ENSOLUM

CLOSURE REPORT

Property:

City of Carlsbad

Eddy County, New Mexico
32.3576775 N, 104.2441101 W
NMOCD Incident ID: nAB1800955279
RP No.: 2RP-4556
API No. 30-015-20325

May 31, 2023
Ensolum Project No. 03B1417055

Prepared for:

Oxy USA Inc.
P.O. Box 4294
Houston, TX 77210
Attn: Mr. Wade Dittrich

Prepared by:

Beaux Jennings
Senior Project Manager

Heather Holthaus
Senior Project Manager

ENSOLUM

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ENSOLUM

CLOSURE REPORT

City of Carlsbad

Eddy County, New Mexico
32.3576775 N, 104.2441101 W
NMOCD Incident ID: nAB1800955279
RP No.: 2RP-4556
API No. 30-015-20325

Ensolum Project No. 03B1417055

1.0 INTRODUCTION

1.1 Executive Summary

- On January 3, 2018, a release of produced water occurred from a failure on a production tank 3-inch drain line at the City of Carlsbad central tank battery, hereinafter referred to as the "Site". Approximately 90 barrels (bbls) of produced water were released within the secondary containment for the tank, impacting an area approximately 40 feet long by 25 feet wide.

- On January 26, 2023, Ensolum arrived on-Site and collected a total of four composite soil samples from four locations (FS-1 through FS-4), at a depth of 0-0.25 feet below ground surface (bgs), within the release area.

- Based on the laboratory analytical data, additional excavation activities were conducted in the vicinity of confirmation soil sample location FS-3. Between April 3 and May 4, 2023, Ensolum arrived on-Site and collected a total of four composite soil samples from one location on the excavation floor (FS-3), and three composite soil samples from one location on the excavation sidewall (SW-1), subsequent to completion of additional excavation activities. The final composite floor sample was collected at a depth of eight feet bgs, and the final composite sidewall sample was collected at a depth of 0-8 feet bgs.

- The primary objective of the closure activities was to reduce chemical of concern (COC) concentrations in the on-Site soils to below the applicable New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) Closure Criteria for Soils Impacted by a Release using the New Mexico Administrative Code (NMAC) 19.15.29 *Releases* as guidance.

- The final excavation area measured approximately 17.5 feet long by 10 feet wide. The maximum depth of the excavation measured approximately eight feet bgs.

- Based on the laboratory analytical results, the final composite soil samples collected from the excavation did not exhibit benzene, total benzene, toluene, ethylbenzene, and xylene (BTEX), total petroleum hydrocarbons (TPH), gasoline range organics (GRO), diesel range organics (DRO), motor oil range organics (MRO) or chloride concentrations above the applicable NMOCD Closure Criteria.

- Subsequent to the results of the final confirmation soil sampling, the identified impacted soils were removed and taken off-Site for proper disposal. The excavated area was backfilled with clean fill material, and then contoured to the original surrounding grade The spill area was located within the tank secondary containment, on a caliche pad, and does not require reclamation or revegetation at this time.

Based on field observations and laboratory analytical results, no additional investigation or corrective action appears warranted at this time.

1.2 Site Description & Background

Operator:	Oxy USA Inc. (Oxy)
Site Name:	City of Carlsbad
Location:	Eddy County, New Mexico 32.3576775 N, 104.2441101 W
Property:	New Mexico State Trust Lands
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

The Topographic Map depicting the location of the Site is included as **Figure 1**, the Site Vicinity Map is included as **Figure 2,** the Site Map indicating the locations of composite soil samples is included as **Figure 3,** and the Closure Criteria Map is included as **Figure 4** in **Appendix A**.

1.3 Project Objective

The primary objective of the closure activities was to reduce chemicals of concern (COC) concentrations in the on-Site soils to below the applicable New Mexico EMNRD OCD closure criteria concentrations.

2.0 CLOSURE CRITERIA

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. In order to address activities related to exempt oil and gas releases, the New Mexico EMNRD OCD references NMAC 19.15.29 *Releases,* which establishes investigation and abatement action requirements for sites subject to reporting and/or corrective action. Ensolum utilized information provided by Oxy, the general site characteristics, and information available from the New Mexico Office of the State Engineer (OSE) and the New Mexico EMNRD OCD Imaging database to determine the appropriate closure criteria for the Site.

- The Site is not located within 300 feet of a New Mexico ENMRD OCD-defined continuously flowing watercourse or any other significant watercourse.
- The Site is not located within 200 feet of a lakebed, sinkhole, or playa lake.
- The Site is not located within 300 feet from an occupied permanent residence, school, hospital, institution, or church.
- According to the OSE WRSS database there are no private, domestic freshwater wells used by less than five (5) households for domestic or stock water purposes identified within 500 feet of the Site.
- According to the OSE WRSS database there are two water wells identified within 1,000 feet of the Site. There are two well records located approximately 917 feet southwest of the Site (C00277 and C01153), and five well records located approximately 994 feet northeast of the Site (C00401, C00401 POD 2, C00198, C01149, and C00737). Based on a review of information in the database, these wells are between 160 and 290 feet in depth, with the depths to water ranging from 145 to 180 feet bgs.
- The Site is located within the City of Carlsbad municipal boundary.

- The Site is not located within 300 feet of a wetland.
- Based on information identified on the New Mexico Mining and Minerals Division's GIS, Maps and Mine Data database, the Site is not located within an area overlying a subsurface mine.
- Based on the Karst Occurrence Potential (.kmz) provided by the Bureau of Land Management (BLM), the Site is located within a medium karst area.
- The Site is noted to be located within an area of minimal flood hazard.

Based on the identified siting criteria, cleanup goals for soils remaining in place at the Site include:

Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Method	Limit
≤ 50 feet	Chloride	EPA 300.0 or SM4500 Cl B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

3.0 SOIL REMEDIATION ACTIVITIES

On January 3, 2018, a release of produced water occurred from a failure on a production tank 3-inch drain line at the Site. Approximately 90 bbls of produced water were released within the secondary containment for the tank, impacting an area approximately 40 feet long by 25 feet wide.

On January 26, 2023, Ensolum arrived on-Site and collected a total of four composite soil samples from four locations (FS-1 through FS-4), at a depth of 0-0.25 feet bgs, within the release area.

Based on the laboratory analytical data, additional excavation activities were conducted in the vicinity of confirmation soil sample location FS-3. Between April 3 and May 4, 2023, Ensolum arrived on-Site and collected a total of four composite soil samples from one location on the excavation floor (FS-3), and three composite soil samples from one location on the excavation sidewall (SW-1), subsequent to completion of additional excavation activities. The final composite floor sample was collected at a depth of eight feet bgs, and the final composite sidewall sample was collected at a depth of 0-8 feet bgs

Based on the laboratory analytical data of the final excavation soil samples, no additional excavation was required. Subsequent to the results of the final composite soil sampling, the excavated soils were removed and taken off-Site for proper disposal.

The final excavation area measured approximately impacted area measured approximately 17.5 feet long by 10 feet wide. The maximum depth of the excavation measured approximately eight feet bgs.

The lithology encountered during the completion of sampling activities consisted primarily of caliche.

Figure 3 identifies approximate soil sample locations and approximate dimensions of the impacted area with respect to the Site (**Appendix A**). Photographic documentation of the field activities is included in **Appendix C**.

4.0 SOIL SAMPLING PROGRAM

Ensolum's composite soil sampling program included the collection of a total of 11 composite soil samples from five locations within the excavation area (FS-1 through FS-4, and SW-1). The composite soil samples were collected at a depths ranging from zero to eight feet bgs.

The composite soil samples were collected and placed in laboratory prepared glassware, labeled/sealed using laboratory supplied labels and custody seals, and stored on ice in a cooler. The samples were relinquished to Cardinal Laboratories in Hobbs, New Mexico for standard laboratory analysis.

5.0 SOIL LABORATORY ANALYTICAL METHODS

The composite soil samples were analyzed for BTEX utilizing Environmental Protection Agency (EPA) SW-846 Method 8021B, TPH GRO/DRO/MRO utilizing EPA SW-846 Method 8015M, and chloride utilizing EPA Method 4500-Cl B.

Laboratory analytical results are summarized in **Table 1** in **Appendix D**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix E**.

6.0 DATA EVALUATION

Ensolum compared the benzene, total BTEX, TPH GRO/DRO/MRO, and chloride concentrations associated with the excavation floor (FS-1 through FS-4) and the excavation sidewall (SW-1) to the applicable NMOCD Closure Criteria.

