State of New Mexico
Energy, Minerals and Natural Resources Department

Amy Barnhill
Chevron Corporation
PO Box 4324
Houston, TX 77210

09/27/2024

RE: Determination of Administratively Complete Stage 1 & Stage 2 Abatement Plan & Public Notice and Participation for the Cooper Jal Unit South Injection Station (Incident #nAUTOfAB000105)

Ms. Barnhill,

The Oil Conservation Division (OCD) received a Stage 1 & 2 Abatement Plan as well as a Proposed Public Notice and Participation submittal prepared on Chevron Environmental Management Company's behalf by Arcadis, LLC. OCD has reviewed the plan and determined it to be administratively complete. In addition, OCD also approves the proposed draft of the Public Notice and Participation Proposal. The required public notice and participation should now proceed under the provisions of Subsections A and B of 19.15.30.15 NMAC. Proof of Public Notice must be provided to the OCD.

Additionally, both abatement plans are approved under the following conditions of approval:

1. Distribute Public Notice to all contacts, including surface owners, county commissioner, city and tribal officials who have been identified, and submit proof of distribution to OCD within fifteen (15) days from the approval date of this letter.

2. Provide OCD with an update within future groundwater monitoring reports of all ancillary remediation system and construction designs within six months of this approval letter date.

3. Include facility update after construction is complete or after one year from this approval date.

The division shall distribute notice of an abatement plan's filing with the next division and commission hearing docket following the plan's receipt.

OCD's approval of the Stage 1 & 2 Abatement Plans does not relieve Chevron, Inc of any other requirements imposed by any other regulatory agencies.

If you have any questions, please contact Mike Buchanan of the Environmental Incident Group at (505) 490-0798 or by email at *michael.buchanan*@emnrd.nm.gov.

Respectfully,

Rosa M Romero

Rosa Romero
Environmental Bureau Chief
RR/mb

Pace Analytical®

ANALYTICAL REPORT

September 13, 2022

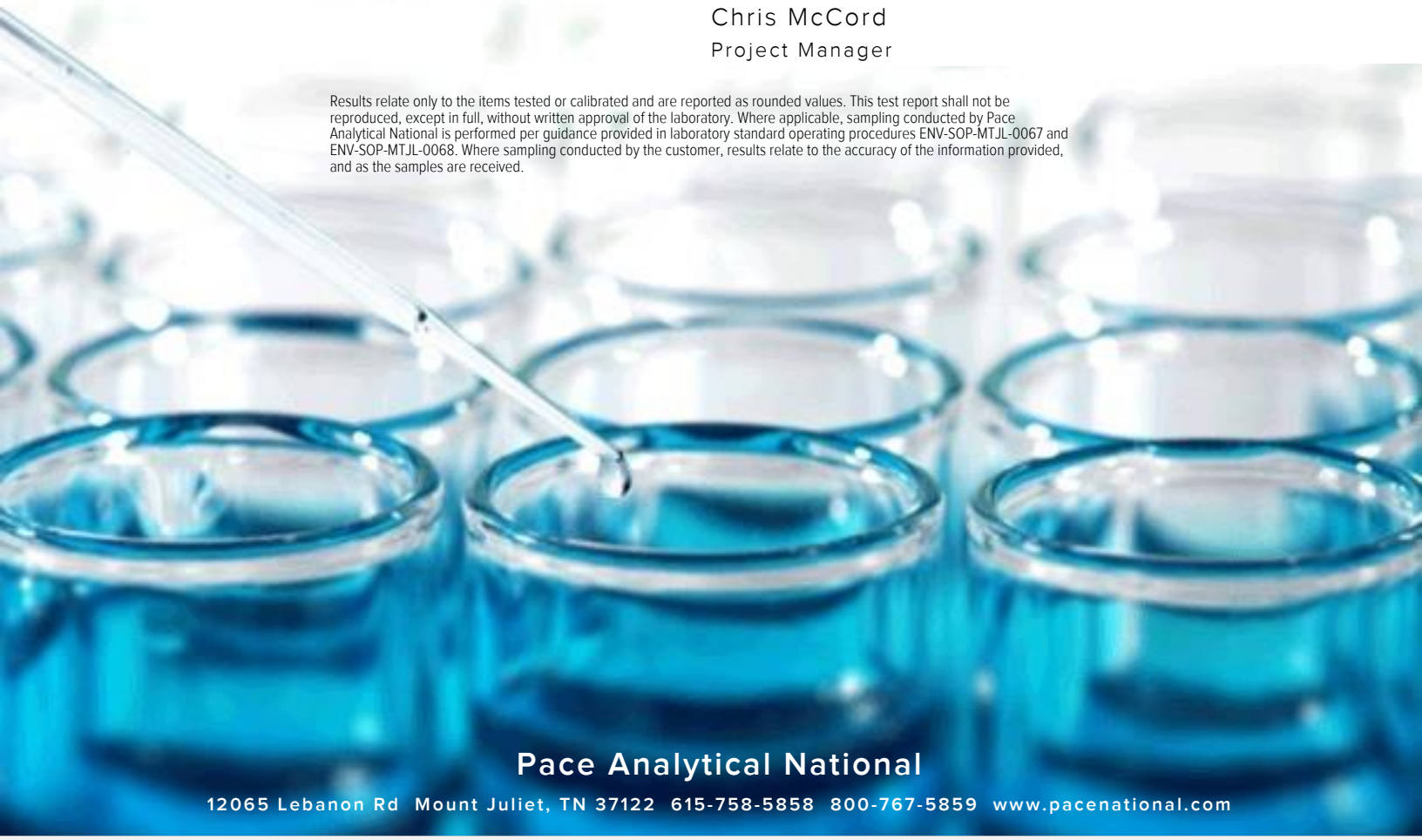
Arcadis - Chevron - NM

Sample Delivery Group:	L1529273
Samples Received:	08/25/2022
Project Number:	30144968 TASK 0002
Description:	POD 2 - UEM4822 Cooper Jal
Site:	COOPER JAL
Report To:	Russell Grant 10205 Westheimer Rd. #800 Houston, TX 77042

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-9-W-20220824 L1529273-01 GW

Collected by: Daniel McGee | Collected date/time: 08/24/22 10:50 | Received date/time: 08/25/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1919199	1	08/31/22 12:01	08/31/22 16:34	AEC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1917315	20	08/28/22 21:27	08/28/22 21:27	GEB	Mt. Juliet, TN

MW-9A-W-20220824 L1529273-02 GW

Collected by: Daniel McGee | Collected date/time: 08/24/22 10:55 | Received date/time: 08/25/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1918454	1	08/30/22 11:35	08/30/22 15:14	SLP	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1917315	5	08/28/22 21:40	08/28/22 21:40	GEB	Mt. Juliet, TN

MW-11-W-20220824 L1529273-03 GW

Collected by: Daniel McGee | Collected date/time: 08/24/22 11:15 | Received date/time: 08/25/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1919199	1	08/31/22 12:01	08/31/22 16:34	AEC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1917315	1	08/28/22 21:52	08/28/22 21:52	GEB	Mt. Juliet, TN

MW-8-W-20220824 L1529273-04 GW

Collected by: Daniel McGee | Collected date/time: 08/24/22 11:25 | Received date/time: 08/25/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1919199	1	08/31/22 12:01	08/31/22 16:34	AEC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1917315	1	08/28/22 22:05	08/28/22 22:05	GEB	Mt. Juliet, TN

MW-3-W-20220824 L1529273-05 GW

Collected by: Daniel McGee | Collected date/time: 08/24/22 11:50 | Received date/time: 08/25/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1919199	1	08/31/22 12:01	08/31/22 16:34	AEC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1917315	1	08/28/22 22:17	08/28/22 22:17	GEB	Mt. Juliet, TN

MW-12-W-20220824 L1529273-06 GW

Collected by: Daniel McGee | Collected date/time: 08/24/22 12:25 | Received date/time: 08/25/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1919199	1	08/31/22 12:01	08/31/22 16:34	AEC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1917315	10	08/28/22 22:42	08/28/22 22:42	GEB	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2320		50.0	1	08/31/2022 16:34	WG1919199

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	1040		7.58	20.0	20	08/28/2022 21:27	WG1917315

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	773		13.3	1	08/30/2022 15:14	WG1918454

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	239		1.90	5.00	5	08/28/2022 21:40	WG1917315

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	410		10.0	1	08/31/2022 16:34	WG1919199

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	35.7		0.379	1.00	1	08/28/2022 21:52	WG1917315

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	371		10.0	1	08/31/2022 16:34	WG1919199

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	32.0		0.379	1.00	1	08/28/2022 22:05	WG1917315

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	417		10.0	1	08/31/2022 16:34	WG1919199

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	43.1		0.379	1.00	1	08/28/2022 22:17	WG1917315

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1040		20.0	1	08/31/2022 16:34	WG1919199

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	489		3.79	10.0	10	08/28/2022 22:42	WG1917315

Method Blank (MB)

(MB) R3835448-1 08/30/22 15:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1528414-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1528414-02 08/30/22 15:14 • (DUP) R3835448-3 08/30/22 15:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	625	639	1	2.11		5

L1528459-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1528459-01 08/30/22 15:14 • (DUP) R3835448-4 08/30/22 15:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1130	1170	1	3.66		5

Laboratory Control Sample (LCS)

(LCS) R3835448-2 08/30/22 15:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8220	93.4	77.3-123	

Method Blank (MB)

(MB) R3836317-1 08/31/22 16:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1529217-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1529217-02 08/31/22 16:34 • (DUP) R3836317-3 08/31/22 16:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	212	225	1	6.05	J3	5

L1529224-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1529224-02 08/31/22 16:34 • (DUP) R3836317-4 08/31/22 16:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	252	243	1	3.55		5

Laboratory Control Sample (LCS)

(LCS) R3836317-2 08/31/22 16:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8040	91.4	77.3-123	

Method Blank (MB)

(MB) R3831890-1 08/28/22 18:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00

L1528869-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1528869-01 08/28/22 19:23 • (DUP) R3831890-3 08/28/22 19:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	81.1	81.0	1	0.109		20

L1529273-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1529273-05 08/28/22 22:17 • (DUP) R3831890-5 08/28/22 22:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	43.1	42.1	1	2.50		20

Laboratory Control Sample (LCS)

(LCS) R3831890-2 08/28/22 18:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.2	100	90.0-110	

L1528869-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1528869-01 08/28/22 19:23 • (MS) R3831890-4 08/28/22 19:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	81.1	129	95.5	1	80.0-120	

L1529363-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529363-03 08/28/22 23:45 • (MS) R3831890-6 08/28/22 23:57 • (MSD) R3831890-7 08/29/22 00:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	755	765	774	20.6	38.4	100	80.0-120	V	V	1.16	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Arcadis - Chevron - NM
10205 Westheimer Rd.
#800
Houston. TX 77042

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: **Russell Grant**

Email To: lydia.velezgonzalez@arcadis.com;russell.grant@

Project Description: **POD 2 - UEM4822 Cooper Jal**

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: **916-786-5246**

Client Project # **30144968 TASK 0002**

Lab Project # **CHEVARCNM-COOPERJAL**

Collected by (print): Daniel McRae

Site/Facility ID # **COOPER JAL**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE (300.0) 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
~~RW-2R-W-2022-~~ MW-9-W-20220824	G	GW		8-24-22	1050	2	X	X		-01
MW-94-W-20220824	G	GW		8-24-22	1055	2	X	X		-02
~~DUP-01-W-2022-~~ MW-11-W-20220824	G	GW		8-24-22	1115	2	X	X		-03
~~DUP-02-W-2022-~~ MW-8-W-20220824	G	GW		8-24-22	1125	2	X	X		-04
~~EB-01-W-2022-~~ MW-3-W-20220824	G	GW		8-24-22	1150	2	X	X		-05
MW-12-W ~~20220824~~ DUP	G	GW		8-24-22	1225	2	X	X		-06

8-24-22 DW

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L529273

A030

Acctnum: CHEVARCNM
Template: T200378
Prelogin: P943483
PM: 526 - Chris McCord
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8-24-22	1500	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/24/22	1700	SWA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: NSXT °C Bottles Received: 12

5.9+0.5=5.9

If preservation required by Login: Date/Time

Date: 8/25/22 Time: 1015

Hold:

Condition: NCF / OK

Pace Analytical®

ANALYTICAL REPORT

January 05, 2023

Arcadis - Chevron - NM

Sample Delivery Group:	L1570115
Samples Received:	12/22/2022
Project Number:	30144968 TASK 0002
Description:	POD 2 - UEM4822 Cooper Jal
Site:	COOPER JAL
Report To:	Russell Grant 10205 Westheimer Rd. #800 Houston, TX 77042

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-12-W-221221 L1570115-01 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 10:20 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	10	12/23/22 16:44	12/23/22 16:44	GEB	Mt. Juliet, TN

MW-1-W-221221 L1570115-02 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 10:28 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	20	12/23/22 16:58	12/23/22 16:58	GEB	Mt. Juliet, TN

MW-2-W-221221 L1570115-03 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 10:40 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	5	12/23/22 17:11	12/23/22 17:11	GEB	Mt. Juliet, TN

MW-5-W-221221 L1570115-04 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 10:50 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	20	12/23/22 17:25	12/23/22 17:25	GEB	Mt. Juliet, TN

MW-4-W-221221 L1570115-05 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 11:05 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	100	12/23/22 17:39	12/23/22 17:39	GEB	Mt. Juliet, TN

RW-1-W-221221 L1570115-06 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 11:15 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	100	12/23/22 17:52	12/23/22 17:52	GEB	Mt. Juliet, TN

RW-2R-W-221221 L1570115-07 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 11:48 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	100	12/23/22 18:06	12/23/22 18:06	GEB	Mt. Juliet, TN

RW-2-W-221221 L1570115-08 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 12:04 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	10	12/23/22 18:20	12/23/22 18:20	GEB	Mt. Juliet, TN

MW-10-W-221221 L1570115-09 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 12:25 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980011	1	12/28/22 01:59	12/28/22 06:31	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	10	12/23/22 18:33	12/23/22 18:33	GEB	Mt. Juliet, TN

MW-7-W-221221 L1570115-10 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 12:40 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980012	1	12/28/22 02:22	12/28/22 07:46	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	100	12/23/22 18:47	12/23/22 18:47	GEB	Mt. Juliet, TN

MW-9-W-221221 L1570115-11 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 12:55 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980012	1	12/28/22 02:22	12/28/22 07:46	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	20	12/23/22 19:28	12/23/22 19:28	GEB	Mt. Juliet, TN

DUP-1-W-221221 L1570115-12 GW

Collected by: Daniel McGee | Collected date/time: 12/21/22 00:00 | Received date/time: 12/22/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1980012	1	12/28/22 02:22	12/28/22 07:46	AS	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1979147	10	12/23/22 19:42	12/23/22 19:42	GEB	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

MW-12-W-221221
Collected date/time: 12/21/22 10:20
L1570115

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1280		13.3	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	482		3.79	10.0	10	12/23/2022 16:44	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1240		50.0	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	960		7.58	20.0	20	12/23/2022 16:58	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	494		10.0	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	239		1.90	5.00	5	12/23/2022 17:11	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2230		50.0	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	1150		7.58	20.0	20	12/23/2022 17:25	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	16400		400	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	13600		37.9	100	100	12/23/2022 17:39	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3940		100	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	5070		37.9	100	100	12/23/2022 17:52	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	14600		400	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	7480		37.9	100	100	12/23/2022 18:06	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	824	J3	20.0	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	232		3.79	10.0	10	12/23/2022 18:20	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1120	J3	20.0	1	12/28/2022 06:31	WG1980011

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	406		3.79	10.0	10	12/23/2022 18:33	WG1979147

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	11700		200	1	12/28/2022 07:46	WG1980012

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	5280		37.9	100	100	12/23/2022 18:47	WG1979147

MW-9-W-221221
Collected date/time: 12/21/22 12:55
L1570115

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2530		50.0	1	12/28/2022 07:46	WG1980012

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	1040		7.58	20.0	20	12/23/2022 19:28	WG1979147

DUP-1W-221221
Collected date/time: 12/21/22 00:00
L1570115

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	828		20.0	1	12/28/2022 07:46	WG1980012

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	218		3.79	10.0	10	12/23/2022 19:42	WG1979147

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3877023-1 12/28/22 06:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1570115-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1570115-08 12/28/22 06:31 • (DUP) R3877023-3 12/28/22 06:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	824	888	1	7.48	J3	5

L1570115-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1570115-09 12/28/22 06:31 • (DUP) R3877023-4 12/28/22 06:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1120	1200	1	7.42	J3	5

Laboratory Control Sample (LCS)

(LCS) R3877023-2 12/28/22 06:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	7780	88.4	77.3-123	

Method Blank (MB)

(MB) R3877024-1 12/28/22 07:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1569982-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1569982-13 12/28/22 07:46 • (DUP) R3877024-3 12/28/22 07:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	ND	ND	1	0.000		5

