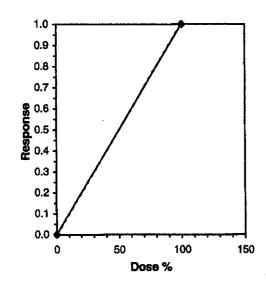
| | | | | Dap | hnid Acute T | est-48 Hr Survival | | X5317 |
|--------------|-----------|--------|-----------|---------|---------------|---------------------|------------------|--------------|
| Start Date: | 1/10/2014 | | Test ID: | X5317DP | | Sample ID: | AR0000752-007 | Page 20 of 3 |
| End Date: | 1/12/2014 | | Lab ID: | ADEQ880 | 630 | Sample Type: | EFF2-Industrial | |
| Sample Date: | 1/9/2014 | | Protocol: | EPAAW02 | P-EPA/821/R-0 | 02-01 Test Species: | DP-Daphnia pulex | |
| Comments: | | | | | | · | | |
| Conc-% | 1 | 2 | 3 | 4 | 5 | | | |
| D-Contro | 0.8750 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | |
| 100 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| 100 01 | 1 0000 | 1 0000 | 1 0000 | 1 0000 | 1.0000 | | | |

| | · · · · | | Tra | ansform: | Arcein Sc | uare Root | 1 | Isote | onic |
|-----------|---------|--------|--------|----------|-----------|-----------|---|--------|--------|
| Conc-% | Mean | N-Mean | Mean | Min | Max | CV% | N | Mean | N-Mean |
| D-Control | 0.9750 | 1.0000 | 1.3564 | 1.2094 | 1.3931 | 6.055 | 5 | 0.9750 | 1.0000 |
| 100 | 0.0000 | 0.0000 | 0.1777 | 0.1777 | 0.1777 | 0.000 | 5 | 0.0000 | 0.0000 |
| 100 PH | 1.0000 | 1.0256 | 1.3931 | 1.3931 | 1.3931 | 0.000 | 5 | | |

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

| | | | Linear Interpolation (200 Resam) | | | | | | | | |
|-------|--------|-------|----------------------------------|--------|---------|-------|--|--|--|--|--|
| Point | % | SD | 95% CŁ | .(Exp) | Skew | | | | | | |
| IC05* | 5.000 | 0.000 | 5.000 | 5.000 | 1.2120 | | | | | | |
| IC10* | 10.000 | 0.000 | 10.000 | 10.000 | 0.8037 | | | | | | |
| IC15* | 15.000 | 0.000 | 15.000 | 15.000 | -0.5841 | 1.0 | | | | | |
| IC20* | 20.000 | 0.000 | 20.000 | 20.000 | -4.2963 | 001 | | | | | |
| IC25* | 25.000 | 0.000 | 25.000 | 25.000 | 1.0364 | 0.9 | | | | | |
| IC40* | 40.000 | 0.000 | 40.000 | 40.000 | #DIV/01 | 0.8 - | | | | | |
| IC50* | 50.000 | 0.000 | 50.000 | 50.000 | #DIV/0! | 0.7 | | | | | |