- Laboratory analytical results indicate benzene concentrations for the composite soil samples are below the laboratory sample detection limits (SDLs) and/or the applicable NMOCD Closure Criteria of 10 milligrams per kilogram (mg/kg).
- Laboratory analytical results indicate that total BTEX concentrations for the composite soil samples below the laboratory SDLs and/or the applicable NMOCD Closure Criteria of 50 mg/kg.
- Laboratory analytical results indicate combined TPH GRO/DRO/MRO concentrations for the composite soil samples are below the laboratory SDLs and/or the applicable NMOCD Closure Criteria of 100 mg/kg.
- Laboratory analytical results indicate chloride concentrations for the final composite soil samples are below the applicable NMOCD Closure Criteria of 600 mg/kg.

Laboratory analytical results are summarized in **Table 1** in **Appendix D.**

7.0 RECLAMATION AND RE-VEGETATION

Subsequent to the results of the final confirmation soil sampling, the identified impacted soils were removed and taken off-Site for proper disposal. The excavated area was backfilled with clean fill material, and then contoured to the original surrounding grade. The spill area was located within the tank secondary containment, on a caliche pad, and does not require reclamation or revegetation at this time.

8.0 FINDINGS AND RECOMMENDATION

- On January 3, 2018, a release of produced water occurred from a failure on a production tank 3-inch drain line at the Site. Approximately 90 bbls of produced water were released within the secondary containment for the tank, impacting an area approximately 40 feet long by 25 feet wide.

- On January 26, 2023, Ensolum arrived on-Site and collected a total of four composite soil samples from four locations (FS-1 through FS-4), at a depth of 0-0.25 feet bgs, within the release area.

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- The final excavation area measured approximately 17.5 feet long by 10 feet wide. The maximum depth of the excavation measured approximately eight feet bgs.

- Based on the laboratory analytical results, the final composite soil samples collected from the excavation did not exhibit benzene, total BTEX, TPH GRO/DRO/MRO or chloride concentrations above the applicable NMOCD Closure Criteria. Subsequent to the results of the confirmation soil sampling, the excavated soils were removed and taken off-Site for proper disposal.

- Subsequent to the results of the final confirmation soil sampling, the identified impacted soils were removed and taken off-Site for proper disposal. The excavated area was backfilled with clean fill material, and then contoured to the original surrounding grade The spill area was located within the tank secondary containment, on a caliche pad, and does not require reclamation or revegetation at this time.

Based on field observations and laboratory analytical results, no additional investigation or corrective action appears warranted at this time.

9.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

9.1 Standard of Care

Ensolum's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Ensolum makes no warranties, express or implied, as to the services performed hereunder. Additionally, Ensolum does not warrant the work of third parties supplying information used in the report (e.g., laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client, as detailed in our proposal.

9.2 Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Ensolum cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during the investigation. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Ensolum's findings and recommendations are based solely upon data available to Ensolum at the time of these services.

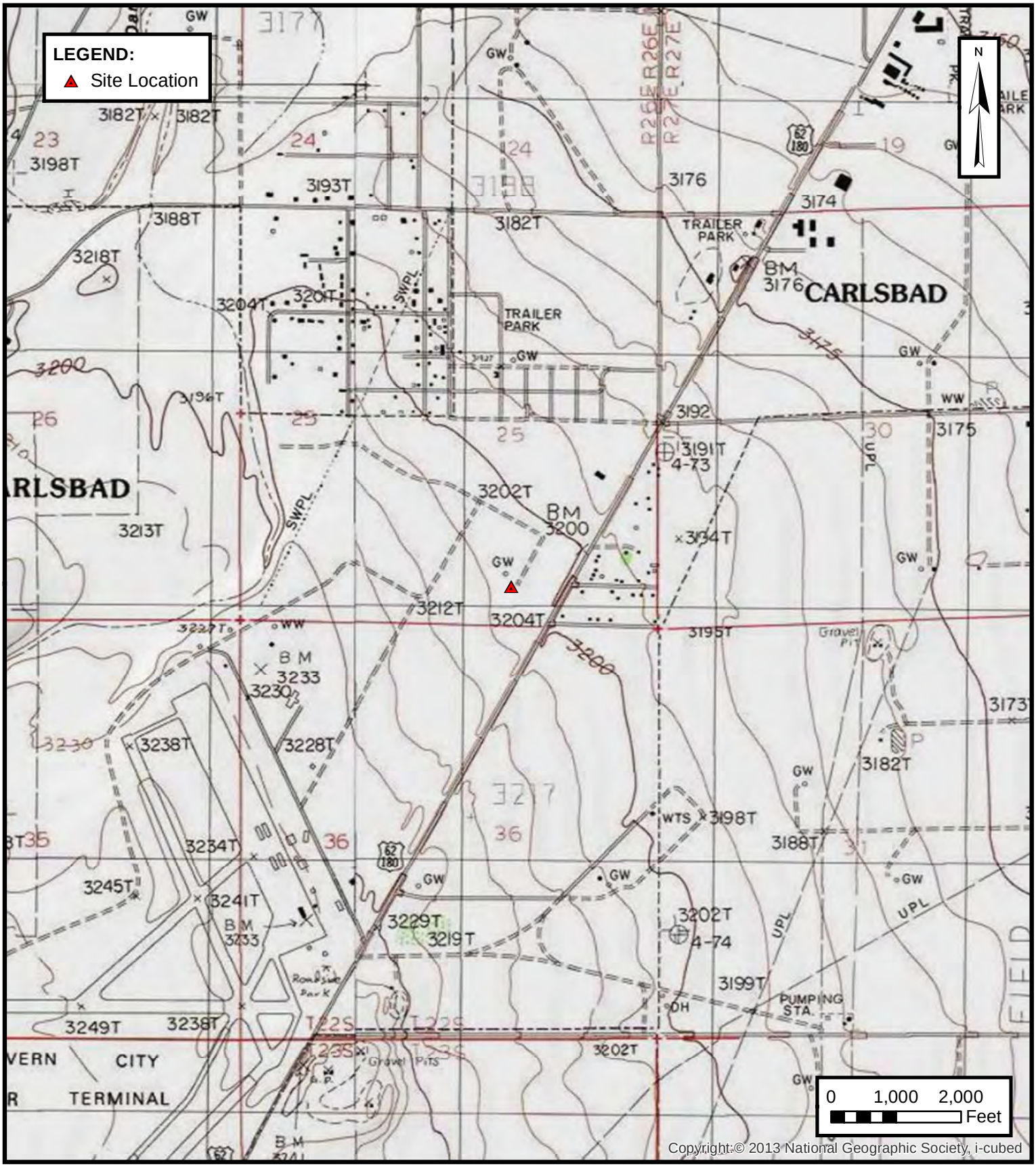
9.3 Reliance

This report has been prepared for the exclusive use of Oxy USA, Inc., and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization Oxy USA, Inc. and Ensolum. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the Closure Report, and Ensolum's Master Services Agreement. The limitation of liability defined in the agreement is the aggregate limit of Ensolum's liability to the client.

ENSOLUM

APPENDIX A

Figures



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

TOPOGRAPHIC MAP

OXY USA INC.
CITY OF CARLSBAD
Eddy County, New Mexico
32.3576775° N, 104.2441101° W

PROJECT NUMBER: 03B1417055

FIGURE

1

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

SITE VICINITY MAP

OXY USA INC.
CITY OF CARLSBAD
Eddy County, New Mexico
32.3576775° N, 104.2441101° W