L1570086-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1570086-01 12/28/22 07:46 • (DUP) R3877024-4 12/28/22 07:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1150	1410	1	20.3	J3	5

Laboratory Control Sample (LCS)

(LCS) R3877024-2 12/28/22 07:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	7650	86.9	77.3-123	

Method Blank (MB)

(MB) R3876123-1 12/23/22 10:32

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00

L1570075-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1570075-01 12/23/22 14:54 • (DUP) R3876123-3 12/23/22 15:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	151	151	1	0.111		20

L1570437-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1570437-04 12/23/22 20:37 • (DUP) R3876123-6 12/23/22 20:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	56.6	58.2	1	2.77		20

Laboratory Control Sample (LCS)

(LCS) R3876123-2 12/23/22 10:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	41.9	105	90.0-110	

L1570075-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1570075-01 12/23/22 14:54 • (MS) R3876123-4 12/23/22 15:22 • (MSD) R3876123-5 12/23/22 15:35

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	151	195	191	89.2	81.5	1	80.0-120			1.99	20

L1570437-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1570437-04 12/23/22 20:37 • (MS) R3876123-7 12/23/22 21:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	56.6	107	101	1	80.0-120	

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Arcadis - Chevron - NM
10205 Westheimer Rd.
#800
Houston. TX 77042

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: Russell Grant

Email To: lydia.velezgonzalez@arcadis.com;russell.grant@

Project Description: POD 2 - UEM4822 Cooper Jal

City/State Collected: Eunice, NM

Please Circle: PT MT CT ET

Phone: 916-786-5246

Client Project # 30144968 TASK 0002

Lab Project # CHEVARCNM-COOPERJAL

Collected by (print): Daniel Mckee

Site/Facility ID # COOPER JAL

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1570115

E068

Acctnum: CHEVARCNM
Template: T200378
Prelogin: P969075
PM: 526 - Chris McCord
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE (300.0) 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-12-W-221221	G	GW		12-21-22	1020	2	X	X		-01
MW-1-W-221221	G	GW		12-21-22	1028	2	X	X		-02
MW-2-W-221221	G	GW		12-21-22	1040	2	X	X		-03
MW-5-W-221221	G	GW		12-21-22	1050	2	X	X		-04
MW-4-W-221221	G	GW		12-21-22	1105	2	X	X		-05
RW-1-W-221221	G	GW		12-21-22	1115	2	X	X		-06
RW-2R-W-221221	G	GW		12-21-22	1148	2	X	X		-07
RW-2-W-221221	G	GW		12-21-22	1201	2	X	X		-08
MW-10-W-221221	G	GW		12-21-22	1225	2	X	X		-09
MW-7-W-221221	G	GW		12-21-22	1240	2	X	X		-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

pH ____ Temp ____
Flow ____ Other ____

Samples returned via: __ UPS __ FedEx __ Courier ____

Tracking # 526 8289 3440

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	12-21-22	1545			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
	12/21/22	1708	SWA	1.0+0-1.0 24	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
				12-22-22 0830	

Company Name/Address:
Arcadis - Chevron - NM
10205 Westheimer Rd.
#800
Houston. TX 77042

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: **Russell Grant**

Email To: lydia.velezgonzalez@arcadis.com;russell.grant@

Project Description: **POD 2 - UEM4822 Cooper Jal**

City/State Collected: Eunice, NM

Please Circle: PT MT (CT) ET

Phone: **916-786-5246**

Client Project # **30144968 TASK 0002**

Lab Project # **CHEVARCNM-COOPERJAL**

Collected by (print): Daniel McGee

Site/Facility ID # **COOPER JAL**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE (300.0) 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-9-W-221221	G	GW		12-21-22	1255	2	X	X		-11
DUP-1-W-221221	G	GW		12-21-22	—	2	X	X		-12
		GW								
		GW								

RM 12-21-22

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # U57015

Table #

Acctnum: **CHEVARCNM**
Template: **T200378**
Prelogin: **P969075**
PM: **526 - Chris McCord**
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 526 8289 3440

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by : (Signature)	12-21-22	1545	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR
Relinquished by : (Signature)	12/21/22	1700	Received by: (Signature) SLA	Temp: 0.2 °C Bottles Received: 24 1.0+0=1.0
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12-22-22 Time: 0830

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®

ANALYTICAL REPORT

August 01, 2023

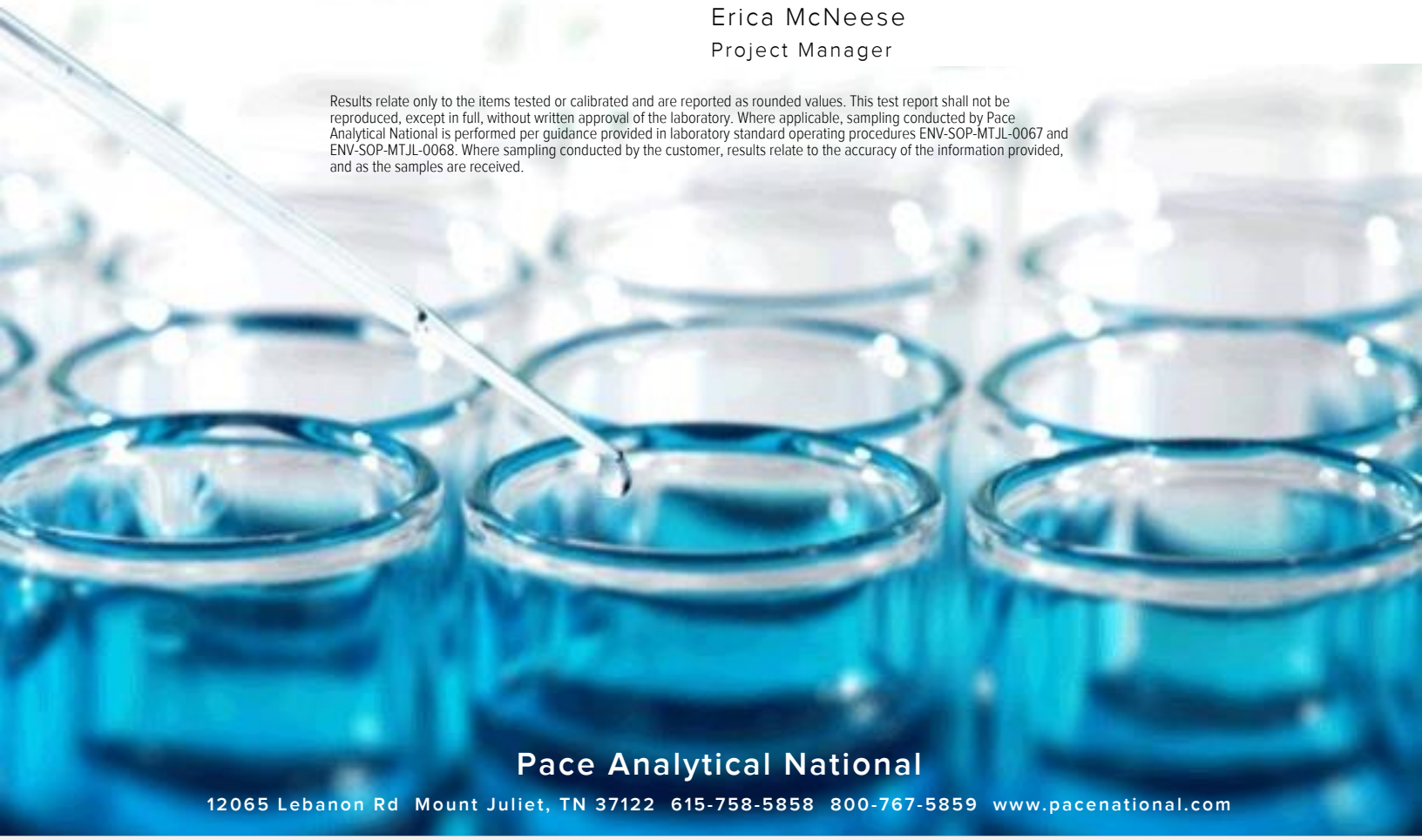
Arcadis - Chevron - NM

Sample Delivery Group:	L1638368
Samples Received:	07/22/2023
Project Number:	30183400 task 0002
Description:	UEM4822 - Cooper Jal
Site:	COOPER JAL
Report To:	Russell Grant 10205 Westheimer Rd. #800 Houston, TX 77042

Entire Report Reviewed By: Erica McNeese

Erica McNeese
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-1-W-20230720 L1638368-01 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 11:15 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101214	1	07/25/23 15:11	07/25/23 16:12	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	10	07/24/23 12:19	07/24/23 12:19	GEB	Mt. Juliet, TN

MW-2-W-20230720 L1638368-02 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 11:25 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101214	1	07/25/23 15:11	07/25/23 16:12	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	1	07/24/23 12:33	07/24/23 12:33	GEB	Mt. Juliet, TN

MW-2A-W-20230720 L1638368-03 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 11:35 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	1	07/24/23 13:34	07/24/23 13:34	GEB	Mt. Juliet, TN

MW-6R-W-20230720 L1638368-04 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 11:50 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	1	07/24/23 13:49	07/24/23 13:49	GEB	Mt. Juliet, TN

MW-5-W-20230720 L1638368-05 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 12:05 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	20	07/24/23 14:33	07/24/23 14:33	GEB	Mt. Juliet, TN

MW-5A-W-20230720 L1638368-06 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 12:15 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2102116	1	07/26/23 15:27	07/26/23 16:19	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	1	07/24/23 14:48	07/24/23 14:48	GEB	Mt. Juliet, TN

MW-4-W-20230720 L1638368-07 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 12:35 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	100	07/24/23 15:03	07/24/23 15:03	GEB	Mt. Juliet, TN

MW-4A-W-20230720 L1638368-08 WW

Collected by: Daniel McGee | Collected date/time: 07/20/23 12:45 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	1	07/24/23 15:18	07/24/23 15:18	GEB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	5	07/24/23 15:33	07/24/23 15:33	GEB	Mt. Juliet, TN

RW-1-W-20230720 L1638368-09 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 12:55 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101214	1	07/25/23 15:11	07/25/23 16:12	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	100	07/24/23 15:48	07/24/23 15:48	GEB	Mt. Juliet, TN

DUP-1-W-20230720 L1638368-10 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 00:00 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	100	07/24/23 16:02	07/24/23 16:02	GEB	Mt. Juliet, TN

RW-2R-W-20230720 L1638368-11 WW

Collected by: Daniel McGee | Collected date/time: 07/20/23 13:40 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	10	07/24/23 16:17	07/24/23 16:17	GEB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	100	07/24/23 16:32	07/24/23 16:32	GEB	Mt. Juliet, TN

RW-2-W-20230720 L1638368-12 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 13:50 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	100	07/24/23 16:47	07/24/23 16:47	GEB	Mt. Juliet, TN

MW-10-W-20230720 L1638368-13 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 14:05 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	5	07/24/23 17:32	07/24/23 17:32	GEB	Mt. Juliet, TN

DUP-2-W-20230720 L1638368-14 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 00:00 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101214	1	07/25/23 15:11	07/25/23 16:12	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100017	100	07/24/23 17:46	07/24/23 17:46	GEB	Mt. Juliet, TN

MW-14-W-20230720 L1638368-15 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 14:15 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101214	1	07/25/23 15:11	07/25/23 16:12	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100018	1	07/24/23 14:00	07/24/23 14:00	GEB	Mt. Juliet, TN

MW-7-W-20230720 L1638368-16 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 14:40 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101214	1	07/25/23 15:11	07/25/23 16:12	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100018	100	07/24/23 15:20	07/24/23 15:20	GEB	Mt. Juliet, TN

MW-8-W-20230720 L1638368-17 GW

Collected by: Daniel McGee | Collected date/time: 07/20/23 15:00 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2101934	1	07/26/23 13:46	07/26/23 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100018	1	07/24/23 15:33	07/24/23 15:33	GEB	Mt. Juliet, TN

MW-9-W-20230721 L1638368-18 GW

Collected by: Daniel McGee | Collected date/time: 07/21/23 10:00 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2102700	1	07/27/23 10:50	07/27/23 12:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100018	20	07/24/23 15:46	07/24/23 15:46	GEB	Mt. Juliet, TN

MW-9A-W-20230721 L1638368-19 GW

Collected by: Daniel McGee | Collected date/time: 07/21/23 10:15 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2102700	1	07/27/23 10:50	07/27/23 12:58	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100018	5	07/24/23 16:00	07/24/23 16:00	GEB	Mt. Juliet, TN

MW-11-W-20230721 L1638368-20 GW

Collected by: Daniel McGee | Collected date/time: 07/21/23 10:30 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2102700	1	07/27/23 10:50	07/27/23 12:58	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100018	1	07/24/23 16:13	07/24/23 16:13	GEB	Mt. Juliet, TN

MW-3-W-20230721 L1638368-21 GW

Collected by: Daniel McGee | Collected date/time: 07/21/23 10:45 | Received date/time: 07/22/23 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2102700	1	07/27/23 10:50	07/27/23 12:58	ARD	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100018	1	07/24/23 16:27	07/24/23 16:27	GEB	Mt. Juliet, TN

SAMPLE SUMMARY

MW-12-W-20230721 L1638368-22 GW

			Collected by	Collected date/time	Received date/time	
			Daniel McGee	07/21/23 11:00	07/22/23 15:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2102700	1	07/27/23 10:50	07/27/23 12:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2100018	5	07/24/23 17:08	07/24/23 17:08	GEB	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Erica McNeese
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1720		50.0	1	07/25/2023 16:12	WG2101214

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	736		3.79	10.0	10	07/24/2023 12:19	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	437		10.0	1	07/25/2023 16:12	WG2101214

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	137		0.379	1.00	1	07/24/2023 12:33	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	551		10.0	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	102		0.379	1.00	1	07/24/2023 13:34	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	479		10.0	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	71.5		0.379	1.00	1	07/24/2023 13:49	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2440		50.0	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	1050		7.58	20.0	20	07/24/2023 14:33	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	552		10.0	1	07/26/2023 16:19	WG2102116

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	146		0.379	1.00	1	07/24/2023 14:48	WG2100017

MW-4-W-20230720
Collected date/time: 07/20/23 12:35
L1638368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	19800		400	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	13300		37.9	100	100	07/24/2023 15:03	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1260		20.0	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	424		1.90	5.00	5	07/24/2023 15:33	WG2100017
Sulfate	101		0.594	5.00	1	07/24/2023 15:18	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2790		50.0	1	07/25/2023 16:12	WG2101214

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	3440		37.9	100	100	07/24/2023 15:48	WG2100017

DUP-1-W-20230720
Collected date/time: 07/20/23 00:00
L1638368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3190		100	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	4340		37.9	100	100	07/24/2023 16:02	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	17100		200	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	8290		37.9	100	100	07/24/2023 16:32	WG2100017
Sulfate	904		5.94	50.0	10	07/24/2023 16:17	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	4950		100	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	2910		37.9	100	100	07/24/2023 16:47	WG2100017

MW-10-W-20230720
Collected date/time: 07/20/23 14:05
L1638368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1210		20.0	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	364		1.90	5.00	5	07/24/2023 17:32	WG2100017

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	4310		100	1	07/25/2023 16:12	WG2101214

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	2840		37.9	100	100	07/24/2023 17:46	WG2100017

MW-14-W-20230720
Collected date/time: 07/20/23 14:15
L1638368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	471		10.0	1	07/25/2023 16:12	WG2101214

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	57.5		0.379	1.00	1	07/24/2023 14:00	WG2100018

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	14500		200	1	07/25/2023 16:12	WG2101214

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	5150		37.9	100	100	07/24/2023 15:20	WG2100018

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	432		10.0	1	07/26/2023 16:03	WG2101934

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	36.9		0.379	1.00	1	07/24/2023 15:33	WG2100018

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2620		50.0	1	07/27/2023 12:58	WG2102700

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	1050		7.58	20.0	20	07/24/2023 15:46	WG2100018

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	753	B	13.3	1	07/27/2023 12:58	WG2102700

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	260		1.90	5.00	5	07/24/2023 16:00	WG2100018

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	410	B	10.0	1	07/27/2023 12:58	WG2102700

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	35.0		0.379	1.00	1	07/24/2023 16:13	WG2100018

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	430	B	10.0	1	07/27/2023 12:58	WG2102700

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	41.7		0.379	1.00	1	07/24/2023 16:27	WG2100018

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1300		20.0	1	07/27/2023 12:58	WG2102700

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	469		1.90	5.00	5	07/24/2023 17:08	WG2100018

Method Blank (MB)

(MB) R3953933-1 07/25/23 16:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1637951-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1637951-01 07/25/23 16:12 • (DUP) R3953933-3 07/25/23 16:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2000	2090	1	4.65		5

L1638066-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1638066-02 07/25/23 16:12 • (DUP) R3953933-4 07/25/23 16:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	24.0	20.0	1	18.2	P1	5