* indicates IC estimate less than the lowest concentration



| | | | | A | cute Fish | Test-48 | Hr Surviva | ıl | |) | (5317 |
|-----------------|---------------------------------------|------------|------------|---------------|------------|----------|------------|------------|----------------|--------------|---------------------------------------|
| Start Date: | 1/10/2014 | • | Test ID: | X5317PP | | | Sample ID |) : | AR0000752-00 | 0 7 F | Page 21 of |
| End Date: | 1/12/2014 | | Lab ID: | ADEQ880 | 630 | | Sample Ty | ype: | EFF2-Industria | ai | |
| Sample Date: | 1/9/2014 | | Protocol: | EPAAW02 | 2-EPA/821 | /R-02-01 | Test Spec | ies: | PP-Pimephale | s promelas | |
| Comments: | | | | | | | | | | | |
| Conc-% | 1 | 2 | 3 | 4 | 5 | | | | | | |
| D-Control | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | | | | |
| 32 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | | | | |
| 42 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1250 | | | | | | |
| 50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | | | | |
| 56 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | | | | |
| 75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | | | | |
| 100 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | | | | |
| 100 PH | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | | | | |
| | · · · · · · · · · · · · · · · · · · · | | T | ransform: | Arcsin Sc | uare Ro | ot | Rank | 1-Tailed | <u> </u> | · · · · · · · · · · · · · · · · · · · |
| Conc-% | Mean | N-Mean | Mean | Min | Max | CV% | N | Sum | Critical | | |
| D-Control | 1.0000 | 1.0000 | 1.3931 | 1.3931 | 1.3931 | 0.000 | 5 | | | | |
| 32 | 1.0000 | 1.0000 | 1.3931 | 1.3931 | 1.3931 | 0.000 | 5 | 27.50 | 17.00 | | |
| *42 | 0.0250 | 0.0250 | 0.2144 | 0.1777 | 0.3614 | 38.301 | 5 | 15.00 | 17.00 | | |
| 50 | 0.0000 | 0.0000 | 0.1777 | 0.1777 | 0.1777 | 0.000 | 5 | | | | |
| 56 | 0.0000 | 0.0000 | 0.1777 | 0.1777 | 0.1777 | 0.000 | 5 | | | | |
| 75 | 0.0000 | 0.0000 | 0.1777 | 0.1777 | 0.1777 | 0.000 | 5 | | | | |
| 100 | 0.0000 | 0.0000 | 0.1777 | 0.1777 | 0.1777 | 0.000 | 5 | | | | |
| 100 PH | 1.0000 | 1.0000 | 1.3931 | 1.3931 | 1.3931 | 0.000 | 5 | 27.50 | 17.00 | | |
| Auxiliary Tes | | | | | | | Statistic | | Critical | Skew | Kurt |
| Shapiro-Wilk's | | | | stribution (p | o <= 0.05) | | 0.4971 | | 0.905 | 3.24893 | 13.4118 |
| Equality of var | | | nfirmed | | | | | | | | |
| Hypothesis T | | | | | | | | | | | |
| Steel's Many- | One Rank i | Test indic | ates no si | anificant di | fferences | | | | | | |

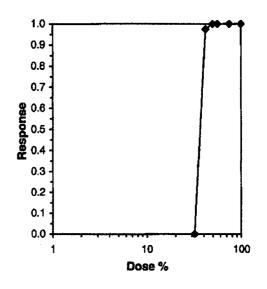
| | | | | A | cute Fish Tes | t-48 Hr Survival | | X5317 |
|---------------------------|------------------------|--------|-----------|--------------------|---------------|----------------------------|----------------------------------|--------------|
| Start Date: End Date: | 1/10/2014 1/12/2014 | | | X5317PP ADEQ880 | 630 | Sample ID: Sample Type: | AR0000752-007 EFF2-Industrial | Page 22 of 3 |
| Sample Date: Comments: | 1/9/2014 | | Protocol: | EPAAW02 | 2-EPA/821/R-0 | 02-01 Test Species: | PP-Pimephales promelas | |
| Conc-% | 1 | 2 | 3 | 4 | 5 | | | |
| D-Control | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | |
| 32 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | |
| 42 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1250 | | | |
| 50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| 56 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| 75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| 100 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| 100 PH | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | |

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

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

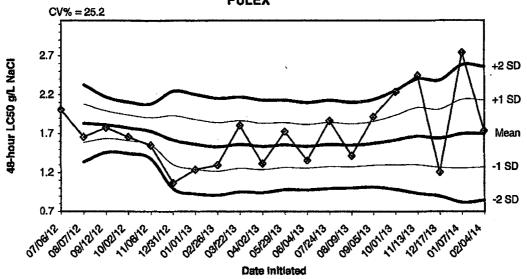
Trimmed Spearman-Karber

| Trim Level | EC50 | 95% | CL | |
|------------|--------|--------|--------|--|
| 0.0% | 36.866 | 36.462 | 37.274 | |
| 5.0% | 36.789 | 36.530 | 37.049 | |
| 10.0% | 36.789 | 36.530 | 37.049 | |
| 20.0% | 36.789 | 36.530 | 37.049 | |
| Auto-0.0% | 36.866 | 36,462 | 37,274 | |



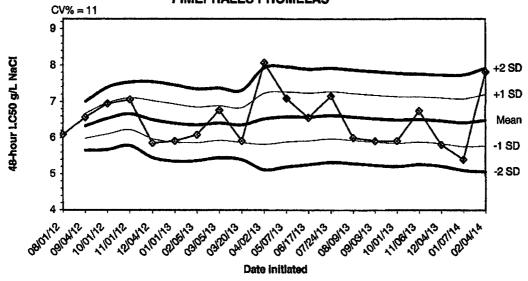
APPENDIX D QUALITY ASSURANCE CHARTS

2014 48-HOUR REFERENCE TOXICANT TEST RESULTS FOR DAPHNIA PULEX



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

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



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

APPENDIX E
AGENCY FORMS

Acute Forms Daphnia pulex Survival

Permittee: El Dorado Chemical - Outfall 007

NPDES Permit Number: AR0000752/ AFIN 70-00040

Composite Collected

From: 1/9/14

To: 1/9/14

From:

To:

Test Initiated: 1/10/14

Dilution Water Used:

Receiving Water

X Reconstituted Water

Dilution Series Results - Percent Survival

| Dilution Series Results - Percent Survival | | | | | | | | | | | |
|--|------|-------|-------|-----------------|--|--|--|--|--|--|--|
| TIME OF READING | REP | 0 | 100.0 | 100.0 pH adj | | | | | | | |
| 24-hour | A | 100.0 | 0.0 | 100.0 | | | | | | | |
| | В | 100.0 | 0.0 | 100.0 | | | | | | | |
| | С | 100.0 | 0.0 | 100.0 | | | | | | | |
| | D | 100.0 | 0.0 | 100.0 | | | | | | | |
| | E | 100.0 | 0.0 | 100.0 | | | | | | | |
| 48-hour | A | 87.5 | 0.0 | 100.0 | | | | | | | |
| | В | 100.0 | 0.0 | 100.0 | | | | | | | |
| | С | 100.0 | 0.0 | 100.0 | | | | | | | |
| | D | 100.0 | 0.0 | 100.0 | | | | | | | |
| | E | 100.0 | 0.0 | 100.0 | | | | | | | |
| | Mean | 97.5 | 0.0 | 100.0 | | | | | | | |

- 1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
- a.) LOW FLOW OR CRITICAL DILUTION (100.0%)

X YES

NO

b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%)

YES

NO

2. Enter percent effluent corresponding to the LC₅₀ below:

 $LC_{50} =$

50.0% effluent

95 % confidence limits: N/A

Method of LC₅₀ calculation: Graphical

- 3. If you answered NO to 1.a) enter (P) otherwise enter (F): F
- 4. Enter response to item 3 on DMR Form, parameter TEM3D
- 5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
- 6. Enter response to item 5 on DMR Form, parameter TFM3D

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

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

Contact: Larken Pennington

Analyst: Haughton

Sample Collected

From:

Date 1/9/14

Time 0850

To:

Date 1/9/14 Date 1/10/14 Time 1450 Time 1400

Test Begin Test End

Date 1/12/14

Time 1330

| Parameter | | D.O. | | | Cemperatun | e i | | Alkalinity | | | Hardness | | | ρН | |
|-----------------|-------|-------|-------|------|------------|-------|------|------------|-------|-------|----------|-------|------|-------|-------|
| Dilut./Time | Ohrs. | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs |
| 0 | 7.9 | 7.9 | 8.0 | 24.8 | 24.7 | 24.6 | 32.0 | | | 48.0 | | | 7.3 | 7.5 | 7.6 |
| 100.0 | 7.9 | 8.1 | | 24.8 | 24.7 | | 0.0 | | | 264.0 | | | 4.6 | 4.9 | |
| 100.0 pH adj | 7.6 | 7.9 | 8.0 | 24.8 | 24.7 | 24.6 | | | | | | | 7.6 | 7.1 | 7.2 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | |] | | | |

^{*}This Form is to be submitted with each DMR.
Alkalinity and hardness to be reported as mg/l CaCO₃

Acute Forms <u>Pimephales promelas</u> Survival

Permittee: El Dorado Chemical - Outfall 007

NPDES Permit Number: AR0000752/ AFIN 70-00040

Composite Collected

From: 1/9/14

To: 1/9/14

From:

To:

Test Initiated: 1/10/14

Dilution Water Used:

Receiving Water

X Reconstituted Water

Dilution Series Results - Percent Survival

| Diduoti Series Mesuits - 1 ercent Survival | | | | | | | | | | | | | |
|--|------|-------|-------|------|------|------|------|-------|-------------|--|--|--|--|
| TIME OF READING | REP | 0 | 32.0 | 42.0 | 50.0 | 56.0 | 75.0 | 100.0 | 100.0 pH | | | | |
| 24-hour | A | 100.0 | 100.0 | 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | В | 100.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | С | 100.0 | 100.0 | 12.5 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | D | 100.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | E | 100.0 | 100.0 | 62.5 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| 48-hour | A | 100.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | В | 100.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | C | 100.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | D | 100.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | E | 100.0 | 100.0 | 12.5 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |
| | Mean | 100.0 | 100.0 | 25.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | | | | |

- 1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: Is the mean survival at 48 hours significantly different (p=.05) than the control survival for the % effluent corresponding to:
- a.) LOW FLOW OR CRITICAL DILUTION (100.0%) X YES NO b.)½ LOW FLOW OR 2X CRITICAL DILUTION (N/A%) YES NO
- 2. Enter percent effluent corresponding to the LC₅₀ below:

 $LC_{50} =$

36.87% effluent

95 % confidence limits: 36.46 - 37.275

Method of LC₅₀ calculation: Spearman Karber

- 3. If you answered NO to 1.a) enter (P) otherwise enter (F): F
- 4. Enter response to item 3 on DMR Form, parameter TEM3D
- 5. If you answered NO to 1.b) enter (P) otherwise enter (F): N/A
- 6. Enter response to item 5 on DMR Form, parameter TFM3D

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

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

Contact: Larken Pennington

Analyst: Haughton

Sample Collected

From:

Date 1/9/14

Time 0850

To:

Date 1/9/14 Date 1/10/14 Time 1450 Time 1435

Test Begin Test End

Date 1/12/14

Time 1350

| | | A COL TOTAL | | | | | | | | | | | | | |
|------------|-------|-------------|-------|------|-------------|----------|------|------------|-------|-------|----------|-------|------|-------|-------|
| Parameter | | D.O. | | | l'emperatur | e | | Alkalinity | | | Hardness | | | pН | |
| Dilut/Time | Ohrs. | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Ohrs | 24hrs | 48hrs | Obrs | 24brs | 48hrs |
| 0 | 7.9 | 8.0 | 8.0 | 24.8 | 24.7 | 24.6 | 32.0 | | | 48.0 | | | 7.3 | 7.5 | 7.5 |
| 32.0 | 7.9 | 8.0 | 8.0 | 24.8 | 24.7 | 24.6 | | | | | | | 6.7 | 7.0 | 7.1 |
| 42.0 | 7.9 | 8.0 | 8.0 | 24.8 | 24.7 | 24.6 | | | | | | | 5.8 | 6.4 | 6.5 |
| 50.0 | 7.9 | 8.0 | | 24.8 | 24.7 | | | | | | | | 5.1 | 5.2 | |
| 56.0 | 7.9 | 8.1 | | 24.8 | 24.7 | | | | | | | | 4.8 | 4.8 | |
| 75.0 | 7.9 | 8.1 | | 24.8 | 24.7 | | | | | | | | 4.7 | 4.6 | |
| 100.0 | 7.9 | 8.0 | | 24.8 | 24.7 | | 0.0 | | | 264.0 | | | 4.6 | 4.5 | |
| 100.0 pH | 7.6 | 7.9 | 7.6 | 24.8 | 24.7 | 24.6 | | | | | | | 7.6 | 7.1 | 7.0 |

^{*}This Form is to be submitted with each DMR.

Alkalinity and hardness to be reported as mg/l CaCO₃

APPENDIX F REPORT QUALITY ASSURANCE FORM



Bio-Analytical Laboratories

3240 Spurgin Road Post Office Box 527 Doyline, LA 71023 (318) 745-2772 1-800-259-1246 Fax: (316) 745-2773

REPORT QUALITY ASSURANCE FORM

| Client: EDCC DOT |
|--|
| Project#: X5317 |
| Chain of Custody Documents Checked by: Technician/Date |
| Raw Data Documents Checked by: AH 1139114 |
| Technician/Date |
| Statistical Analysis Package Checked by: ECB 3 4 14 |
| Quality Manager/Date |
| Quality Control Data Checked by: EGG 5/4/14 |
| Quality Manager/Date |
| Report Checked by: EGO 2/17/14 |
| Quality Manager/Date |

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

Cuality Manager

Buggi B5

Date 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

From: (870) 883-1125

Origin ID: ELDA

Larken Pennington EL DORADO CHEMICAL COMPANY 4500 Northwest Ave.

El Dorado, AR 71730

SHIP TO: (870) 863-1484

BILL SENDER

ADEQ - Water Division Enforcement **ADEQ - Water Division Enforcement**

5301 NORTHSHORE DR

NORTH LITTLE ROCK, AR 72118

Delivery Address Bar Code

Ref# Invoice # PO# Dept #

Ship Date: 19FEB14 ActiVat 4.0 LB

CAD: 5887030/INET3490

THU - 20 FEB 10:30A **PRIORITY OVERNIGHT**

0201

7979 6477 0562

X2 LITA

72118 AR-US LIT



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