PROJECT NUMBER: 03B1417055

FIGURE

2

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

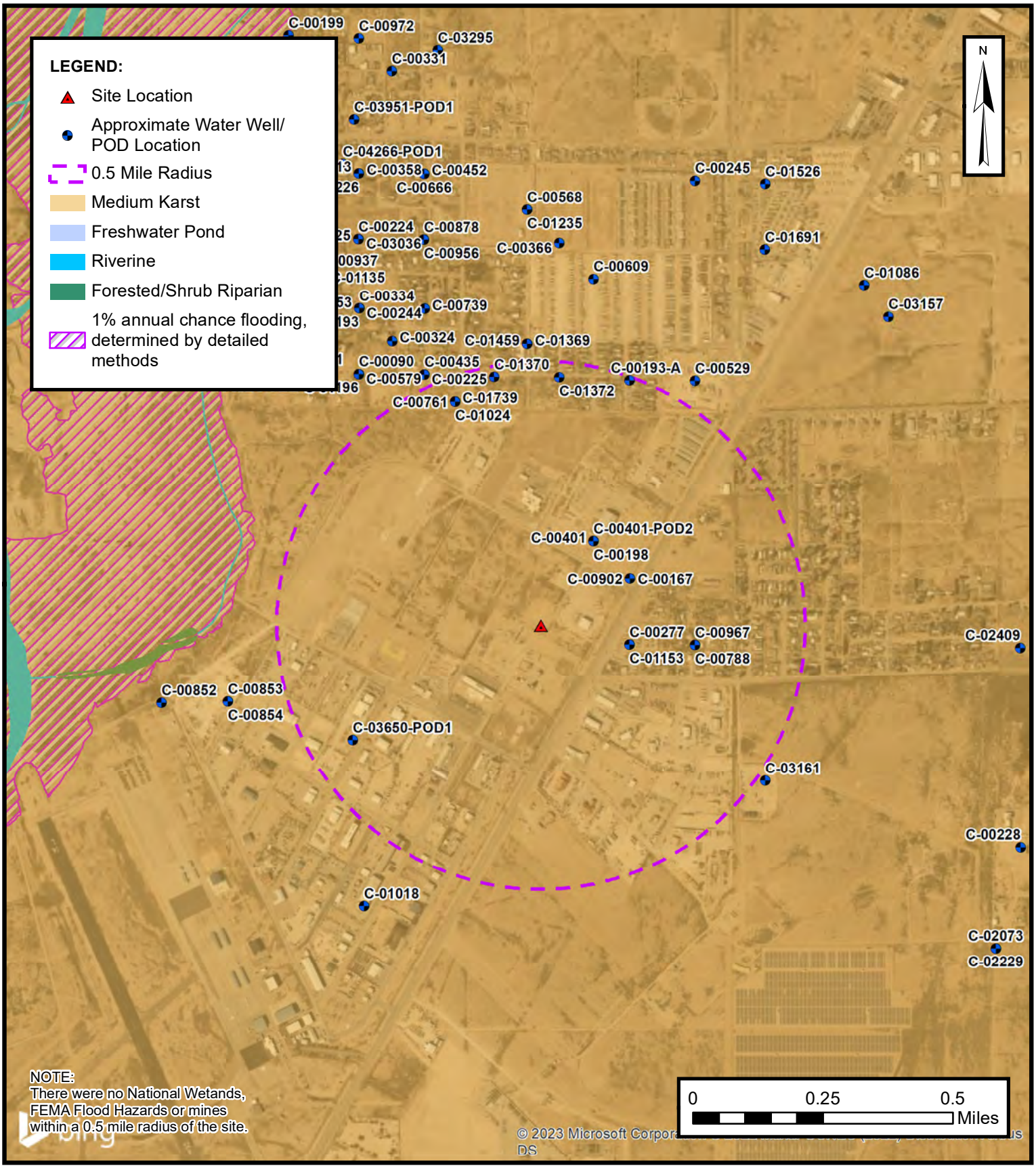
SITE MAP

OXY USA INC.
CITY OF CARLSBAD
Eddy County, New Mexico
32.3576775° N, 104.2441101° W

PROJECT NUMBER: 03B1417055

FIGURE

3



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

CLOSURE CRITERIA MAP

OXY USA INC.
CITY OF CARLSBAD
Eddy County, New Mexico
32.3576775° N, 104.2441101° W

PROJECT NUMBER: 03B1417055

FIGURE
4

ENSOLUM

APPENDIX B

Supporting Documentation

Beaux Jennings

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Tuesday, January 24, 2023 2:08 PM
To: Beaux Jennings
Cc: Hamlet, Robert, EMNRD; Bratcher, Michael, EMNRD
Subject: RE: [EXTERNAL] City of Carlsbad (Incident ID: nAB1916244311)

[**EXTERNAL EMAIL**]

Beaux,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Beaux Jennings <bjennings@ensolum.com>
Sent: Tuesday, January 24, 2023 11:06 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] City of Carlsbad (Incident ID: nAB1916244311)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good Morning,

On behalf of Oxy USA Inc, Ensolum, LLC would like to provide notification for sampling activities that will be conducted at the City of Carlsbad (Incident ID: nAB1916244311) on Thursday, January 26th. The samples may be used for closure, provided that they meet applicable closure limits.

Thank you,

Beaux Jennings
Senior Project Manager
210-219-8858
Ensolum, LLC

PLEASE NOTE OUR NEW CORPORATE ADDRESS:
Ensolum, LLC
8330 LBJ Freeway, Ste. 830
Dallas, TX 75243

OSE POD Locations Map

5/17/2023, 11:39:57 AM

GIS WATERS PODs

- Active
- Pending
- OSE District Boundary

New Mexico State Trust Lands

- Subsurface Estate

NHD Flowlines

- Stream River

SiteBoundaries

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar

Web Generated Map
Map is generated by web users.

OSE POD Locations Map 1,000 ft

5/17/2023, 4:20:37 PM

GIS WATERS PODs

- Active
- Pending
- OSE District Boundary

New Mexico State Trust Lands

- Subsurface Estate

NHD Flowlines

- Stream River
- SiteBoundaries

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar

Web Generated Map
Map is generated by web users.

displayName	use	use_of_well	status	pod_status	own_lname	own_fname	depth_well	depth_water	distance_to_center	utm_easting	utm_northing	start_date	finish_date
C 00277	MUL	null	PMT	ACT	BEST	TED. R.	265	147	917.516	571411	3580227	Sun Sep 02 1951	Fri Sep 14 1951
C 00401 POD2	DOM	null	PMT	ACT	SPENCE	R. T.	250	180	994.3	571298	3580540	Fri May 13 1988	Sun Jun 26 1988
C 00198	DOM	null	PMT	ACT	MARTIN	WILLIAM	160	145	994.3	571298	3580540	Wed Dec 31 1969	Wed Sep 14 1949
C 00401	DOM	null	PMT	PEN	SPENCE	R. T.	null	null	994.3	571298	3580540	Wed Dec 31 1969	Wed Dec 31 1969
C 01149	DOM	null	PMT	ACT	BEST JR.	JOE A.	245	170	994.3	571298	3580540	Sun Sep 01 1963	Sun Sep 01 1963
C 01153	DOM	null	PMT	ACT	RINGER	C. P.	290	null	917.516	571411	3580227	Tue Oct 22 1963	Fri Nov 22 1963
C 00737	DOM	null	EXP	PEN	CHESTER	BILLY B.	null	null	994.3	571298	3580540	Wed Dec 31 1969	Wed Dec 31 1969

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 01153 **Subbasin:** C **Cross Reference:** -

Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: C. P. RINGER

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images 462307	72121	1963-09-10	PMT	LOG	C 01153	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 01153		Artesian	3	4	4	25	22S	26E	571411	3580227*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Form WR-23 SANTA FE

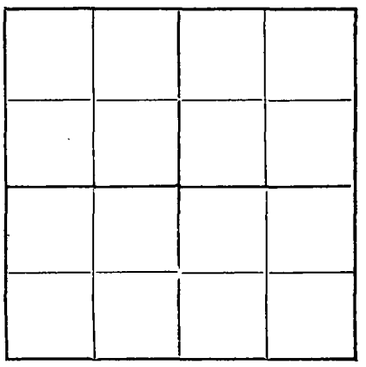
STATE ENGINEER OFFICE

WELL RECORD

462307

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well C. P. RINGER

Street and Number Box 74 Pine Spring's Route

City CARLSBAD State New Mexico

Well was drilled under Permit No. C-1153 and is located in the

SW ¼ SE ¼ SE ¼ of Section 25 Twp. 22S Rge. 26E

(B) Drilling Contractor A. H. MORELAND License No. WD-113

Street and Number 728 STANDPIPE ROAD

City CARLSBAD State New Mexico

Drilling was commenced October 23 19 63

Drilling was completed November 23 19 63

Elevation at top of casing in feet above sea level ..... Total depth of well 290

State whether well is shallow or artesian Shallow Depth to water upon completion .....

Section 2 **PRINCIPAL WATER-BEARING STRATA**

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1				
2				
3				
4				
5				

Section 3 **RECORD OF CASING**

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To

Section 4 **RECORD OF MUDDING AND CEMENTING**

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 **PLUGGING RECORD**

Name of Plugging Contractor ..... License No. .....

Street and Number ..... City ..... State .....

Tons of Clay used ..... Tons of Roughage used ..... Type of roughage .....

Plugging method used ..... Date Plugged ..... 19 ....