Laboratory Control Sample (LCS)

(LCS) R3953933-2 07/25/23 16:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8780	99.8	77.3-123	

Method Blank (MB)

(MB) R3953691-1 07/26/23 16:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1633795-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1633795-02 07/26/23 16:03 • (DUP) R3953691-3 07/26/23 16:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1600	1600	1	0.156		5

L1638368-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1638368-03 07/26/23 16:03 • (DUP) R3953691-4 07/26/23 16:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	551	566	1	2.69		5

Laboratory Control Sample (LCS)

(LCS) R3953691-2 07/26/23 16:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8710	99.0	77.3-123	

Method Blank (MB)

(MB) R3954121-1 07/26/23 16:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1638039-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1638039-01 07/26/23 16:19 • (DUP) R3954121-3 07/26/23 16:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	842	864	1	2.58		5

L1638039-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1638039-02 07/26/23 16:19 • (DUP) R3954121-4 07/26/23 16:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	700	743	1	5.92	J3	5

Laboratory Control Sample (LCS)

(LCS) R3954121-2 07/26/23 16:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8340	94.8	77.3-123	

Method Blank (MB)

(MB) R3955246-1 07/27/23 12:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	98.0		10.0	10.0

L1638366-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1638366-02 07/27/23 12:58 • (DUP) R3955246-4 07/27/23 12:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	567	577	1	1.86		5

L1638018-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1638018-02 07/27/23 12:58 • (DUP) R3955246-3 07/27/23 12:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	262	259	1	1.15		5

Laboratory Control Sample (LCS)

(LCS) R3955246-2 07/27/23 12:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8610	97.8	77.3-123	

Method Blank (MB)

(MB) R3952326-1 07/24/23 11:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1638368-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1638368-02 07/24/23 12:33 • (DUP) R3952326-3 07/24/23 12:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	137	137	1	0.225		20
Sulfate	74.6	74.6	1	0.0810		20

L1638410-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1638410-06 07/24/23 18:46 • (DUP) R3952326-6 07/24/23 19:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	72.3	72.7	1	0.496		20
Sulfate	67.5	67.8	1	0.427		20

Laboratory Control Sample (LCS)

(LCS) R3952326-2 07/24/23 11:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.2	100	90.0-110	
Sulfate	40.0	42.4	106	90.0-110	

L1638368-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638368-02 07/24/23 12:33 • (MS) R3952326-4 07/24/23 13:04 • (MSD) R3952326-5 07/24/23 13:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	137	179	179	85.2	84.3	1	80.0-120			0.249	20
Sulfate	50.0	74.6	128	128	107	107	1	80.0-120			0.292	20

L1638410-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1638410-06 07/24/23 18:46 • (MS) R3952326-7 07/24/23 19:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	72.3	118	91.7	1	80.0-120	
Sulfate	50.0	67.5	117	99.3	1	80.0-120	

Method Blank (MB)

(MB) R3954445-1 07/24/23 11:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00

L1638368-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1638368-15 07/24/23 14:00 • (DUP) R3954445-3 07/24/23 14:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	57.5	57.1	1	0.672		20

L1638368-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1638368-21 07/24/23 16:27 • (DUP) R3954445-6 07/24/23 16:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	41.7	41.6	1	0.128		20

Laboratory Control Sample (LCS)

(LCS) R3954445-2 07/24/23 11:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.8	102	90.0-110	

L1638368-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638368-15 07/24/23 14:00 • (MS) R3954445-4 07/24/23 14:26 • (MSD) R3954445-5 07/24/23 15:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	57.5	107	108	98.9	100	1	80.0-120			0.763	20

L1638368-21 Original Sample (OS) • Matrix Spike (MS)

(OS) L1638368-21 07/24/23 16:27 • (MS) R3954445-7 07/24/23 16:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	41.7	93.1	103	1	80.0-120	

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J3	The associated batch QC was outside the established quality control range for precision.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Chain of Custody Page 1 of 3

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1638368 D213

Acctnum: CHEVARCNM
Template: T200378
Prelogin: P1011575
PM: 526 - Chris McCord
PB: 7/12/23 CAM
Shipped Via: FedEX Ground

Company Name/Address:
Arcadis - Chevron - NM
10205 Westheimer Rd.
#800
Houston. TX 77042

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: **Russell Grant**

Email To: lydia.velezgonzalez@arcadis.com;russell.grant@

Project Description: **UEM4822 - Cooper Jal**

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: **916-786-5246**

Client Project # **30183400 task 0002**

Lab Project # **CHEVARCNM-COOPERJAL**

Collected by (print): Daniel McVee

Site/Facility ID # **COOPER JAL**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE (300.0) 125mlHDPE-NoPres	SULFATE (300.0) 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-1-W-20230720	G	GW		7-20-23	1115	2	X		X		-01
MW-2-W-20230720		GW			1125	2	X		X		-02
MW-2A-W-20230720		GW			1135	2	X		X		-03
MW-6R-W-20230720		GW			1150	2	X		X		-04
MW-5-W-20230720		GW			1205	2	X		X		-05
MW-5A-W-20230720		GW			1215	2	X		X		-06
MW-4-W-20230720		GW			1235	2	X		X		-07
MW-4A-W-20230720		GW			1245	3	X	X	X		-08
RW-1-W-20230720		GW			1255	2	X		X		-09
DUP-1-W-20230720	G	GW		7-20-23	—	2	X		X		-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Samples returned via: __UPS __FedEx __Courier _____

Tracking #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7-21-23	1400	
Relinquished by : (Signature)	Date: 7/21/23	Time: 1700	Received by: (Signature) SWA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Alexa Mitchell

Trip Blank Received: Yes / No HCL / MeoH TBR

Temp: 3.6 °C Bottles Received: 44
3.5 to 3.5

Date: 7122123 Time: 1545

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Arcadis - Chevron - NM

10205 Westheimer Rd.
#800
Houston. TX 77042

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: Russell Grant

Email To: lydia.velezgonzalez@arcadis.com;russell.grant@

Project Description: UEM4822 - Cooper Jal

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 916-786-5246

Client Project # 30183400 task 0002

Lab Project # CHEVARCNM-COOPERJAL

Collected by (print): Daniel Mclee

Site/Facility ID # COOPER JAL

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard

Analysis / Container / Preservative

Chain of Custody

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1638368

Table #

Acctnum: CHEVARCNM
Template: T200378
Prelogin: P1011575
PM: 526 - Chris McCord
PB: 7/12/23 CAM

Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE (300.0) 125mlHDPE-NoPres	SULFATE (300.0) 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
RW-2R-W-20230720	G	GW		7-20-23	1340	3	X	X	X		-11
RW-2-W-20230720		GW			1350	2	X		X		-12
MW-10-W-20230720		GW			1405	2	X		X		-13
DUP-2-W-20230720		GW			—	2	X		X		-14
MW-14-W-20230720		GW			1415	2	X		X		-15
MW-7-W-20230720		GW			1440	2	X		X		-16
MW-8-W-20230720		GW		7-20-23	1500	2	X		X		-17
MW-9-W-20230721		GW		7-21-23	1000	2	X		X		-18
MW-9A-W-20230721		GW			1015	2	X		X		-19
MW-11-W-20230721	G	GW		7-21-23	1030	2	X		X		-20

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	7-21-23	1400		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 6.8/4.1°C Bottles Received: 3.5-3.0 44
	7/21/23	1700		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			Alexa Mitchell	7/22/23 0545

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Company Name / Address:
Arcadis - Chevron - NM

10205 Westheimer Rd.
#800
Houston. TX 77042

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: **Russell Grant**

Email To: lydia.velezgonzalez@arcadis.com;russell.grant@

Project Description: **UEM4822 - Cooper Jal**

City/State Collected: Jal, NM

Please Circle: PT MT (CT) ET

Phone: **916-786-5246**

Client Project # **30183400 task 0002**

Lab Project # **CHEVARCNM-COOPERJAL**

Collected by (print): Daniel Mclaw

Site/Facility ID # **COOPER JAL**

P.O. #

Collected by (signature):

Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard

Analysis / Container / Preservative

Chain of Custody

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 638368

Table #

Acctnum: **CHEVARCNM**
Template: **T200378**
Prelogin: **P1011575**
PM: **526 - Chris McCord**
PB: 7/12/23 CAM

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE (300.0) 125mlHDPE-NoPres	SULFATE (300.0) 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-3-W-20230721	G	GW		7-21-23	1045	2	X		X		-21
MW-12-W-20230721	G	GW		7-21-23	1100	2	X		X		-22
		GW									

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: Y __N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	7-21-23	1400		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 6.6/6.9 °C Bottles Received:
	7/21/23	1700		3.5+0=3.5 44
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			Alexa Mitchell	7/22/23 1545

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®

ANALYTICAL REPORT

November 29, 2023

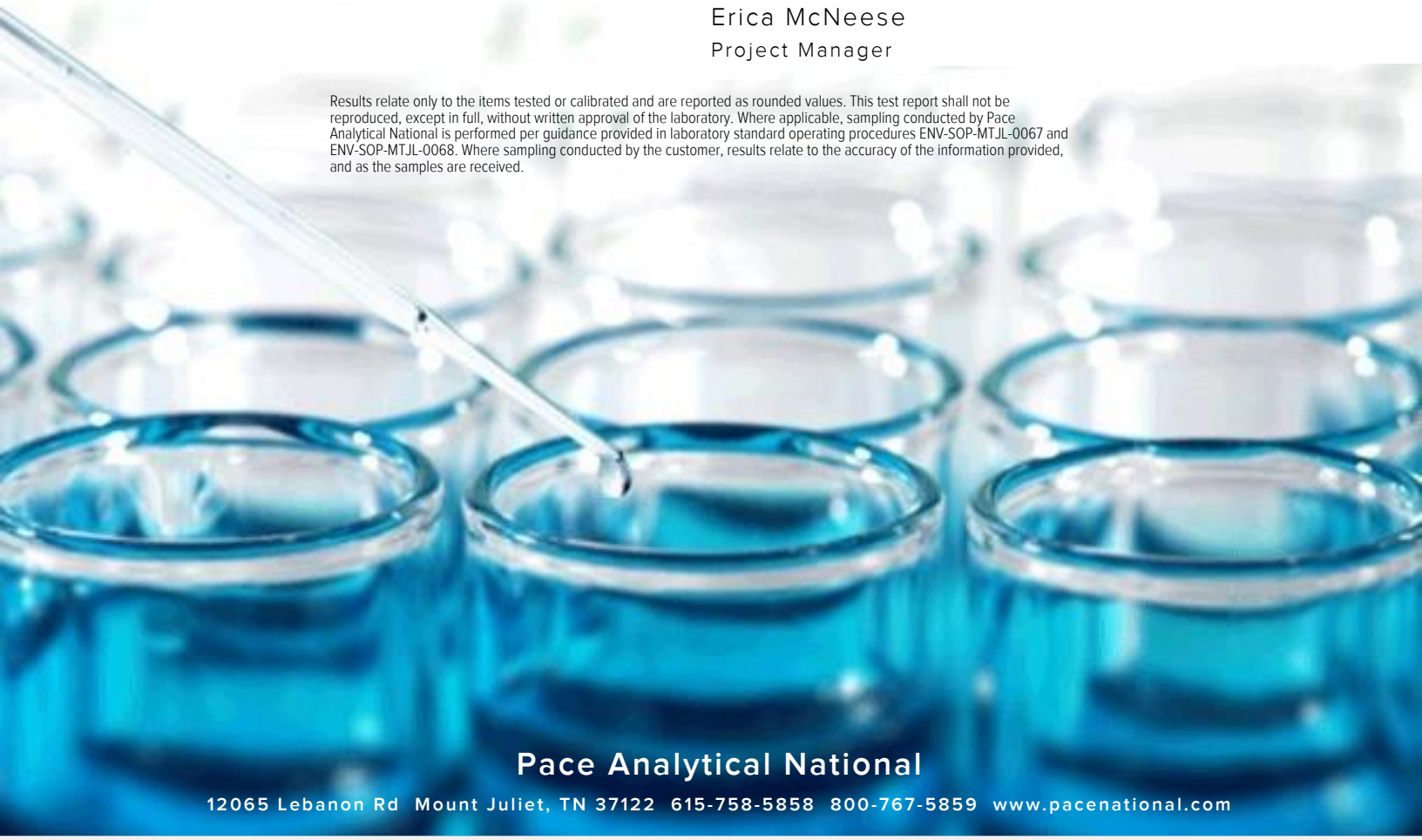
Arcadis - Chevron - NM

Sample Delivery Group:	L1678374
Samples Received:	11/15/2023
Project Number:	30183400 task 0002
Description:	UEM4822 - Cooper Jal
Site:	COOPER JAL
Report To:	Russell Grant 10205 Westheimer Rd. #800 Houston, TX 77042

Entire Report Reviewed By: Erica McNeese

Erica McNeese
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-12-W-20231113 L1678374-01 GW

Collected by: Daniel McGee | Collected date/time: 11/13/23 13:20 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2172510	5	11/20/23 07:02	11/20/23 07:02	HMM	Mt. Juliet, TN

MW-1-W-20231113 L1678374-02 GW

Collected by: Daniel McGee | Collected date/time: 11/13/23 13:40 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	10	11/24/23 17:21	11/24/23 17:21	HMM	Mt. Juliet, TN

MW-2-W-20231113 L1678374-03 GW

Collected by: Daniel McGee | Collected date/time: 11/13/23 14:15 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	1	11/24/23 17:31	11/24/23 17:31	HMM	Mt. Juliet, TN

MW-5-W-20231113 L1678374-04 GW

Collected by: Daniel McGee | Collected date/time: 11/13/23 14:45 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	10	11/24/23 17:40	11/24/23 17:40	HMM	Mt. Juliet, TN

MW-4-W-20231113 L1678374-05 GW

Collected by: Daniel McGee | Collected date/time: 11/13/23 15:10 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	100	11/24/23 17:50	11/24/23 17:50	HMM	Mt. Juliet, TN

RW-1-W-20231113 L1678374-06 GW

Collected by: Daniel McGee | Collected date/time: 11/13/23 15:35 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	100	11/24/23 18:00	11/24/23 18:00	HMM	Mt. Juliet, TN

DUP-1-W-20231113 L1678374-07 GW

Collected by: Daniel McGee | Collected date/time: 11/13/23 00:00 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	100	11/24/23 18:09	11/24/23 18:09	HMM	Mt. Juliet, TN

RW-2-W-20231114 L1678374-08 GW

Collected by: Daniel McGee | Collected date/time: 11/14/23 09:55 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174557	1	11/20/23 12:59	11/20/23 19:19	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	10	11/24/23 18:19	11/24/23 18:19	HMM	Mt. Juliet, TN

RW-2R-W-20231114 L1678374-09 GW

Collected by: Daniel McGee | Collected date/time: 11/14/23 10:10 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174557	1	11/20/23 12:59	11/20/23 19:19	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	100	11/24/23 18:28	11/24/23 18:28	HMM	Mt. Juliet, TN

MW-10-W-20231114 L1678374-10 GW

Collected by: Daniel McGee | Collected date/time: 11/14/23 10:30 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174557	1	11/20/23 12:59	11/20/23 19:19	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	5	11/24/23 18:57	11/24/23 18:57	HMM	Mt. Juliet, TN

MW-7-W-20231114 L1678374-11 GW

Collected by: Daniel McGee | Collected date/time: 11/14/23 10:55 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174557	1	11/20/23 12:59	11/20/23 19:19	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	100	11/24/23 19:06	11/24/23 19:06	HMM	Mt. Juliet, TN

MW-9-W-20231114 L1678374-12 GW

Collected by: Daniel McGee | Collected date/time: 11/14/23 11:15 | Received date/time: 11/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174563	1	11/20/23 13:07	11/20/23 17:54	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2174496	100	11/24/23 19:16	11/24/23 19:16	HMM	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Erica McNeese
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1470		20.0	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	447		1.90	5.00	5	11/20/2023 07:02	WG2172510

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1840		50.0	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	857		3.79	10.0	10	11/24/2023 17:21	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	546		10.0	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	194		0.379	1.00	1	11/24/2023 17:31	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2420		50.0	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	991		3.79	10.0	10	11/24/2023 17:40	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	23800		400	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	13700		37.9	100	100	11/24/2023 17:50	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	6540		200	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	2160		37.9	100	100	11/24/2023 18:00	WG2174496

DUP-1-W-20231113
Collected date/time: 11/13/23 00:00
L1678374

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3530		100	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	1810		37.9	100	100	11/24/2023 18:09	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2640		50.0	1	11/20/2023 19:19	WG2174557

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	890		3.79	10.0	10	11/24/2023 18:19	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	13500		200	1	11/20/2023 19:19	WG2174557

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	8300		37.9	100	100	11/24/2023 18:28	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1180		20.0	1	11/20/2023 19:19	WG2174557

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	364		1.90	5.00	5	11/24/2023 18:57	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	11600		200	1	11/20/2023 19:19	WG2174557

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	5350		37.9	100	100	11/24/2023 19:06	WG2174496

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2930		50.0	1	11/20/2023 17:54	WG2174563

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	1100		37.9	100	100	11/24/2023 19:16	WG2174496

Method Blank (MB)

(MB) R4002954-1 11/19/23 16:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1677485-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1677485-03 11/19/23 16:57 • (DUP) R4002954-3 11/19/23 16:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	882	974	1	9.91	J3	5

L1677485-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1677485-04 11/19/23 16:57 • (DUP) R4002954-4 11/19/23 16:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1060	1120	1	5.15	J3	5

Laboratory Control Sample (LCS)

(LCS) R4002954-2 11/19/23 16:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8690	98.8	85.0-115	

Method Blank (MB)

(MB) R4003143-1 11/20/23 19:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1678022-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1678022-02 11/20/23 19:19 • (DUP) R4003143-3 11/20/23 19:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	594	611	1	2.82		5

L1678371-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1678371-01 11/20/23 19:19 • (DUP) R4003143-4 11/20/23 19:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	906	962	1	6.00	J3	5

Laboratory Control Sample (LCS)

(LCS) R4003143-2 11/20/23 19:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8640	98.2	85.0-115	

Method Blank (MB)

(MB) R4003147-1 11/20/23 17:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1677929-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1677929-02 11/20/23 17:54 • (DUP) R4003147-3 11/20/23 17:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	668	697	1	4.25		5

L1678027-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1678027-05 11/20/23 17:54 • (DUP) R4003147-4 11/20/23 17:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1020	1050	1	2.71		5

Laboratory Control Sample (LCS)

(LCS) R4003147-2 11/20/23 17:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8430	95.8	85.0-115	

Method Blank (MB)

(MB) R4002233-1 11/19/23 22:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00

L1678182-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1678182-02 11/20/23 01:12 • (DUP) R4002233-5 11/20/23 02:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6.74	6.76	1	0.228		15

L1678182-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1678182-11 11/20/23 04:23 • (DUP) R4002233-6 11/20/23 05:11

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	63.5	63.5	1	0.0313		15

Laboratory Control Sample (LCS)

(LCS) R4002233-2 11/19/23 23:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.9	99.7	90.0-110	

L1678182-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1678182-01 11/20/23 00:25 • (MS) R4002233-3 11/20/23 00:41 • (MSD) R4002233-4 11/20/23 00:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	95.4	116	116	50.9	51.3	1	80.0-120	J6	J6	0.135	15

L1678182-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1678182-11 11/20/23 04:23 • (MS) R4002233-7 11/20/23 05:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	63.5	89.9	66.0	1	80.0-120	J6

Method Blank (MB)

(MB) R4004236-1 11/24/23 09:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00

L1678029-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1678029-01 11/24/23 15:37 • (DUP) R4004236-3 11/24/23 15:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	126	126	1	0.00150		15

L1678378-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1678378-01 11/24/23 19:25 • (DUP) R4004236-6 11/24/23 19:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	76.9	77.1	1	0.347		15

Laboratory Control Sample (LCS)

(LCS) R4004236-2 11/24/23 10:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.3	98.3	80.0-120	

L1678029-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1678029-01 11/24/23 15:37 • (MS) R4004236-4 11/24/23 15:56 • (MSD) R4004236-5 11/24/23 16:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	126	140	140	34.5	34.3	1	80.0-120	J6	J6	0.0545	15

L1678378-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1678378-01 11/24/23 19:25 • (MS) R4004236-7 11/24/23 19:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	76.9	102	61.6	1	80.0-120	J6

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Arcadis - Chevron - NM
10205 Westheimer Rd.
#800
Houston. TX 77042

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: **Russell Grant**

Email To: **russell.grant@arcadis.com;sheila.hernandez@ar**

Project Description: **UEM4822 - Cooper Jal**

City/State Collected: Jal, NM

Please Circle: PT MT (CT) ET

Phone: **916-786-5246**

Client Project # **30183400 task 0002**

Lab Project # **CHEVARCNM-COOPERJAL**

Collected by (print): Daniel McGee

Site/Facility ID # **COOPER JAL**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace
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MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1678374
H086

Acctnum: **CHEVARCNM**
Template: **T200378**
Prelogin: **P1036447**
PM: **526 - Chris McCord**
PB: CR 11-8-23

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-12-W-20231113	G	GW		11-13-23	1320	2	X	X		-01
MW-1-W-20231113		GW			1340	2	X	X		-02
MW-2-W-20231113		GW			1415	2	X	X		-03
MW-5-W-20231113		GW			1445	2	X	X		-04
MW-4-W-20231113		GW			1510	2	X	X		-05
RW-1-W-20231113		GW			1535	2	X	X		-06
DUP-1-W-20231113		GW		11-13-23	—	2	X	X		-07
RW-2-W-20231114		GW		11-14-23	0955	2	X	X		-08
RW-2R-W-20231114		GW			1010	2	X	X		-09
MW-10-W-20231114	G	GW		11-14-23	1030	2	X	X		-10

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

pH ___ Temp ___
Flow ___ Other ___

Samples returned via: __ UPS __ FedEx __ Courier ___

Tracking # 6426 8308 5884

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	11-14-23	1615			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0 °C Bottles Received:	
	11-14-23	1650		1.9+0=1.9 24	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
			(14)	11/15/23 900	

Company Name/Address:
Arcadis - Chevron - NM
10205 Westheimer Rd.
#800
Houston. TX 77042

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: **Russell Grant**

Email To: russell.grant@arcadis.com;sheila.hernandez@ar

Project Description: **UEM4822 - Cooper Jal**

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: **916-786-5246**

Client Project # **30183400 task 0002**

Lab Project # **CHEVARCNM-COOPERJAL**

Collected by (print): Daniel McGee

Site/Facility ID # **COOPER JAL**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: standard

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

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SDG # 676374

Table #

Acctnum: **CHEVARCNM**
Template: **T200378**
Prelogin: **P1036447**
PM: **526 - Chris McCord**
PB: LP 11-8-23

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-7-W-20231114	G	GW		11-14-23	1055	2	X	X		-11
MW-9-W-20231114	G	GW		11-14-23	1115	2	X	X		-12
		GW								

Rad 11-14-23

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: Y __N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	11-14-23	1615			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: DPAB °C	Bottles Received:
	11-14-23	16:50		1.9+0=1.9	24
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
			(14)	11/15/23	900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

APPENDIX G

Cooper Jal Groundwater Model Memo

MEMO

ARCADIS Design & Consultancy for natural and built assets

To:

Bradford G. Billings

EMNRD/OCD

5200 Oakland, NE, Suite 100

Albuquerque, NM 87113

Copies:

File

Arcadis of New York, Inc.
Two Huntington Quadrangle
Suite 1S10
Melville
New York 11747
Tel 631 249 7600
Fax 631 249 7610

From:

Khandaker Ashfaque

Jack Wang

Date:

August 10, 2020

Arcadis Project No.:

30045941.0003A

Subject:

Cooper-Jal Groundwater Model
Chevron Environmental Management Company
Lea County, New Mexico

BACKGROUND

This technical memorandum summarizes the work conducted by Arcadis for the Chevron Environmental Management Company to assess the potential effectiveness of a chloride plume containment system at the Cooper-Jal Unit South Injection Station (Site), approximately 5.5 miles northeast of Jal, New Mexico, in Section 24, Township 24 South, Range 36 East, Lea County, New Mexico. The location of the Site is shown on **Figure 1**.

Chloride is presented at elevated concentrations in groundwater beneath the Site as a result of historic operations; in 2019 chloride concentrations exceeded 9,300 milligrams per Liter (mg/L) at RW-1.

GHD previously developed a Site-specific three-dimensional groundwater flow and transport model for the Site to assess potential future chloride migration in groundwater and evaluate potential options to remediate the chloride plume. Review of GHD supplied modeling files suggest four remedial alternative scenarios were evaluated with varying number of extraction / injection wells and pumping rates. A closer look at simulation results indicate it will take approximately 90 to 95 years for complete attenuation of the chloride plume under a proposed 21-gallons per minute (gpm) system consisting of 3 extraction and 1 injection wells.

A brief summary of the Site Setting and Hydrogeologic Conditions can be found in 2016 Annual Groundwater Monitoring Report (GHD 2016).

SCOPE OF WORK

Arcadis has been tasked with reviewing the original model design and construction, revising, and recalibrating the groundwater model, and applying the model to evaluate chloride plume transport under three scenarios:

- Scenario 1 – Monitored Natural Attenuation (non-pumping condition),
- Scenario 2 – Five (5) recovery wells with time-varying strategic pumping conditions, and
- Scenario 3 – Seven (7) recovery wells with time-varying strategic pumping conditions.

CONCEPTUAL SITE MODEL

The uppermost groundwater bearing zone underlying the Site is the Tertiary Ogallala Aquifer (Ogallala) formation which reportedly spans from approximately 165 feet to 175 feet below ground surface (bgs) across the Site. Based on Site boring logs, the average saturated aquifer thickness noted below the Site is approximately 40 feet and is generally encountered between 130 feet bgs and 175 feet bgs. “Red beds” consisting of fine-grained materials like shale, silt, or clay were encountered at approximately 171 feet bgs in several borings.

Hydraulic properties of the Ogallala formation were characterized through a pumping test performed on October 2, 2013 on recovery well RW-2R, and several slug tests carried out on 10 monitoring wells on March 21 and 23, 2017. Evaluation of the pumping test data resulted in a calculated aquifer transmissivity of 25.62 square feet per day and a hydraulic conductivity of 0.73 feet per day [ft/day]. However, hydraulic conductivity values obtained from slug test analysis ranged from 0.23 to 3.76 ft/d, with a geometric mean of 1.79 ft/d.

GROUNDWATER FLOW MODEL DEVELOPMENT

Flow Model Code Selection and Description

The groundwater flow model was developed using MODFLOW, a publicly-available groundwater flow simulation program developed by the USGS (McDonald and Harbaugh, 1988). MODFLOW is thoroughly documented; widely used by consultants, government agencies, and researchers; and is consistently accepted in regulatory environments. MODFLOW uses the method of finite differences to approximate groundwater flow equations. Spatial discretization consists of subdividing the entire model domain into a grid or mesh or blocks or cells. In the discretized system, hydraulic heads are computed at the center of each grid block. In general, computational accuracy increases as the number of rows and columns in the grid increases (the grid cells become smaller). MODFLOW allows the use of variable mesh spacing to enhance model accuracy in the area of concern — in this case, the Site area, within the chloride plume, and in the vicinity of existing and proposed groundwater pumping.

The hydrogeologic framework and the dynamics of the flow system require a code capable of simulating three-dimensional flow with dipping layers. The unconfined nature of the aquifer necessitates a code option for simulating a free-water surface. Simulation of various boundary conditions (specified flux and

free-surface) is required, as is the ability to simulate the distribution of various aquifer and hydrologic parameters. MODFLOW meets all of these requirements.

Model Domain and Grid

The numerical model domain for the Site covers an aerial extent of approximately 7,100 feet by 3,800 feet (**Figure 2**). The model domain has been extended to better represent regional hydrogeologic boundaries. The finite-difference grid spacing ranges from 10 feet by 10 feet near the Site to 110 feet by 110 feet along the model extents. Vertically, the model consists of one layer, and represents the Tertiary Ogallala Aquifer formation.

Boundary Conditions

The numerical model is bounded by regional water level contours on the south-east and north-west, and no-flow boundary representing inferred regional groundwater flow line to the north-east and south-west (**Figure 2**). The boundary conditions align with the regional groundwater levels and extends a sufficient distance from the area of concern to minimize potential for boundary effects.

Head-dependent flux boundaries (i.e., general head boundaries) were utilized at the upgradient and downgradient model bounds based on 2019 gauged water levels from on-Site monitoring wells (i.e. MW-13 and MW-11). During flow model calibration, the stage and hydraulic conductance of flux boundaries were adjusted to better match observed flow conditions.

Hydraulic Parameters

The following sections discuss hydraulic parameter assignments in the model.

Hydraulic Conductivity

Initially, the groundwater model utilized a uniform hydraulic conductivity of 2.79 ft/day. During flow model calibration, the hydraulic conductivity value was adjusted to 1.4 ft/day – a value comparable to the calculated geomean of 1.79 ft/day from slug test analyses.

Recharge

Even though the annual evaporation rate likely exceeds annual precipitation, small amount of recharge likely occurs in months when evaporation rates are the lowest. As such, aerial recharge was applied uniformly over the model domain and was modified during model calibration. The rate of aerial recharge assigned in the calibrated model was estimated to be 0.06 inches per year, which is consistent with values obtained at nearby McKnight and Erwin facilities.

GROUNDWATER FLOW MODEL CALIBRATION

Calibration of a groundwater flow model refers to the process of adjusting model parameters to obtain a reasonable match between observed and simulated water levels. Model calibration is an iterative procedure that involves adjustment of hydraulic properties and/or boundary conditions to achieve the best match between observed and simulated water levels. During model calibration, model parameters are varied over a narrow range set by Site-specific data using the conceptual Site model as a guide.

The use of point data (targets) during calibration eliminates the potential for interpretive bias that may result from attempting to match a contoured potentiometric surface (Konikow, 1978; Anderson and

Woessner, 1992). The steady-state flow model was calibrated to average water level elevations between 2017 and 2019 collected at 19 water-level targets and distributed across the Site (**Figure 3**).

Simulated groundwater elevations and calibration target residuals for the Site area are shown on **Figure 3**. Residuals are defined as the difference between the model-simulated heads and the observed values. Positive residual values indicate that the model-simulated values are lower than the target values, and negative residual values indicate that the model-simulated values are higher than the target values. The residuals shown on **Figure 3** suggest measured water levels match reasonably well with model-simulated water levels in the Site area. Additionally, over-predictions in water levels are generally balanced with under-predicted water levels across the Site area which suggest minimal spatial bias in residuals.

The quality of the model calibration can be determined by a statistical analysis of the residuals, as shown in **Table 1**. Residual statistics **(Table 1)** for the calibrated groundwater flow model indicate an acceptable agreement between simulated and measured groundwater elevations. The residual mean, residual standard deviation, and sum of squared residuals (SSR) were calculated to be -0.07 feet, 0.43 feet, and 3.56 square feet, respectively. The scaled standard deviation (standard deviation divided by the range in observed water levels) is 4.6%. Ideally, the scaled standard deviation should be less than 10% to ensure the model accurately predicts groundwater flow direction and rates. These statistics indicate a good fit between the observed and simulated water levels. A plot of observed vs. simulated groundwater elevations for the 19 calibration targets is presented on **Figure 4**, which indicates that all simulated water levels are within 10% of the observed target levels.

SOLUTE TRANSPORT MODEL DEVELOPMENT

Transport Model Code Selection and Description

The solute transport modeling was performed using the modular three-dimensional transport model referred to as MT3DMS which was originally developed by Zheng and Wang (1999) for the United States Army Corps of Engineers. The MT3DMS code uses the flows computed by MODFLOW in its transport calculations and the same finite-difference grid structure and boundary conditions as MODFLOW, simplifying the effort to construct the solute transport model. MT3DMS has a comprehensive set of options and capabilities for simulating advection, dispersion/diffusion, and chemical reactions of contaminants in groundwater flow systems under a range of hydrogeologic conditions.

Solute Transport Parameters

The solute transport model was simulated using a single domain with an average porosity of 20%. No sorption, dispersion, or decay were simulated which is appropriate for evaluating chloride transport. However, the model included numerical dispersion, which is typical on the order of one half the grid cell spacing or about 5 feet. Plume dilution is represented by the groundwater recharge in the flow model and the dilution effect is expected to be minimal on the simulated chloride concentration.

CHLORIDE TRANSPORT ASSESSMENT

Solute transport modeling was performed to evaluate the migration and fate of the chloride plume detected in groundwater beneath the Site. Initial chloride plume was delineated based on observed chloride concentrations from June 2019 and November 2019 sampling events (**Figure 5**). To add conservatism in simulation results, maximum concentrations of the two sampling events at the monitoring wells were utilized. The solute transport model used the output from the calibrated flow model to simulate chloride transport under current average ambient groundwater flow conditions. The solute transport model was

used to assess the effectiveness of various remedial alternatives in reducing chloride concentrations in groundwater.

Chloride plume transport was assessed under three scenarios:

- Scenario 1 – Monitored Natural Attenuation (non-pumping condition),
- Scenario 2 – Five (5) recovery wells with time-varying strategic pumping conditions, and
- Scenario 3 – Seven (7) recovery wells with time-varying strategic pumping conditions.

The following sections describe the results of transport simulations for each scenario. Each transport scenario began with the initial chloride plume distribution shown on **Figure 5**. Transport model output are shown on **Figures 6**, **8**, and **10**. Recovery well configurations for Scenarios 2 and 3 are presented on **Figures 7** and **9**.