Plugging approved by:

..... Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received STATE ENGINEER OFFICE DISTRICT II ROSWELL, N. MEX. DEC 11 AM 8:24 1963

File No. C-1153 Use Dom Location No. 22.26.25.443

Dom-pk

C-1153

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	6	6	BROWN	TOPSOIL
6	30	24	White	BOULDER'S & GRAVEL
30	69	39	White	BOULDER'S, GRAVEL & CALICHE
69	110	41	PINK	PINK CALICHE
110	120	10	RED	RED SILT CLAY
120	128	8	PINK	PINK CALICHE
128	137	9	YELLOW	YELLOW CLAY & GRAVEL
137	159	22	RED	RED SILT CLAY
159	185	26	RED	RED CLAY TRACE GYPSUM
185	198	13	RED	PINK GYPSUM
198	201	3	RED	RED CLAY
201	203	2	RED	PINK GYPSUM
203	213	10	RED	RED CLAY
213	235	22	RED	PINK GYPSUM & RED CLAY
235	270	35	White	GYPSUM
270	275	5	BLUE	BLUE CLAY
275	285	10	RED	RED CLAY, TRACE PINK GYPSUM
285	290	5	White	GYPSUM

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

A. J. Moreland
Well Driller

1964 JAN 14 AM 9:10
STATE ENGINEER OFFICE
SANTA FE, N. M.

WR-36

FIELD REPORT FOR CEMENTING OF WELLS

Name of Applicant R. M. Foster

Name of Well C-1152

Driller's Name Dale Burgett

Drilling Method Cable

CASING DATA:
Surface ____ feet of ____ inch. Grade ____

Inspected by ____ on ____

(Approved)(Rejected) ____

Water string 190 feet of 7 inch. Grade J 55 20#

Inspected by D. Nelson on Sept. 9, 1963

(Approved)~~(Rejected)~~ ____

Oil string ____ feet of ____ inch. Grade ____

Inspected by ____ on ____

(Approved)(Rejected) ____

CEMENTING PROGRAM:
Cemented by Dale Burgett Supervised by Nelson

Type of shoe used Texas Float collar used ____

Bottom three joints welded ____ Cement: around shoe ____ sks. ____

around casing ____ sks. ____ Additives ____

Size of hole 9 3/4 Size of casing 7 sks. of cement required 60

Plug pumped down 11:00 (a.m.)~~(p.m.)~~ Sept. 17, 1963

Cement circulated ---- No. of sacks ----

Temp. survey ran ____ (a.m.)(p.m.) Cement at ____ feet

Temp. survey ran ____ (a.m.)(p.m.) Cement at ____ feet

Checked for shut off 11:00 (a.m.) ~~(p.m.)~~ Sept. 19, 1963

Method used Bailer Supervised by Nelson

Checked for shut off ____ (a.m.) (p.m.)

Method used ____ Supervised by ____

REMARKS: ____

Job approved by [signature]

File No. C-1152 Location No. 21.27.30.344

ROUTING SLIP

To: Field Supervisor (Basin) or (County) _____

From: _____ Applicant _____

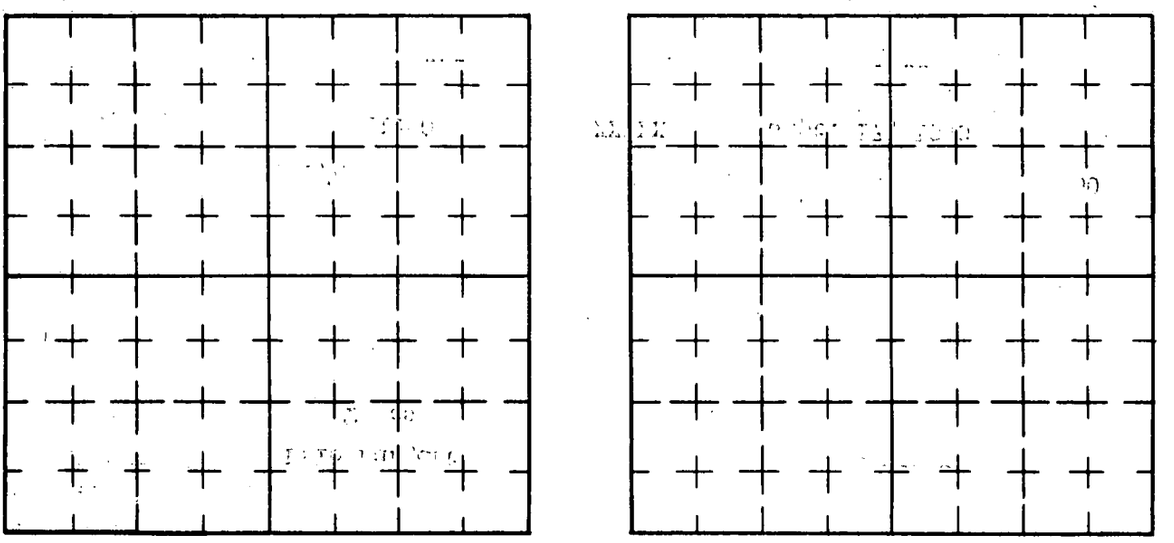
Land Location _____

Field Check Requested For the Following Reasons Date: _____

Proof of Completion of Works..... ☐
Proof of Beneficial Use..... ☐
Declaration..... ☐
Extension of Time..... ☐
Illegal Irrigation..... ☐
Supplemental Well..... ☐
Leakage Test..... ☐
Cementing (water-oil)..... ☐
Reduction from Irr. or Dom. ..... ☐
Pressure Test..... ☐
Inspect Casing..... ☐
Others _____..... ☐

_____ _____

Sec._____T._____ R._____ Sec._____T._____R._____



Old Well (plugged-retained-reduced)

REMARKS: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Date: _____ By: _____

File No. _____ Location No. _____

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 00277 **Subbasin:** C **Cross Reference:** -

Primary Purpose: MUL 72-12-1 MULTIPLE DOMESTIC HOUSEHOLDS

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: TED. R. BEST

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	199218	72121	1951-08-06	PMT	LOG	C 00277	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 00277		Shallow	3	4	4	25	22S	26E	571411	3580227*	**LOTS 1,2,3 & 25

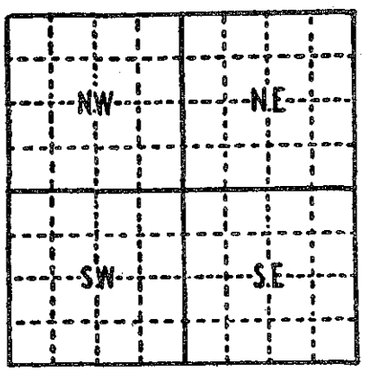
***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

WELL RECORD

File No. C-277

INSTRUCTIONS: This form should be typewritten, and filed in the office of the State Engineer, P. O. Box 1079, Santa Fe, New Mexico, or in the office of the Artesian Well Supervisor, Roswell, New Mexico. Section 5 should be answered only if an old artesian well has been plugged. All other sections should be answered in full in every case, regardless of whether the well drilled is shallow or artesian in character. This report must be subscribed and sworn to before a Notary Public.

Trn 199218



(Plat of 640 Acres)
Locate Well Accurately

Owner of well: Ted R. Best
Street and Number: P.O. Box 1111
Post Office: Carlsbad N.M.
Well was drilled under Permit No. C-277 and
is located in the S.W. ¼ S.E. ¼ S.E. ¼ of Section 25
Township 22 S, Range 26 E
Drilling Contractor: Joe Donowho
Street and Number: 302 Ferndale
Post Office: Carlsbad N.M.

Drilling was commenced 9-3, 19 51. Drilling was completed 9-15, 19 51.
Elevation at top of casing in feet above sea level
State whether well is shallow or artesian: Shallow
Total depth of well 265 feet. Water level upon completion of well 147 feet below land surface.

Sec. 2 PRINCIPAL WATER-BEARING STRATA

No. 1, from 150 to 170, Thickness in feet 20, Formation Yellow Lime
No. 2, from ... to ..., Thickness in feet ..., Formation ...
No. 3, from ... to ..., Thickness in feet ..., Formation ...
No. 4, from ... to ..., Thickness in feet ..., Formation ...
No. 5, from ... to ..., Thickness in feet ..., Formation ...

Sec. 3 RECORD OF CASING

Diameter in Inches	Pounds per Foot	Threads per Inch	Name of Manufacturer	Feet of Casing	Type of Shoe	Perforated From	Perforated To	Purpose
6" I.D.				200		150	170	Half walls of well

Sec. 4 RECORD OF MUDDING AND CEMENTING

Diameter of Hole in Inches	Number of Sacks of Cement	Methods Used	Specific Gravity of Mud	Tons of Clay Used

Sec. 5 PLUGGING RECORD OF OLD WELL

Well is located in the ... ¼ ... ¼ ... ¼ of Section ..., Township ...,
Range ... Name of plugging contractor ...
Street and Number ... Post Office ...
Tons of clay used ... Tons of roughage used ... Type of roughage ...
... Was plugging approved by Artesian Well Supervisor? ...

Cement plugs were placed as follows:

No. 1 was placed at ... feet. Number of sacks of cement used ...
No. 2 was placed at ... feet. Number of sacks of cement used ...
No. 3 was placed at ... feet. Number of sacks of cement used ...
No. 4 was placed at ... feet. Number of sacks of cement used ...
No. 5 was placed at ... feet. Number of sacks of cement used ...

(over)

RECEIVED
DEC 24 1952
STATE ENGINEER
BY ...

FILED
JUL 10 1952
OFFICE
ARTESIAN WELL SUPERVISOR
ROSWELL, NEW MEXICO

C-277 8
C277

Sec. 6

LOG OF WELL

FROM (Depth in Feet)	TO (Depth in Feet)	THICKNESS IN FEET	CLASSIFICATION OF FORMATION
0	12	12	Soil
12	50	38	Boulders
50	104	54	Conglomerate Rock
104	145	41	Red Bed
145	150	5	Caliche Gravel
150	170	20	Yellow Lime-water
170	174	4	Gray Shale
174	185	11	Red Bed
185	207	22	Red Bed & Dolomite Lime
207	215	8	Red Bed & Gypsum
215	265	50	Pink Gypsum

I, Joe Monaurko, do solemnly swear that, to the best of my knowledge and belief, the foregoing information is a true and correct record of the well for which report is hereby made, insofar as can be determined from all available records.

SUBSCRIBED AND SWORN TO BEFORE ME this 7th day of July, A.D., 19 52

E P Brown
Notary Public

My Commission Expires December 6, 1954

Signed Joe Monaurko

Position Driller

Street and Number 302 Ferndale

Post Office Carlsbad N. M.

(This form is to be executed in triplica

WELL RECORD

Date of Receipt ..... Permit No. C-277

Name of permitee, Ted R. Best

Street or P. O. P. O. Box 1111, City and State Carlsbad, N. Mex.

1. Well location and description: The shallow (shallow or artesian) well is located in SW ¼, SE ¼, SE ¼ of Section 25, Township 22S, Range 26E; Elevation of top of casing above sea level, ... feet; diameter of hole, ... inches; total depth, 265 feet; depth to water upon completion, 147 feet; drilling was commenced Sept. 3, 1951, and completed Sept. 15, 1951; name of drilling contractor Joe Donowho 302 Ferndale; Address, Carlsbad, N. Mex.; Driller's License No. .....

2. Principal Water-bearing Strata:

	Depth in Feet From	To	Thickness	Description of Water-bearing Formation
No. 1	150	170	20	Yellow lime
No. 2				
No. 3				
No. 4				
No. 5				

3. Casing Record:

Diameter in inches	Pounds per ft.	Threads per inch	Depth of Casing or Liner Top	Bottom	Feet of Casing	Type of Shoe	Perforation From	To
6"ID					200		150	170

4. If above construction replaces old well to be abandoned, give location: ¼, ¼, ¼ of Section ....., Township ....., Range .....; name and address of plugging contractor, ...

.....

date of plugging ....., 19..; describe how well was plugged: .....

.....

.....

.....

C O P Y

C-277

22.26.25. [redacted] 443

5. Log of Well:

Depth in Feet From	Depth in Feet To	Thickness in feet	Description of Formation
) 0	12	12	Soil
12	50	38	Boulders
50	104	54	Conglomerate rock
104	145	41	Red bed
145	150	5	Caliche, gravel
150	170	20	Yellow lime (water)
170	174	4	Gray shale
174	185	11	Red Bed
185	207	22	Red bed and dolomite lime
207	215	8	Red bed and gypsum
215	265	50	Pink gypsum

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Joe Donowho
Licensed Well Driller

Instructions

This form shall be executed, preferably typewritten, in triplicate and filed with the State Engineer's Office at Roswell, New Mexico, within 10 days after drilling has been completed. Data on water-bearing strata and on all formations encountered should be as complete and accurate as possible.

This form to be executed in triplicate.

PROOF OF COMPLETION OF WORKS
UNDERGROUND WATERS

Permit No. C-277

State of New Mexico
County of Eddy } ss.

I, Ted R. Best

of Carlsbad, County of Eddy,

State of New Mexico, being first duly sworn, do hereby certify that I am the owner and holder of a permit to change location of well (appropriate water, repair well, change of location of well) in the Dark Canyon (Carlsbad underground water basin (name of underground reservoir, artesian basin, etc.)), the waters from such source to be used for domestic purposes under said permit; that said application has been filed and approved in the office of the State Engineer under No. C-277; that the works necessary to accomplish the appropriation of water in accordance with the terms of said permit have been completed; that all provisions and conditions under which said permit was approved by the State Engineer have been fully complied with; that the following statement of facts is submitted in proof of the completion of said works; and that the said statement and each and all of the items contained therein are true to the best of my knowledge and belief.

Ted R. Best

Subscribed and sworn to before me this 7th day of July, 1952

C. P. Brown
Notary Public.

My commission expires:
December 6, 1954

STATEMENT

1. Name of appropriator Ted R. Best
2. Postoffice address Box-1111
3. Underground water supply Carlsbad underground water basin (Dark Canyon)
4. The well is located in the SW quarter of the SE quarter of the SE quarter of Section 25, Township 22 S, Range 26 E, N.M.P.M., in Eddy County.

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STATE ENGINEER
BY

FILED
JUL 10 1952
OFFICE
ARTESIAN WELL SUPERVISOR
ROSWELL, NEW MEXICO

C-277

5. Nominal size (outside diameter) of casing or liner 6¼ O.D inches.

6. Depth of well 265 feet. 7. Approximate pumping depth 175 feet.

8. Description of pump: make Windmill + pump jack; type Cylinder- 6 FOOT MILL

suction lift 147 feet; size and length of column 2½;

size and number of bowls ; total length feet.

9. Make, type, horsepower, etc., of power plant

10. Capacity of well 15 gals. per min. 11. Is well equipped with gate valve? No

12. Name of driller Joe Donowho

13. Has log of this well been filed with State Engineer or his representative? yes

14. The distribution work consists of reservoirs feet of ditch,

feet of flume, feet of pipe.

15. Size of reservoir feet wide, feet long, feet average

depth, cubic feet capacity, located in the ¼, ¼,

¼ of Section, Township, Range

16. Lands to be irrigated ½ acre acres, located in

17. If there are other sources of water supply for these lands, describe giving file Nos., etc.

18. Works were completed Oct 15t, 19 51

19. If above construction replaces an old well to be plugged or abandoned, fill out following:

a. The well abandoned is located in the Same ¼, ¼, ¼

of Section Township, Range

b. Name of plugging contractor Noyes

c. Well was plugged in accordance with terms of permit yes, 19 51

I hereby certify that I have duly inspected the above works and find them adequate and properly constructed according to the terms and conditions of this permit.

Shurman G. Galloway

Artesian Well Supervisor (or representative of State Engineer)

Engr.

Date Dec. 18, 1952.

SOUTHWESTERN PUBLISHING CO.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 00401 **Subbasin:** C **Cross Reference:** -

Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: R. T. SPENCE

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	197808	72121	1988-05-12	PMT	LOG	C 00401 CLW	T		3	
get images	197806	72121	1986-09-16	PMT	APR	C 00401 RPR	T		3	
get images	460840	72121	1953-02-27	PMT	APR	C 00401	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 00401					4	25	22S	26E	571298	3580540*	
C 00401 POD2		Shallow			4	25	22S	26E	571298	3580540*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Revised June 1972

197808

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well FRANK ROMERO Owner's Well No. C-401
Street or Post Office Address 1306 N. LAKE
City and State CARLSBAD, N.M. 88220

88 OCT 3 PM 12

Well was drilled under Permit No. C-401 and is located in the:

STATE ENGINEER OFFICE SANTA FE, NEW MEXICO

a. ___ ¼ ___ ¼ ___ ¼ SE ¼ of Section 25 Township 22-S Range 26-E N.M.P.M.

b. Tract No. ___ of Map No. ___ of the ___

c. Lot No. ___ of Block No. F of the JOEL Subdivision, recorded in EDDY County.

d. X= ___ feet, Y= ___ feet, N.M. Coordinate System ___ Zone in the ___ Grant.

(B) Drilling Contractor EDGAR MAGBY License No. WD-969

Address 81 KeLLy Rd. CARLsbad, N.M. 88220

Drilling Began 5-14-1988 Completed 6-27-1988 Type tools CABLE tool Size of hole 8 in.

Elevation of land surface or ___ at well is ___ ft. Total depth of well 250 ft.