Scenario 1. Monitored Natural Attenuation (MNA)

This scenario simulated the movement of the chloride plume under non-pumping conditions (i.e., RW-1 and RW-2R were not pumped). **Figure 6** depicts chloride plume distributions after 5, 10, 20, 30, and 50 years of simulated transport. The figure indicates that the extent of the highest concentration portion of the plume (>5,000 mg/L) remains generally unchanged from the start of the simulation. Also, the leading edge of the plume slowly migrates downgradient with minimal spreading and attenuation suggesting chloride mass is expected to remain fairly unchanged under MNA scenario.

Scenario 2. Five (5) Recovery Wells with Time-Varying Strategic Pumping

This scenario simulated the fate and transport of the chloride plume under the influence of pumping from select recovery wells. Note that there are currently two non-operational recovery wells, RW-1 and RW-2 at the Site (**Figure 7**). Based on preliminary modeling evaluation, three additional recovery wells (RW-3, RW-4, and RW-5) were proposed at strategic locations with respect to the chloride plume footprint. Recovery wells RW-3 and RW-5 are located along the centerline and adjacent to the highest concentration of the plume; whereas, recovery well RW-4 is placed further downgradient along plume centerline to prevent downgradient migration as well as to provide contaminant mass recovery. The configuration of recovery wells with respect to initial chloride plume distribution is presented on **Figure 7**.

Figure 8 illustrates chloride plume distributions after 10, 15, 18, 19, and 25 years of simulated transport. The transport simulation was performed in phases, where operation of various recovery wells was adjusted and individual well flow rates were optimized (i.e., reduced pumping rates, turning on and off recovery wells) to achieve chloride plume attenuation within a reasonable timeframe. The following table lists the different phases of modeling simulation along with active recovery wells and total pumping rates corresponding to individual phases:

Modeling Phase	Simulation Time Period (Years)	Total Pumping Rate (gpm)	Total Number of Operational Wells	Operating Recovery Wells
Phase 1	0 to 10	6.2	5	RW-1 through RW-5
Phase 2	10 to 15	6.0	4	RW-2 through RW-5
Phase 3	15 to 18	5.0	3	RW-3 through RW-5
Phase 4	18 to 19	3.6	2	RW-3 and RW-4
Phase 5	19 to 25	2.9	1	RW-4

As the table suggests, the total pumping rate for the recovery wells vary from 2.9 to 6.2 gpm across various phases. The table further indicates that the number of active recovery wells becomes less over time as the extent of the chloride plume decreases and the total chloride mass reduces, which are depicted on **Figure 8**. Modeling results (**Figure 8**) indicate that under the proposed five recovery well pumping configuration, chloride plume is expected to be completely attenuated below 250 mg/L in approximately 25 years.

Scenario 3. Seven (7) Recovery Wells with Time-Varying Strategic Pumping

The purpose of this scenario was to evaluate a pump-only remedy configuration that would achieve chloride plume attenuation in approximately 15 years. Based on review of Scenario 2 modeling results, two more recovery wells (RW-6 and RW-7) were added to the proposed five recovery wells from Scenario 2. **Figure 9** portrays the configuration of the seven recovery wells under Scenario 3 along with the initial chloride footprint. Besides existing recovery wells RW-1 and RW-2R, proposed locations of recovery wells RW-3 through RW-5 are generally consistent with those from Scenario-2. Additional recovery well RW-6 was proposed between RW-1 and RW-2R, and within the highest concentration (>5,000 mg/L) footprint of the chloride plume to enhance mass removal; whereas RW-7 was positioned between RW-3 and RW-4 to accelerate plume attenuation.

Figure 10 illustrates chloride plume distributions after 10, 13, and 15 years of simulated transport. Similar to Scenario 2, the transport simulation was performed in phases, where operation of various recovery wells was adjusted, and individual well flow rates were optimized to achieve chloride plume attenuation within a shorter timeframe. The following table lists the total pumping rates along with the number of recovery wells corresponding to each transport simulation phases:

Modeling Phase	Simulation Time Period (Years)	Total Pumping Rate (gpm)	Total Number of Operational Wells	Operating Recovery Wells
Phase 1	0 to 10	7.1	7	RW-1 through RW-7
Phase 2	10 to 13	5.9	5	RW-3 through RW-7
Phase 3	13 to 15	5.1	3	RW-3 through RW-5

As the table suggests, the total pumping rate for the recovery wells vary from 5.1 to 7.1 gpm across various phases. The table further indicates that the number of active recovery wells becomes less over time as the extent of the chloride plume decreases and chloride mass reduces, which are depicted on

Figure 10. Modeling results (**Figure 10**) indicate that under the proposed seven recovery well pumping configuration, chloride plume is expected to be completely attenuated below 250 mg/L in approximately 15 years.

CONCLUSIONS

A Site-specific, three-dimensional groundwater flow and solute transport model was used to assess potential approaches to mitigate the migration of a chloride plume beneath the Site. Using an initial chloride distribution based on 2019 groundwater quality samples, three scenarios were evaluated including MNA, time-varying strategic pumping with five recovery wells (two existing and three proposed wells), and time-varying strategic pumping with seven recovery wells (two existing and five proposed wells). The transport simulation predicted that chloride plume is expected to be completely attenuated below 250 mg/L in approximately 25 and 15 years under the five recovery well and seven recovery well scenarios, respectively.

REFERENCES

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Konikow, L. 1978. Calibration of Groundwater Models, in Proceedings of the Specialty Conferences on Verification of Mathematical and Physical Models in Hydraulic Engineering, College Park, Maryland, August 9-11, 1978.

McDonald, Michael G. and Arlen W. Harbaugh. 1988. A Modular Three-Dimensional Finite-Difference Ground-Water Flow Model. Techniques of Water-Resources Investigations of the United States Geological Survey, Chapter A1.

Zheng, Chunmiao and P. Patrick Wang. 1999. MT3DMS: A Modular Three-Dimensional Multispecies Transport Model for Simulation of Advection, Dispersion, and Chemical Reactions of Contaminants in Groundwater Systems; Documentation and User's Guide Strategic Environmental Research and Development Program. Prepared for U.S. Army Corps of Engineers, Washington, DC. Contract Report SERDP-99-1. December.

Table 1
Groundwater Flow Model Steady-State Calibration Targets
Cooper-Jal Groundwater Model
Lea County, New Mexico

Well ID	Model Layer	Observed Groundwater Elevation (feet msl)	Simulated Groundwater Elevation (feet msl)	Residual (observed - simulated, feet)
MW-1	1	3187.11	3186.98	0.13
MW-10	1	3185.54	3184.61	0.93
MW-11	1	3181.16	3181.55	-0.39
MW-12	1	3190.35	3190.38	-0.03
MW-14	1	3184.33	3183.95	0.38
MW-2	1	3186.83	3186.57	0.26
MW-2A	1	3186.73	3186.60	0.13
MW-3	1	3187.50	3187.48	0.02
MW-4	1	3185.89	3186.13	-0.24
MW-4A	1	3186.07	3186.11	-0.04
MW-5	1	3186.00	3185.93	0.07
MW-6R	1	3186.65	3186.45	0.20
MW-7	1	3184.44	3184.66	-0.22
MW-8	1	3184.92	3185.13	-0.21
MW-9	1	3182.44	3182.98	-0.55
MW-9A	1	3182.47	3182.98	-0.51
RW-1	1	3186.32	3186.22	0.10
RW-2	1	3184.94	3185.05	-0.11
RW-2R	1	3183.86	3185.09	-1.23

Total targets: 19

Mean residual: -0.07 feet

Residual standard deviation: 0.43 feet

Observed target range: 9.20 feet

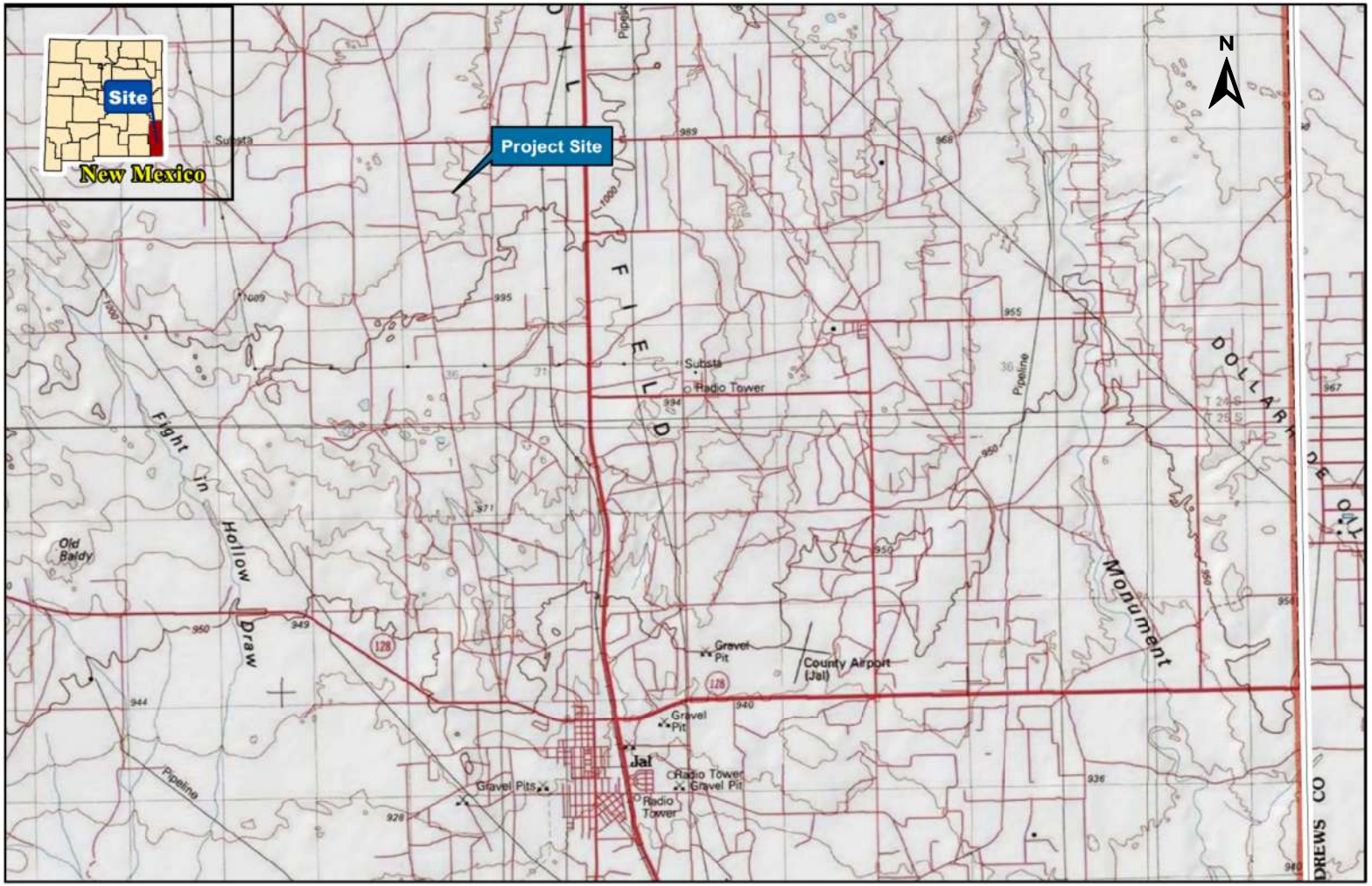
Residual sum-of-squares: 3.56 ft^2

Notes:

Average water-level measurements from 2019.

ft^2 = square feet

msl = mean sea level



SOURCE: USGS 7.5 MINUTE QUADRANGLE; JAL NW, NEW MEXICO (1977)

0 500 1500ft

Coordinate System:
NAD83 State Plane
New Mexico East

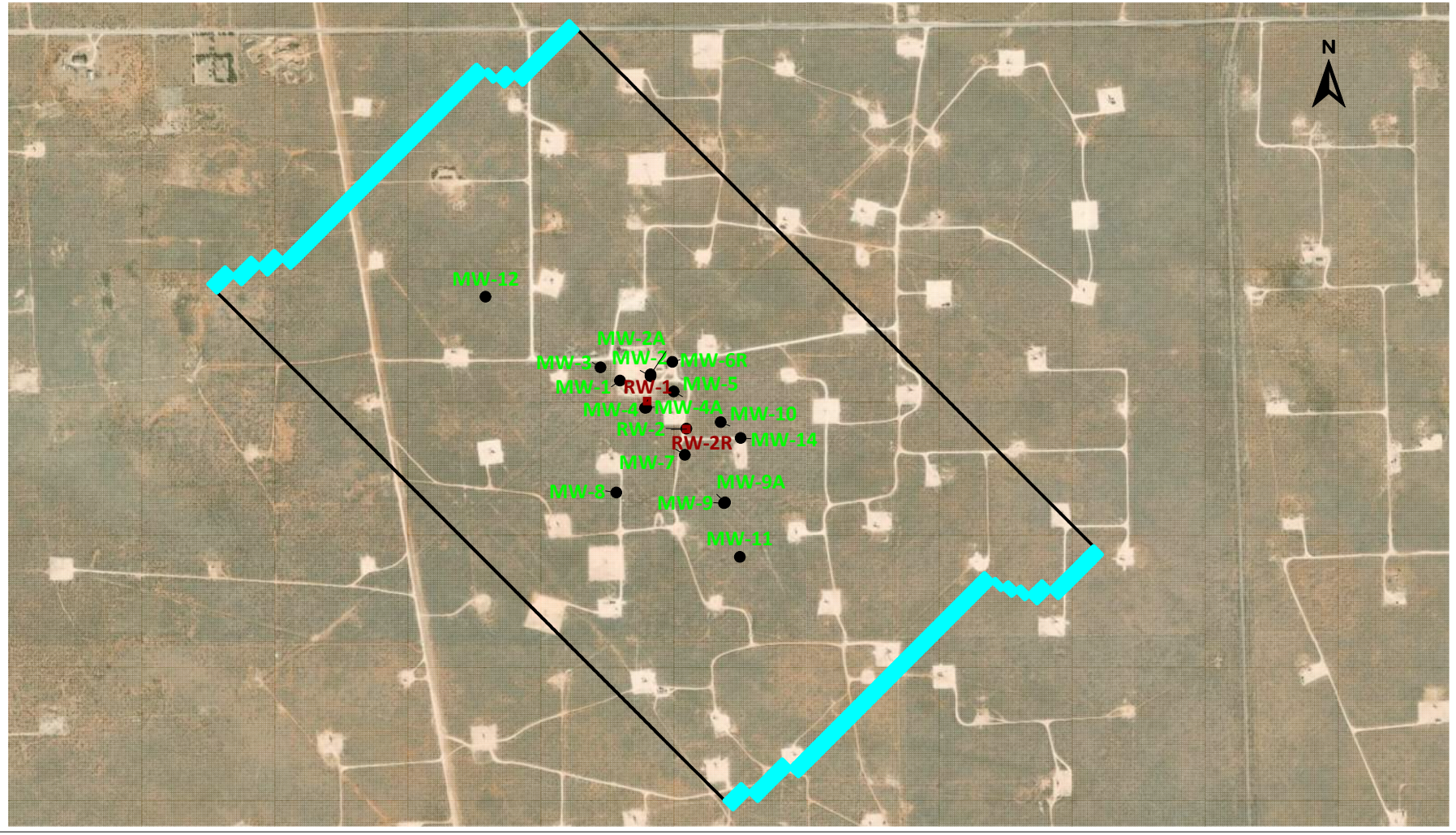
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