Completed well is ☑ shallow ☐ artesian. Depth to water upon completion of well 180 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
180	196	16	fine sand w/water	6 GAL
230	245	15	Red River sand w/water	20 GAL

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
8"		welded	0	80	80		None	
6"		Welded	0	250	250	Homemade	230	250

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor ___
Address ___
Plugging Method ___
Date Well Plugged ___
Plugging approved by:

___
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 7/5/88

Quad ___ FWL ___ FSL ___

File No. 7/5/88 C-401 Use DOMESTIC (CHG. LOC. OF WELL) Location No. 22.26.25.42443 OFF SE CORNER

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	8	8	
8	37	29	
37	78	41	
78	100	22	
100	124	24	
124	180	56	
180	196	16	
196	210	14	
210	230	20	
230	245	15	
245	250	5	

Section 7. REMARKS AND ADDITIONAL INFORMATION

JUL 5 8 20 AM '88
STATE ENGINEER
ROSWELL, NM

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Edgar Mogby
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired, or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 00198 **Subbasin:** C **Cross Reference:** -

Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: WILLIAM MARTIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	198765	72121	1949-09-16	PMT	LOG	C 00198	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 00198		Shallow			4	25	22S	26E	571298	3580540*	

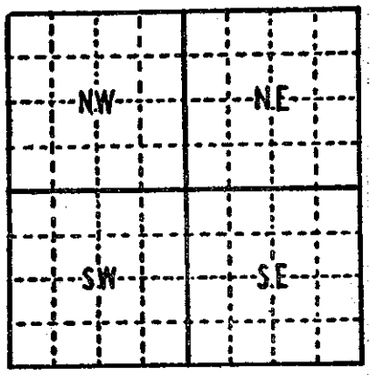
***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

trn. 198765

WELL RECORD

File No. C-198

INSTRUCTIONS: This form should be typewritten, and filed in the office of the State Engineer, P. O. Box 1079, Santa Fe, New Mexico, or in the office of the Artesian Well Supervisor, Roswell, New Mexico. Section 5 should be answered only if an old artesian well has been plugged. All other sections should be answered in full in every case, regardless of whether the well drilled is shallow or artesian in character. This report must be subscribed and sworn to before a Notary Public.



(Plat of 640 Acres)
Locate Well Accurately

Owner of well Wm. Martin

Street and Number Box 68

Post Office Tornillo, Texas

Well was drilled under Permit No. C-194 and

is located in the ¼ ¼ SE¼ ¼ of Section 25

Township 22 S. Range 26E

Drilling Contractor Wm. Martin (WD-26)

Street and Number Box 68

Post Office Tornillo, Texas

Drilling was commenced ..., 19... Drilling was completed ..., 19...

Elevation at top of casing in feet above sea level ...

State whether well is shallow or artesian non-artesian

Total depth of well ... feet. Water level upon completion of well ... feet below land surface.

Sec. 2 PRINCIPAL WATER-BEARING STRATA

No. 1, from ... to ..., Thickness in feet ..., Formation ...

No. 2, from ... to ..., Thickness in feet ..., Formation ...

No. 3, from ... to ..., Thickness in feet ..., Formation ...

No. 4, from ... to ..., Thickness in feet ..., Formation ...

No. 5, from ... to ..., Thickness in feet ..., Formation ...

Sec. 3 RECORD OF CASING

Diameter in Inches	Pounds per Foot	Threads per Inch	Name of Manufacturer	Feet of Casing	Type of Shoe	Perforated From	Perforated To	Purpose

Sec. 4 RECORD OF MUDDING AND CEMENTING

Diameter of Hole in Inches	Number of Sacks of Cement	Methods Used	Specific Gravity of Mud	Tons of Clay Used

FILED
DEC 13 1950
P. T. C. E.
ARTESIAN WELL SUPERVISOR
ROSWELL, NEW MEXICO

Sec. 5 PLUGGING RECORD OF OLD WELL

Well is located in the ... ¼ ... ¼ ... ¼ of Section ..., Township ...,

Range ..., Name of plugging contractor ...

Street and Number ..., Post Office ...

Tons of clay used ..., Tons of roughage used ..., Type of roughage ...

..., Was plugging approved by Artesian Well Supervisor? ...

Cement plugs were placed as follows:

No. 1 was placed at ... feet. Number of sacks of cement used ...

No. 2 was placed at ... feet. Number of sacks of cement used ...

No. 3 was placed at ... feet. Number of sacks of cement used ...

No. 4 was placed at ... feet. Number of sacks of cement used ...

No. 5 was placed at ... feet. Number of sacks of cement used ...

FILED
JAN 15 1951
OFFICE STATE ENGINEER
SANTA FE, N. M.

(over)

C 198

Sec. 6

LOG OF WELL

From (Depth in Feet)	To (Depth in Feet)	Thickness in Feet	Classification of Formation
Logged from cuttings by R. H. Ying, U. S. G. S. (extracted from ms			
copy of "Memorandum on G-W conditions in the vicinity of City Airport			
Southwest of Carlsbad, New Mexico, "W. B. Hale & C. V. Theis, pp 10, 11			
0-10	Missing		
10-20	Gravel		
20-30	Missing		
30-35	Clay, sand & gravel		
35(?)-40(?)	Gravel		
40-55	Missing		
55-70	Gravel		
70-80	Clay		
80-90	Missing		
90-95	Clay		
95-135	Conglomerate		
135-140	Clay		
Well was deepened Sept 15 (date) 1949. 7" hole			
and the following formation encountered.			
138 - 133	Grey shale		
133 - 160	Grey limestone		

I, W. Martin, do solemnly swear that, to the best of my knowledge and belief, the foregoing information is a true and correct record of the well for which report is hereby made, insofar as can be determined from all available records.

SUBSCRIBED AND SWORN TO BEFORE ME this 11 day of December, A.D., 1950

W. A. YARBRO, JUSTICE OF THE PEACE PRCT. No. FIVE, EX-OFFICIO NOTARY PUBLIC, EL PASO COUNTY, TEXAS — Notary Public

My Commission Expires 1-1-1950

Signed Wm. Martin

Position Driller

Street and Number Box 68

Post Office Fornillo, Texas

(This form is to be executed in triplic

WELL RECORD

Date of Receipt ..... Permit No. C-198

Name of permitee, William Martin

Street or P. O. Box 68, City and State Tornillo, Texas

1. Well location and description: The shallow (shallow or artesian) well is located in SE ¼, ... ¼, ... ¼ of Section 25, Township 22, Range 26; Elevation of top of casing above sea level, ... feet; diameter of hole, ... inches; total depth, 140 feet; depth to water upon completion, ... feet; drilling was commenced ....., 19....., and completed ....., 19.....; name of drilling contractor William Martin ....., Address, ...; Driller's License No. .....

2. Principal Water-bearing Strata:

	Depth in Feet From	To	Thickness	Description of Water-bearing Formation
No. 1				
No. 2				
No. 3				
No. 4				
No. 5				

3. Casing Record:

Diameter in inches	Pounds per ft.	Threads per inch	Depth of Casing or Liner Top	Bottom	Feet of Casing	Type of Shoe	Perforation From	To

4. If above construction replaces old well to be abandoned, give location: ..... ¼, ... ¼, ... ¼ of Section ....., Township ....., Range .....; name and address of plugging contractor, ...

.....

date of plugging ....., 19.....; describe how well was plugged: .....

.....

.....

.....

C-198

22.26.25.400

5. Log of Well:

Depth in Feet From	Depth in Feet To	Thickness in feet	Description of Formation
Logged from cuttings, by R. H. King, U.S.G.S. (extracted from ms copy of "Memorandum on Ground Water Conditions in the vicinity of City Airport southwest of Carlsbad, New Mexico", W. E. Hale and C. V. Theis, pp, 10,11.			
0	10		missing
10	20		gravel
20	30		missing
30	35		clay, sand and gravel
35 ?	40?		gravel
40	55		missing
55	70		gravel
70	80		clay
80	90		missing
90	95		clay
95	135		cong.
135	140		clay
Well was deepened in 1949			

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Wm. Martin
Licensed Well Driller

Instructions

This form shall be executed, preferably typewritten, in triplicate and filed with the State Engineer's Office at Roswell, New Mexico, within 10 days after drilling has been completed. Data on water-bearing strata and on all formations encountered should be as complete and accurate as possible.

This form to be executed in triplicate.

PROOF OF COMPLETION OF WORKS
UNDERGROUND WATERS

Permit No. C-198

State of Texas
County of El Paso } ss.

I, Wm. Martin

of Tornillo, County of El Paso

State of Texas, being first duly sworn, do hereby certify that I am the owner and holder of a permit to Appropriate water (appropriate water, repair well, change of location of well) in the Carlsbad, Basin (name of underground reservoir, artesian basin, etc.), the waters from such source to be used for Domestic purposes under said permit; that said application has been filed and approved in the office of the State Engineer under No. C-198; that the works necessary to accomplish the appropriation of water in accordance with the terms of said permit have been completed; that all provisions and conditions under which said permit was approved by the State Engineer have been fully complied with; that the following statement of facts is submitted in proof of the completion of said works; and that the said statement and each and all of the items contained therein are true to the best of my knowledge and belief.

Wm. Martin

Subscribed and sworn to before me this 11th day of December, 19 50

W. A. Yarbro

Notary Public.

My commission expires:

Dec. 31, 1950

W. A. YARBRO, JUSTICE OF THE PEACE PRCT. No. FIVE, EX-OFFICIO NOTARY PUBLIC, EL PASO COUNTY, TEXAS

FILED
DEC 13 1950
OFFICE
ARTESIAN WELL SUPERVISOR
ROSWELL, NEW MEXICO

STATEMENT

1. Name of appropriator Wm. Martin
2. Postoffice address P. O. Box 68, Tornillo, Texas
3. Underground water supply Non-artesian
4. The well is located in the Joel Subdivision quarter of the SE quarter of the SE quarter of Section 25, Township 22 S., Range 26 E, N.M.P.M., in Eddy County.

FILED
JAN 15 1951
OFFICE STATE ENGINEER
SANTA FE, N. M.

C198

5. Nominal size (outside diameter) of casing or liner 10 inches.

6. Depth of well 160 feet. 7. Approximate pumping depth 145 feet.

8. Description of pump: make Jacuzzi; type Jet.;

suction lift feet; size and length of column;

size and number of bowls; total length abt 150 feet.

9. Make, type, horsepower, etc., of power plant 3 hP. Electric

10. Capacity of well 50 gals. per min. 11. Is well equipped with gate valve? No

12. Name of driller Wm. Martin (WD-20)

13. Has log of this well been filed with State Engineer or his representative? Yes

14. The distribution work consists of reservoirs feet of ditch, feet of flume, feet of pipe.

15. Size of reservoir feet wide, feet long, feet average depth, cubic feet capacity, located in the ¼, ¼, ¼ of Section, Township, Range

16. Lands to be irrigated acres, located in

17. If there are other sources of water supply for these lands, describe giving file Nos., etc.

18. Works were completed Oct 15 1949.

19. If above construction replaces an old well to be plugged or abandoned, fill out following:

a. The well abandoned is located in the ¼, ¼, ¼ of Section, Township, Range

b. Name of plugging contractor

c. Well was plugged in accordance with terms of permit, 19

I hereby certify that I have duly inspected the above works and find them adequate and properly constructed according to the terms and conditions of this permit.

[signature]

~~Artesian Well Supervisor~~ (or representative of State Engineer)

Engineer

Date 11 Jan 51

THE RYDAL PRESS, SANTA FE, N. M.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 01149 **Subbasin:** C **Cross Reference:** -

Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: JOE A. BEST, JR.

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images 462224	72121	1963-07-25	PMT	LOG	C 01149	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 01149		Shallow			4	25	22S	26E	571298	3580540*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Form WR-23 STATE ENGINEER OFFICE 147019

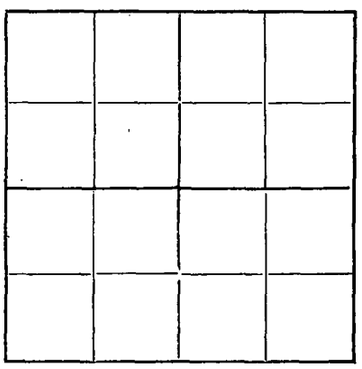
SANTA FE

WELL RECORD

462224

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well Joe A. Best

Street and Number Box 338

City ~~XXXX~~ Wichita Falls State Texas

Well was drilled under Permit No. C-1149 and is located in the Lot#6 ¼ B.D. ¼ SE ¼ of Section 25 Twp. 22 Rge. 26

(B) Drilling Contractor Emmett Barron License No. WD - 30

Street and Number 307 South 10th Street

City Carlsbad State New Mexico

Drilling was commenced September 2, 19 63

Drilling was completed October 2, 19 63

Elevation at top of casing in feet above sea level ..... Total depth of well 245'

State whether well is shallow or artesian Shallow Depth to water upon completion 170'

Section 2 **PRINCIPAL WATER-BEARING STRATA**

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	170'	180'	10'	Pink caliche -red bed gravel
2				
3				
4				
5				

64 MAR 6 AM 8

Section 3 **RECORD OF CASING**

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
7" OD	26	None	0	150	150	none	none	none

Section 4 **RECORD OF MUDDING AND CEMENTING**

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 **PLUGGING RECORD**

Name of Plugging Contractor ..... License No. .....

Street and Number ..... City ..... State .....

Tons of Clay used ..... Tons of Roughage used ..... Type of roughage .....

Plugging method used ..... Date Plugged ..... 19 ....

Plugging approved by:

..... Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received FEB 25 AM 8:21 1964 STATE ENGINEER OFFICE ROSWELL, N. MEX.

File No. C-1149 Use Dom Location No. 22.26.25.400

Dom-ok

C-1149

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	5	5		Top soil
5	70	65		Boulders
70	125	55		Caliche,mud, & broken lime
125	165	40	Pink	Pink Caliche & broken lime
165	175	5	Gray	Gray Caliche mud
175	180	5		Conglomerate Rock
180	185	5	Red	Red Bed & Some Gravel
185	200	15		Sticky Red Bed
200	245	45	Pink	Pink Caliche-Some Lime Rock
				245 Bottom

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Emmett Barnes
Well Driller

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 00737 **Subbasin:** C **Cross Reference:** -

Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD

Primary Status: EXP EXPIRED

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: BILLY B. CHESTER

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	462963	72121	1956-10-17	EXP	EXP	C 00737	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 00737					4	25	22S	26E	571298	3580540*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

OCD Well Locations

5/17/2023, 1:31:11 PM

Wells - Large Scale

Gas, Active

PLSS Second Division

PLSS First Division

1:2,257

0 0.02 0.04 0.08 mi

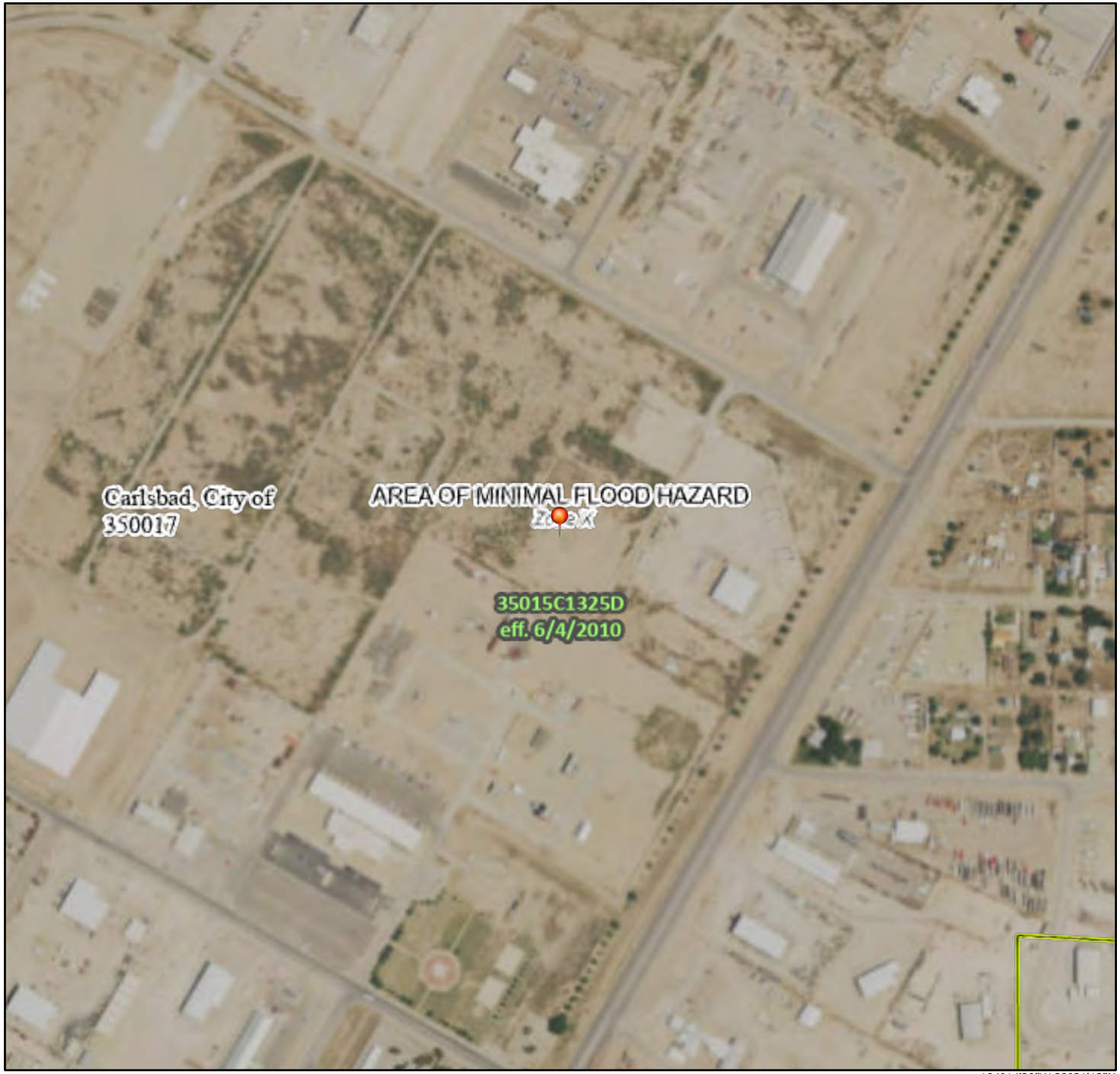
0 0.04 0.07 0.14 km

Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., Esri Community Maps Contributors, New Mexico State University, Texas Parks & Wildlife, © OpenStreetMap,