SITE LOCATION

ARCADIS

FIGURE
1



Model Extent

General Head Boundary

MW-2 Monitoring Wells

RW-1 Extraction Wells

SCALE IN FEET

0 1000 2000 3000

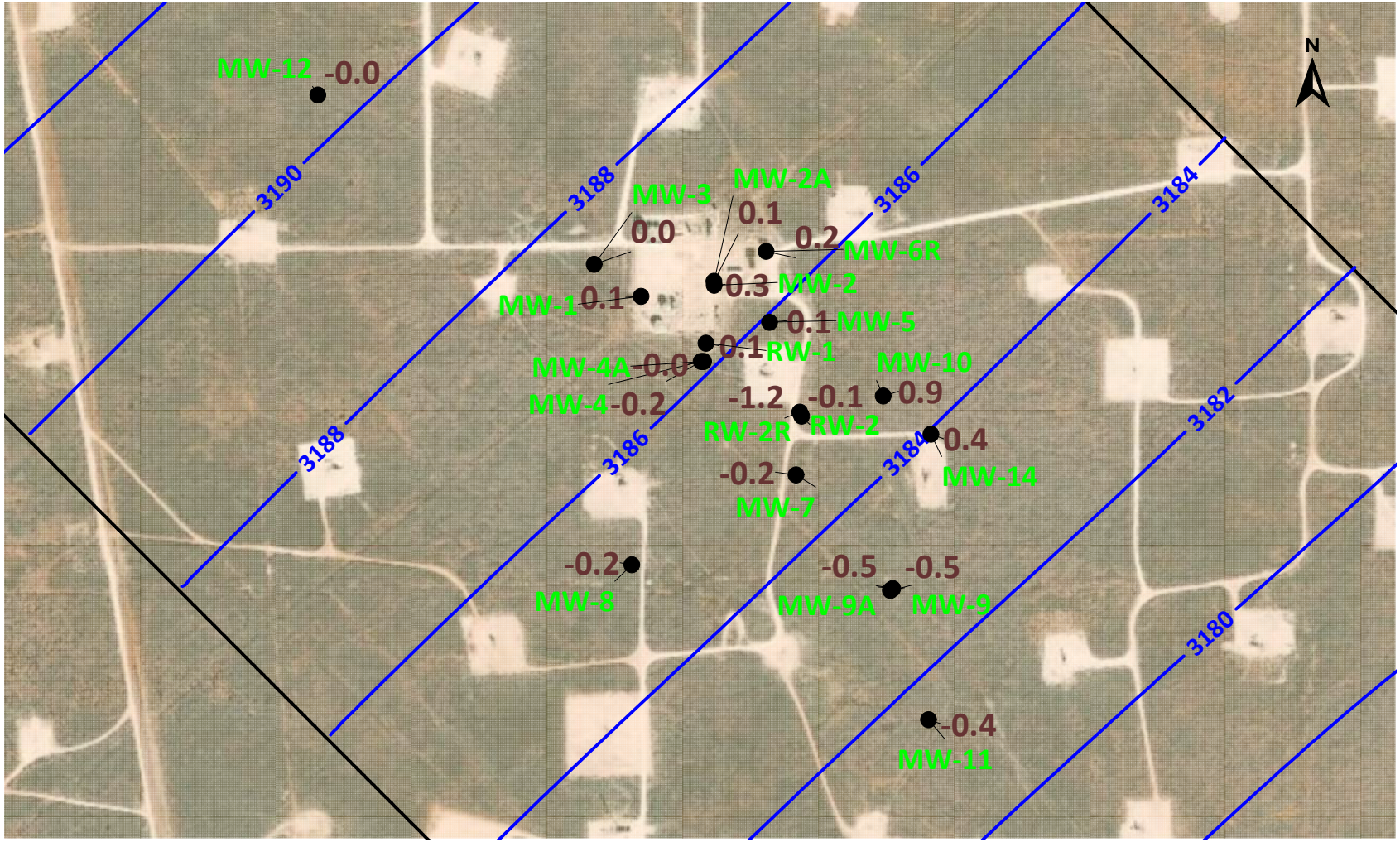
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

GROUNDWATER MODEL EXTENT AND BOUNDARY CONDITIONS

ARCADIS

FIGURE 2



Model Extent

SCALE IN FEET

0 500 1000

--3190-- Simulated Water Level Contours (feet msl)
(contour interval: 2 feet); msl = mean sea level

-0.2
MW-2
Simulated Residuals (feet)
[Observed minus Modeled Water Levels]

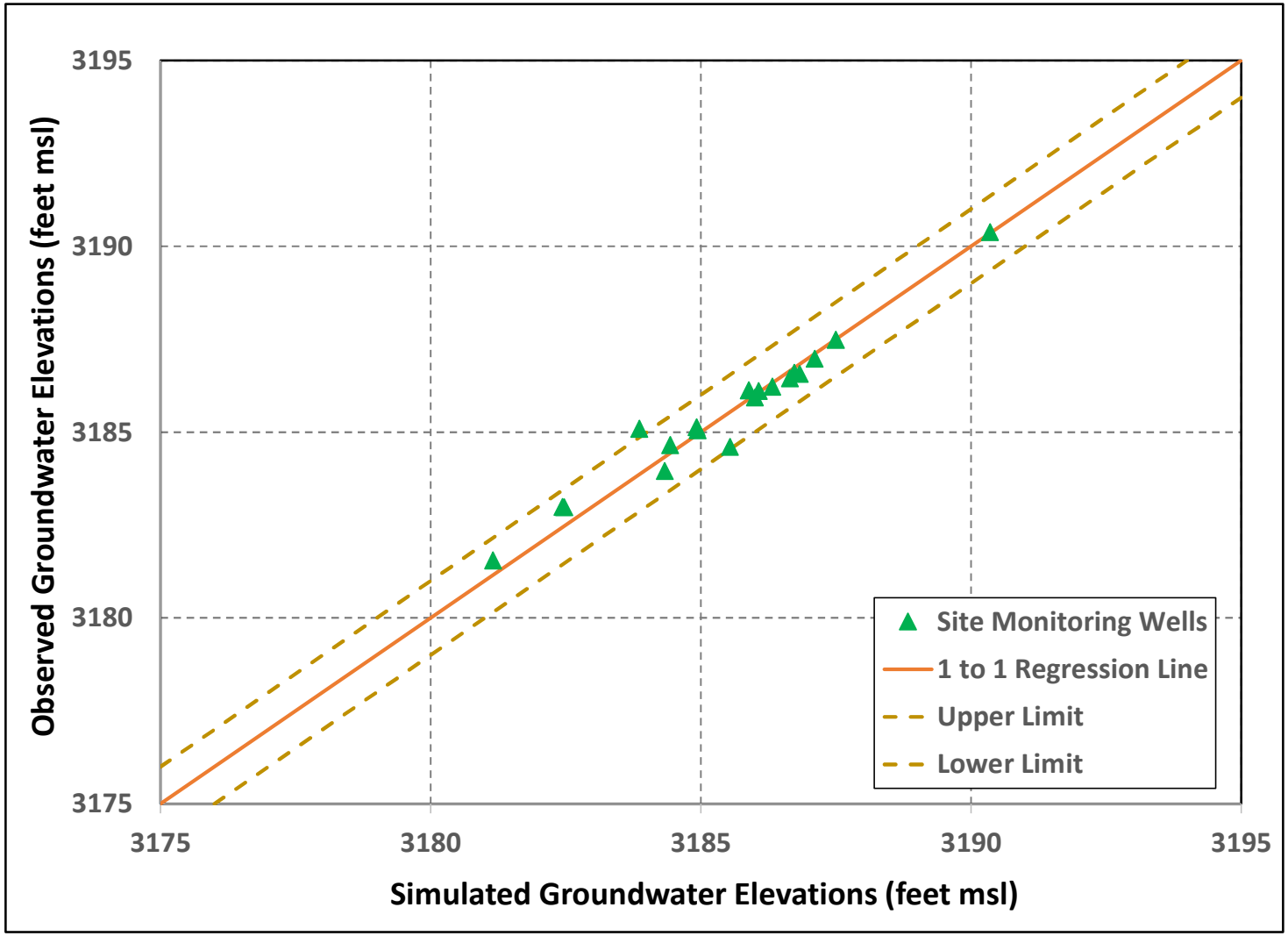
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

SIMULATED NON-PUMPING WATER LEVEL AND RESIDUAL DISTRIBUTIONS

ARCADIS

FIGURE
3



Steady-State calibration statistics:

1. Residual Mean is -0.07 feet.
2. Redisual Standard Deviation is 0.43 feet.
3. Sum of Square is 3.56 feet^2.

Note: msl = mean sea level

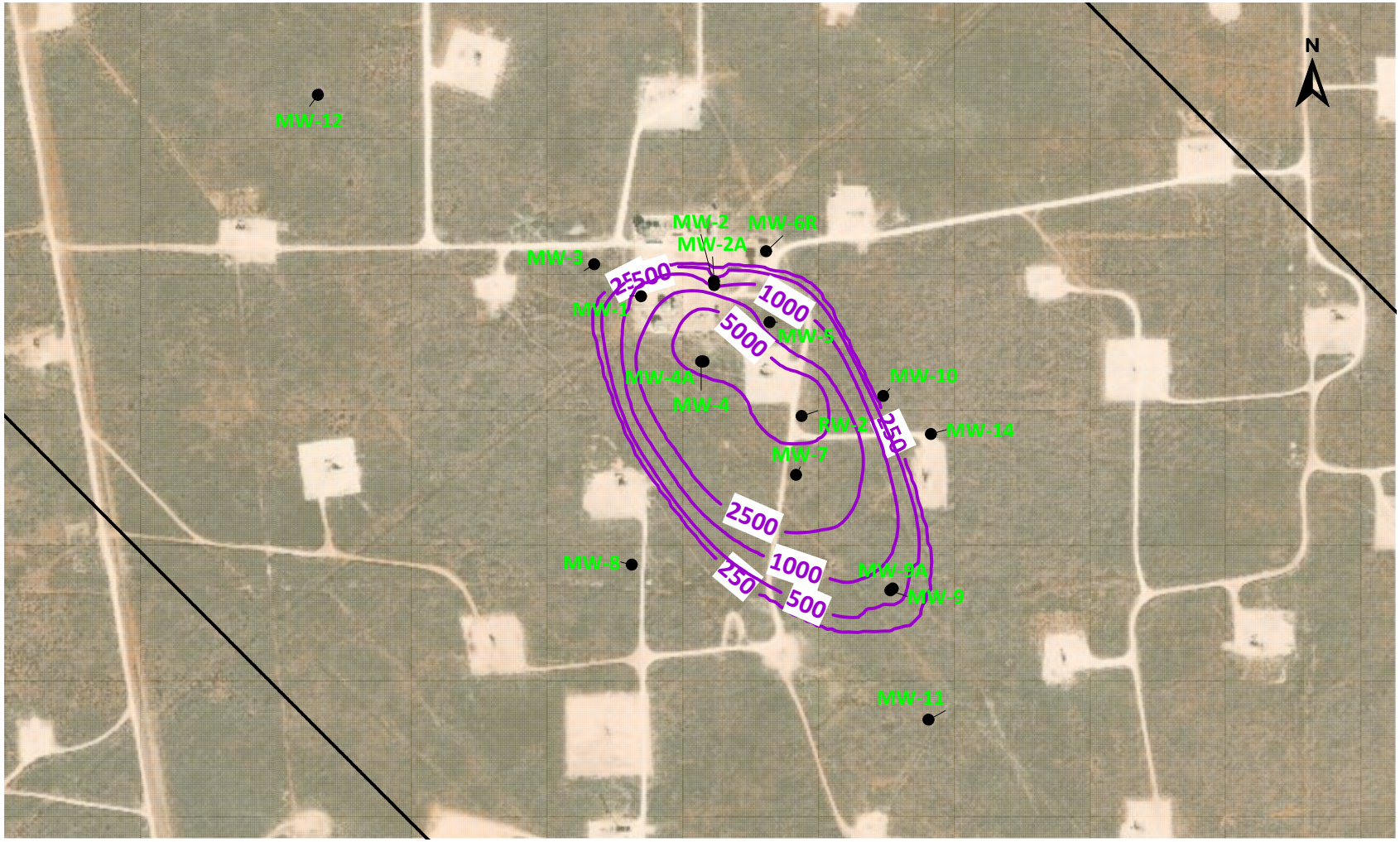
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

STEADY-STATE MODEL CALIBRATION TARGETS: OBSERVED VS SIMULATED GROUNDWATER ELEVATIONS

ARCADIS

FIGURE
4



Model Extent

SCALE IN FEET

0 500 1000

--500-- Simulated Chloride Concentration Contours (mg/L)
mg/L = milligrams per liter

MW-2 Monitoring Wells

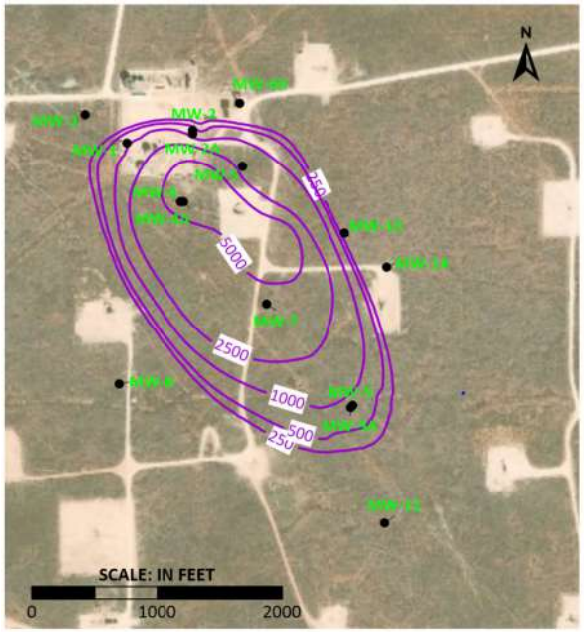
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

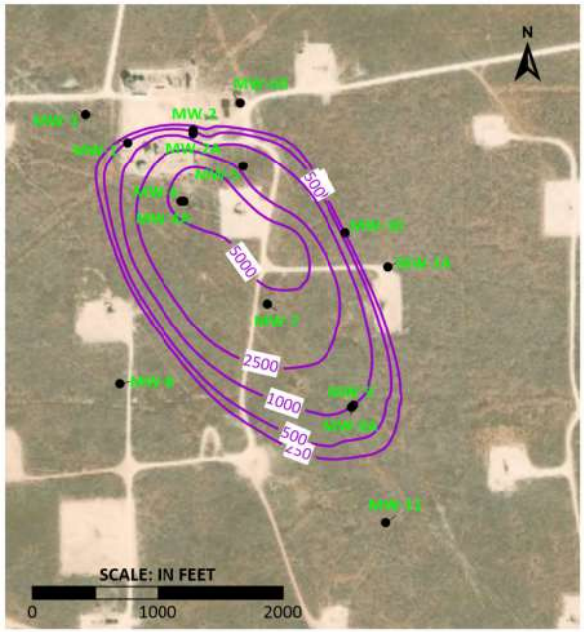
INITIAL CHLORIDE PLUME DISTRIBUTION

ARCADIS

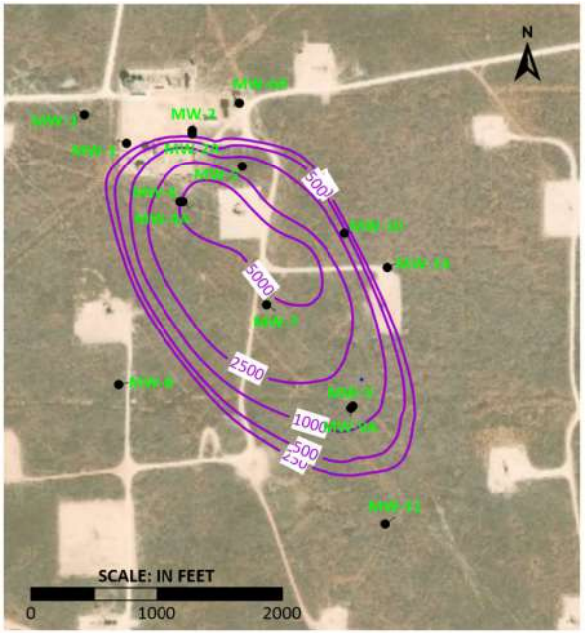
FIGURE 5



YEAR 5



YEAR 10



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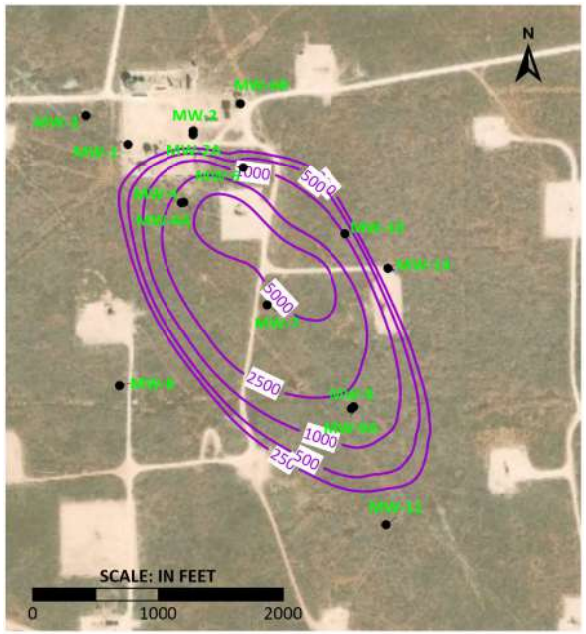
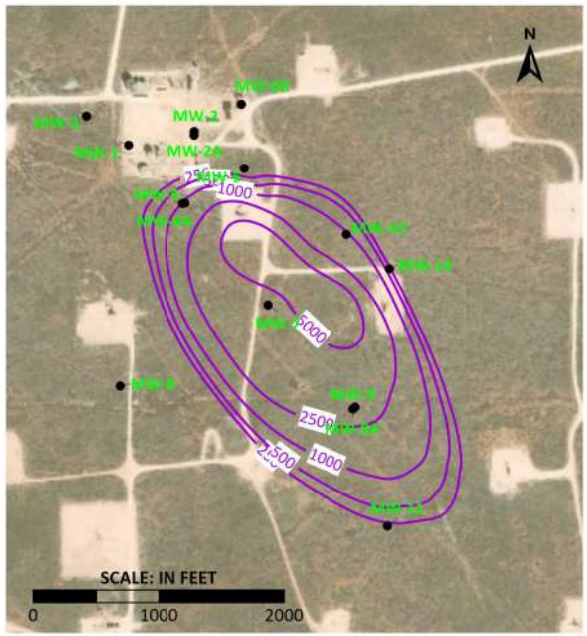


YEAR 30



YEAR 50

—250— Simulated Chloride Concentration Contours (miligram per liter)

MW-2 ● Monitoring Wells

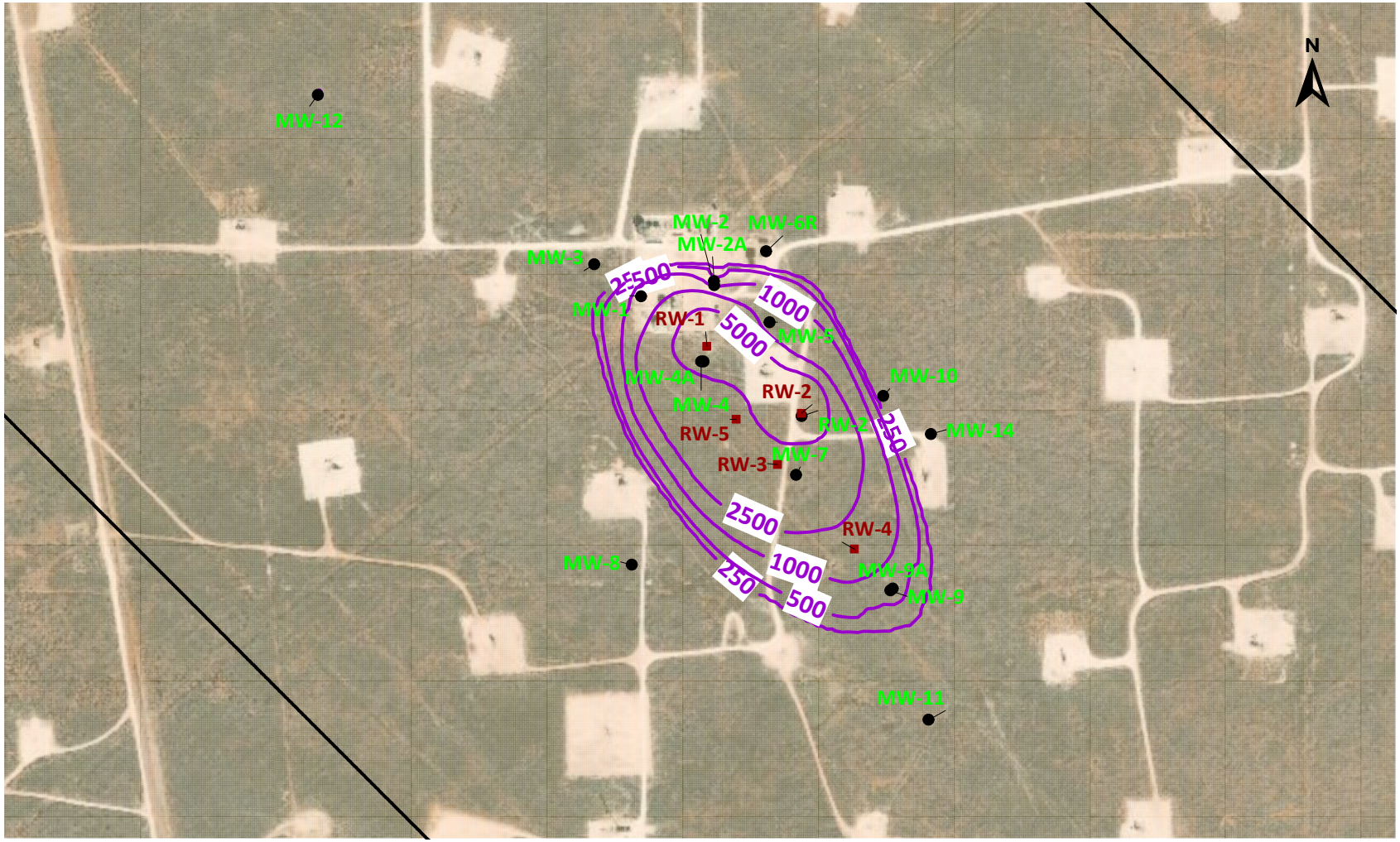
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

SIMULATED CHLORIDE PLUME DISTRIBUTIONS AFTER 5, 10, 20, 30, AND 50 YEARS UNDER SCENARIO-1 (MNA)

ARCADIS

FIGURE
6



Model Extent

SCALE IN FEET

0 500 1000

--500-- Simulated Chloride Concentration Contours (mg/L)
mg/L = milligrams per liter

RW-1 Recovery Wells

MW-2 Monitoring Wells

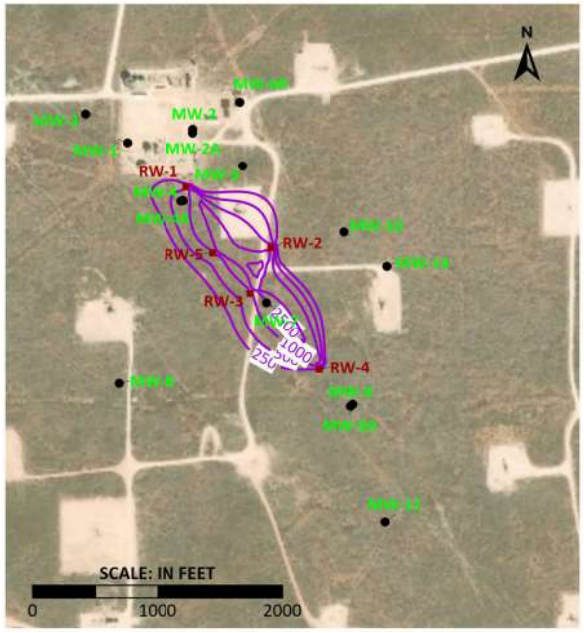
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

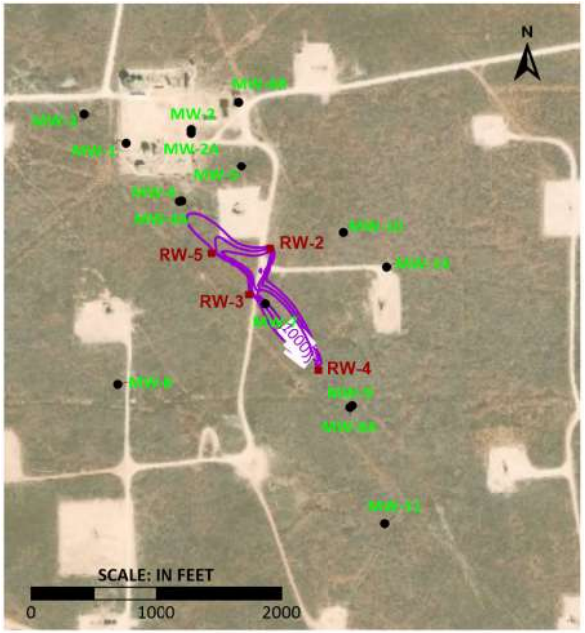
INITIAL CHLORIDE PLUME DISTRIBUTION AND RECOVERY WELL CONFIGURATION FOR SCENARIO-2 (5 RWs)

ARCADIS

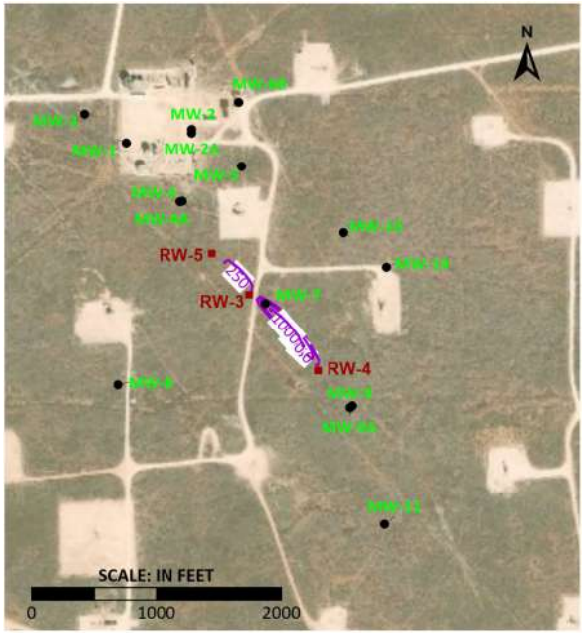
FIGURE 7



YEAR 10



YEAR 15



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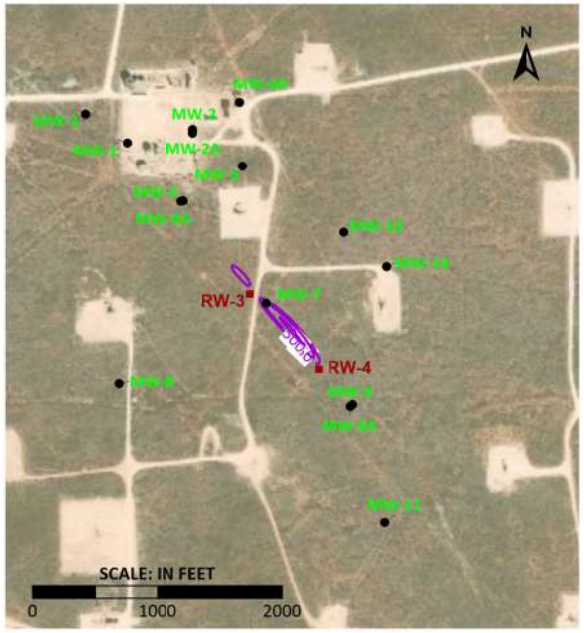
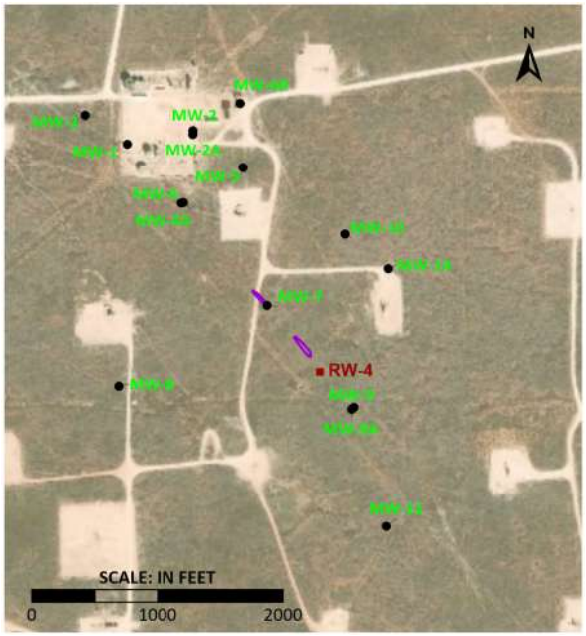


YEAR 19



YEAR 25

250 — Simulated Chloride Concentration Contours (miligram per liter)

MW-2 ● Monitoring Wells

RW-1 ■ Recovery Wells

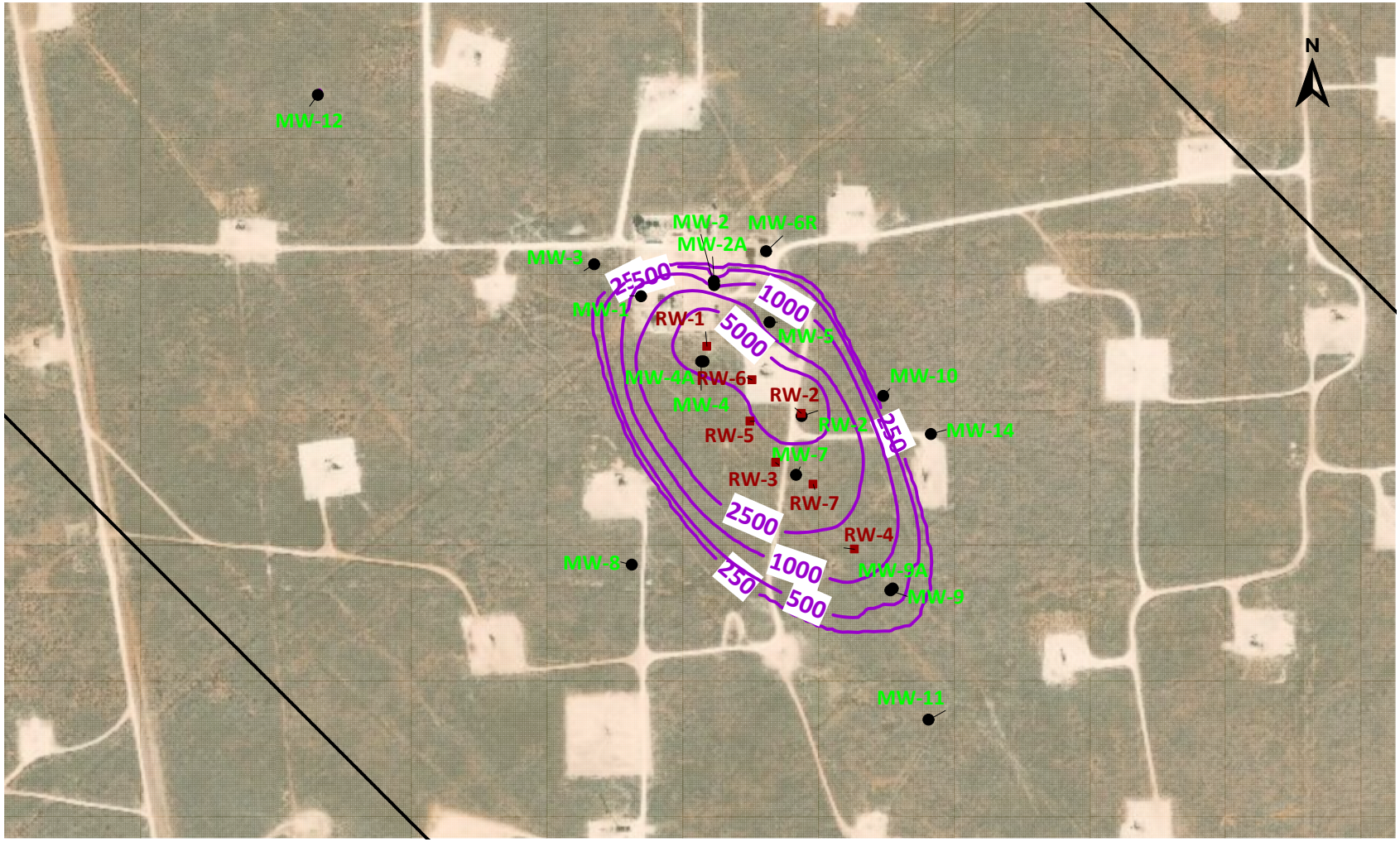
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

SIMULATED CHLORIDE PLUME DISTRIBUTIONS AFTER 10, 15, 18, 19, AND 25 YEARS UNDER SCENARIO-2 (5 RWs)

ARCADIS

FIGURE
8



Model Extent

SCALE IN FEET

0 500 1000

--500-- Simulated Chloride Concentration Contours (mg/L)
mg/L = milligrams per liter

RW-1 Recovery Wells

MW-2 Monitoring Wells

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

INITIAL CHLORIDE PLUME DISTRIBUTION AND RECOVERY WELL CONFIGURATION FOR SCENARIO-3 (7 RWs)

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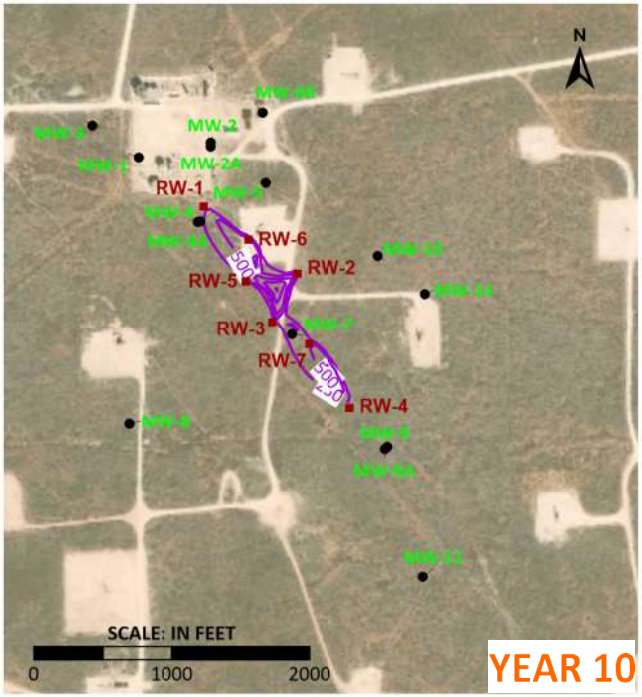
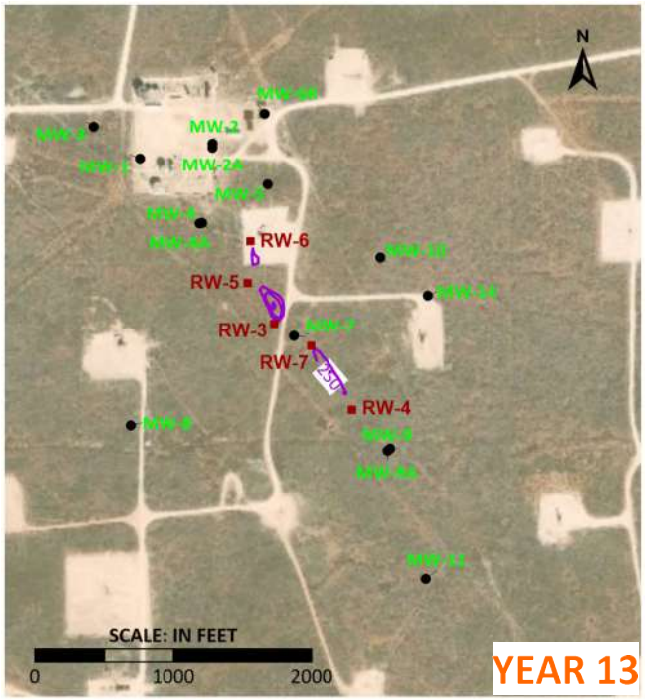
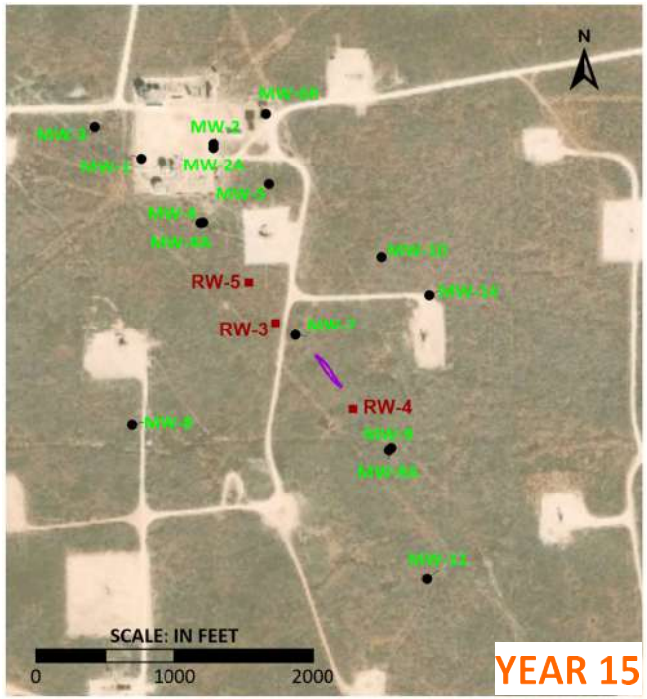
FIGURE 9







250 — Simulated Chloride Concentration Contours (miligram per liter)

MW-2 ● Monitoring Wells

RW-1 ■ Recovery Wells

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO

COOPER-JAL GROUNDWATER MODEL

SIMULATED CHLORIDE PLUME DISTRIBUTIONS AFTER 10, 13, AND 15 YEARS UNDER SCENARIO-3 (7 RWs)

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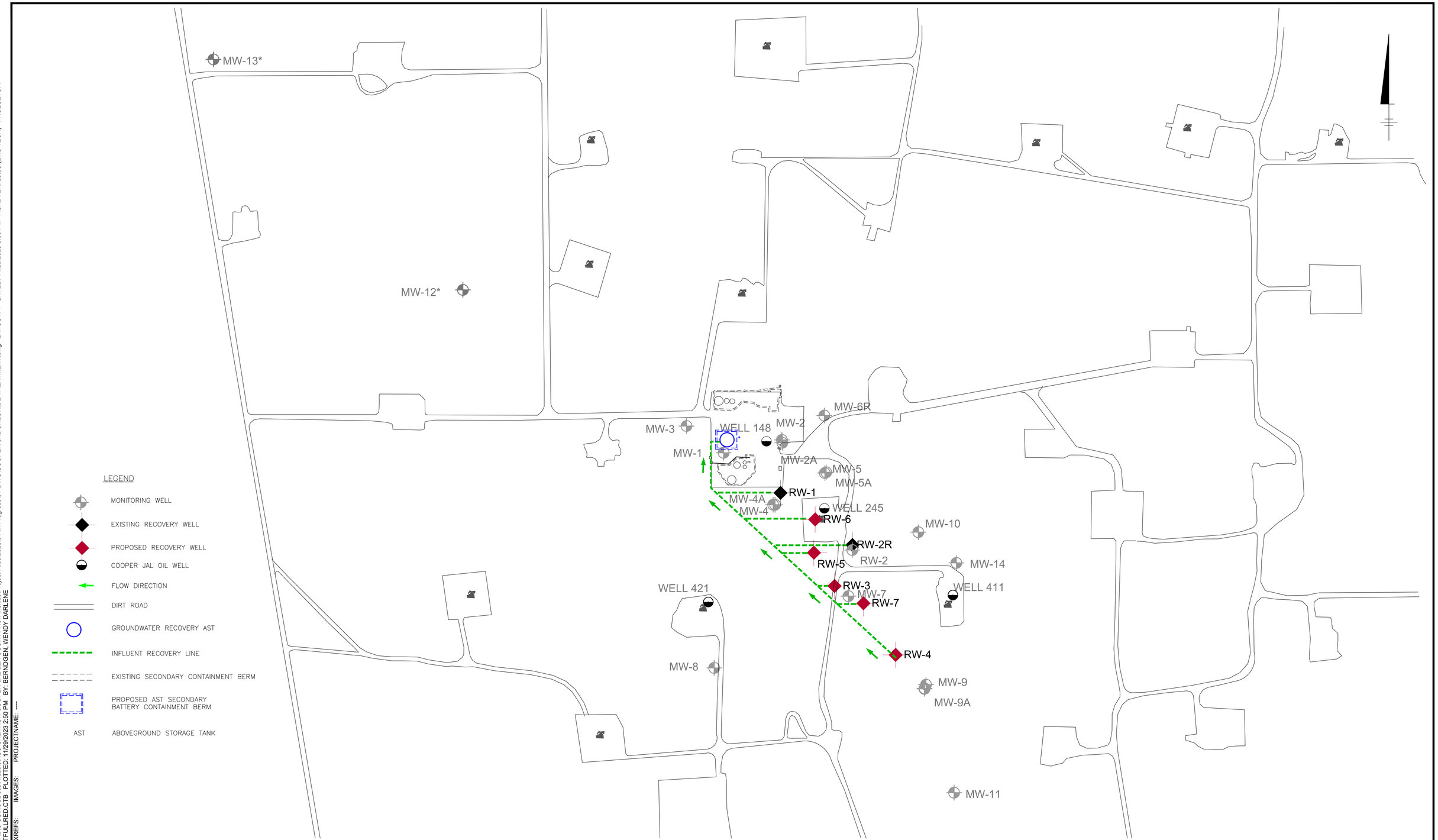
FIGURE
10

APPENDIX H

Proposed Groundwater Recovery System Design



200' 0 200' 400'
1"=200' SCALE(S) AS INDICATED

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING:

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name		
(PE'S FULL NAME)		
Professional Engineer's No.		
(PE NUM)		
State	Date Signed	Project Mgr.
(ST)		(MGR)
Designed by	Drawn by	Checked by
(DSN)	(DFT)	(CHK)

ARCADIS

ARCADIS U.S., INC.

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY ● COOPER-JAL UNIT SOUTH INJECTION SITE, LEA COUNTY, NEW MEXICO

CHLORIDE TREATMENT SYSTEM

PROPOSED RECOVERY SYSTEM PROCESS PIPING DIAGRAM

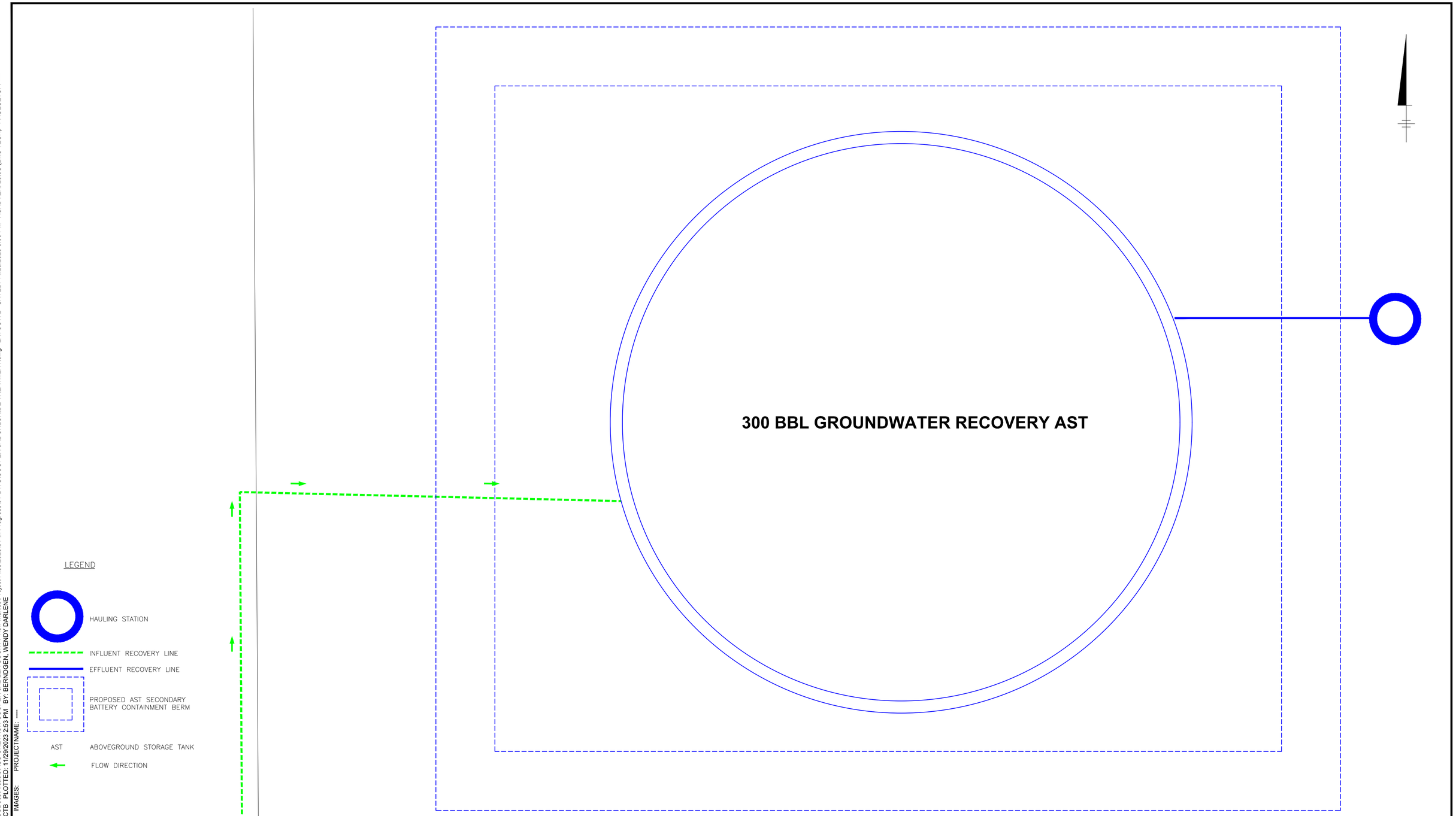
GENERAL, MECHANICAL, ELECTRICAL, STRUCTURAL, ETC. (IF REQUIRED)

ARCADIS Project No.
12345678.0000.12345

Date
OCTOBER 2023

ARCADIS
ADDRESS LINE1
ADDRESS LINE2
CITY, STATE
TEL. XXX.XXX.XXXX

1



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1"=10' SCALE(S) AS INDICATED

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name
(PE'S FULL NAME)
Professional Engineer's No.
(PE NUM)

State	Date Signed	Project Mgr.
(ST)		(MGR)
Designed by	Drawn by	Checked by
(DSN)	(DFT)	(CHK)

ARCADIS

ARCADIS U.S., INC.

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY ● COOPER-JAL UNIT SOUTH INJECTION SITE, LEA COUNTY, NEW MEXICO
CHLORIDE TREATMENT SYSTEM

PROPOSED AST RECOVERY BATTERY DIAGRAM

GENERAL, MECHANICAL, ELECTRICAL, STRUCTURAL, ETC. (IF REQUIRED)

ARCADIS Project No.
12345678.0000.12345

Date
OCTOBER 2023

ARCADIS
ADDRESS LINE1
ADDRESS LINE2
CITY, STATE
TEL. XXX.XXX.XXXX

2

APPENDIX I

Written Notice to Landowner and Public Notice Newspaper Ad

Dear Neighbor,

Chevron Environmental Management Company has issued for public comment a Stage 1 and Stage 2 Abatement Plan for the Cooper-Jal Unit South Injection Station (Station) in Lea County, New Mexico. Impacted groundwater from a historical earthen produced waterflow pit were investigated by the New Mexico Oil Conservation Division (NMOCD) beginning in 1993.The Stage 1 and Stage 2 Abatement Plan summarizes environmental monitoring and investigations at the Station (including data and maps of the extent), describes current conditions and need for abatement, and presents the proposed abatement plan, engineering design, and implementation details.

The NMOCD Director has reviewed the Stage 1 and Stage 2 Abatement Plan and determined that the Plan is administratively complete. The NMOCD Director has complied with Subsection B of 19.15.30.15 of the New Mexico Administrative Code by reviewing the document and concluding that it satisfies the requirements of Subsection C of 19.15.30.13.

The public may view the Stage 1 and Stage 2 Abatement Plan electronically on the NMOCD public database at https://wwwapps.emnrd.nm.gov/OCD/OCDPermitting/Data/Incidents/Incidents.aspx. Enter nAUTOfAB000105 in the Incident ID box, then scroll to the bottom of the page and click on Continue. To find the Stage 2 Abatement Plan, click on Item XXX dated XXX. The Stage 1 and Stage 2 Abatement Plan can also be viewed by contacting the NMOCD office listed below.

NMOCD is accepting written comments and requests for public hearing that include reasons why a hearing should be held. Before approving the Stage 1 and Stage 2 Abatement Plan, NMOCD will consider comments and requests if received within 30 days after publication of this public notice.

Please submit written comments by XXX, 2024 to Mike Buchanan, Environmental Specialist, New Mexico Oil Conservation Division, 8801 Horizon Blvd. NE, Suite 260, Albuquerque, NM 87113 or via email at michael.buchanan@emnrd.nm.gov. The responsible party's address is Chevron Environmental Management Company, Armando Martinez, P.O. Box 469, Questa, NM, 87564

PUBLIC NOTICE OF 30-DAY PUBLIC COMMENT PERIOD FOR STAGE 1 and Stage 2 ABATEMENT PLAN FOR THE COOPER-JAL SOUTH INJECTION STATION

Chevron Environmental Management Company has issued for public comment a Stage 1 and Stage 2 Abatement Plan for the Cooper-Jal Unit South Injection Station (Station) in Lea County, New Mexico. Impacted groundwater from a historical earthen produced waterflow pit were investigated by the New Mexico Oil Conservation Division (NMOCD) beginning in 1993.The Stage 1 and Stage 2 Abatement Plan summarizes environmental monitoring and investigations at the Station (including data and maps of the extent), describes current conditions and need for abatement, and presents the proposed abatement plan, engineering design, and implementation details.

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Please submit written comments by (insert Date), 2024 to Mike Buchanan, Environmental Specialist, New Mexico Oil Conservation Division, 8801 Horizon Blvd. NE, Suite 260, Albuquerque, NM 87113 or via email at michael.buchanan@emnrd.nm.gov. The responsible party's address is Chevron Environmental Management Company, Armando Martinez, P.O. Box 469, Questa, NM, 87564.

This notice was published on or near February 13, 2023, in the Albuquerque Journal, Hobbs News-Sun, and Jal Record newspapers.

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Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 349484

CONDITIONS

Operator:	OGRID:
CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	4323
	Action Number: 349484
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Letter of approval has been electronically submitted 09/27/2024, for the stage 1 and stage 2 abatement plans, as well as the draft public notice for distribution. App ID: 349484.	9/27/2024