National Flood Hazard Layer FIRMette

FEMA

104°14'58"W 32°21'43"N



104°14'20"W 32°21'12"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/17/2023 at 2:46 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

U.S. Fish and Wildlife Service
National Wetlands Inventory

NWI Map

May 17, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Active Mines in New Mexico

5/17/2023, 1:40:07 PM

Land Ownership

P

PLSS Second Division

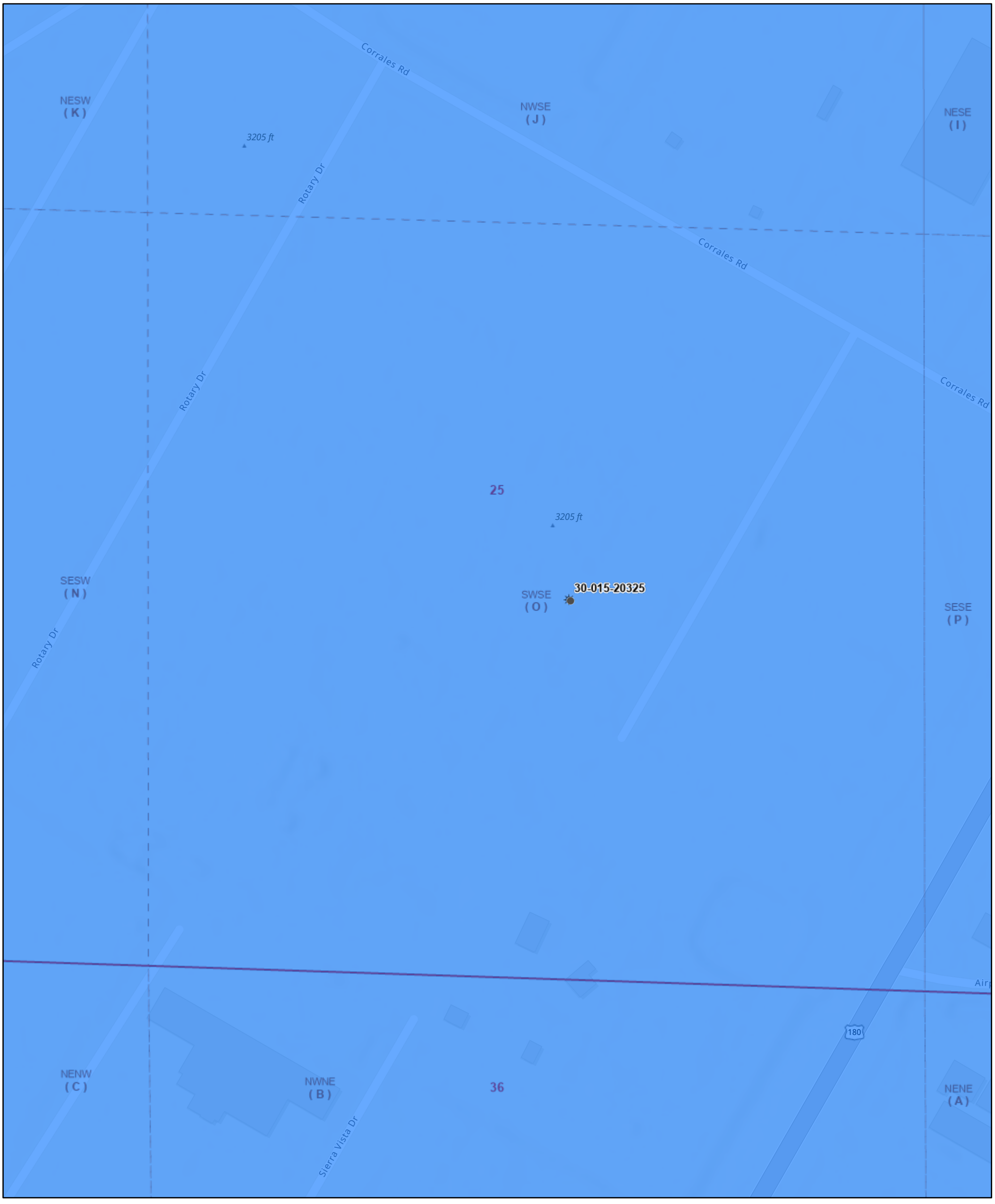
PLSS First Division

1:2,257

0 0.02 0.04 0.08 mi

0 0.04 0.07 0.14 km

Karst Potential Map



5/17/2023, 1:35:44 PM

Wells - Large Scale

Gas, Active

Karst Occurrence Potential

Medium

PLSS Second Division

PLSS First Division

1:2,257

0 0.02 0.04 0.08 mi

0 0.04 0.07 0.14 km

ENSOLUM

APPENDIX C

Photographic Documentation

View of impacted area during remediation activities, facing west.

View of impacted area during remediation activities, facing southwest.

View of final excavation area, facing southwest.

View of final excavation area, facing south.

ENSOLUM

APPENDIX D

Tables

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
City of Carlsbad
Oxy USA, Inc.
Eddy County, New Mexico
Ensolum Project No. 03B1417055

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total TPH (GRO+DRO+MRO) (mg/kg)	Chloride (mg/kg)
New Mexico Oil Conservation Division Closure Criteria for Soils Impacted by a Release (≤ 50 feet)			**10**	**NE**	**NE**	**NE**	**50**	**NE**	**NE**	**NE**	**100**	**600**
Floor Sample Analytical Results												
FS-1	1/26/2023	0 - 0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	**16.0**
FS-2	1/26/2023	0 - 0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	**16.0**
FS-3	1/26/2023	0 - 0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	**608**
	4/3/2023	1	NS					NS				**720**
	4/13/2023	2	NS					NS				**2,120**
	4/21/2023	3	NS					NS				**816**
	5/4/2023	8	NS					NS				**320**
FS-4	1/26/2023	0 - 0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	**128**
Sidewall Sample Analytical Results												
SW-1	4/13/2023	0 - 2	NS					NS				**496**
	4/21/2023	0 - 3	NS					NS				**1,500**
	5/4/2023	0 - 8	NS					NS				**176**

*Concentrations in **bold** and yellow exceed the New Mexico Oil Conservation Division Closure Criteria for Soils Impacted by a Release (≤ 50 feet)*
Additional Excavation and/or Re-Sample
bgs: below ground surface
mg/kg: milligrams per kilogram
NA: Not Applicable
NE: Not Established
NS: Not Sampled
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
MRO: Motor Oil/Lube Oil Range Organics
TPH: Total Petroleum Hydrocarbon

ENSOLUM

APPENDIX E

Laboratory Data Sheets and Chain-of-Custody Documentation

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 30, 2023

BEAUX JENNINGS

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: CITY OF CARLSBAD

Enclosed are the results of analyses for samples received by the laboratory on 01/26/23 12:21.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM, LLC
BEAUX JENNINGS
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	01/26/2023	Sampling Date:	01/26/2023
Reported:	01/30/2023	Sampling Type:	Soil
Project Name:	CITY OF CARLSBAD	Sampling Condition:	Cool & Intact
Project Number:	03B1417055	Sample Received By:	Shalyn Rodriguez
Project Location:	32.3576775,-104.2441101		

Sample ID: FS - 1 0-0.25' (H230372-01)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/27/2023	ND	2.11	106	2.00	8.50	
Toluene*	<0.050	0.050	01/27/2023	ND	2.13	107	2.00	10.2	
Ethylbenzene*	<0.050	0.050	01/27/2023	ND	2.08	104	2.00	9.53	
Total Xylenes*	<0.150	0.150	01/27/2023	ND	6.22	104	6.00	8.78	
Total BTEX	<0.300	0.300	01/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	01/27/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2023	ND	193	96.4	200	2.97	
DRO >C10-C28*	<10.0	10.0	01/27/2023	ND	216	108	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	01/27/2023	ND					

Surrogate: 1-Chlorooctane *95.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *108 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM, LLC
BEAUX JENNINGS
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	01/26/2023	Sampling Date:	01/26/2023
Reported:	01/30/2023	Sampling Type:	Soil
Project Name:	CITY OF CARLSBAD	Sampling Condition:	Cool & Intact
Project Number:	03B1417055	Sample Received By:	Shalyn Rodriguez
Project Location:	32.3576775,-104.2441101		

Sample ID: FS - 2 0-0.25' (H230372-02)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/27/2023	ND	2.11	106	2.00	8.50	
Toluene*	<0.050	0.050	01/27/2023	ND	2.13	107	2.00	10.2	
Ethylbenzene*	<0.050	0.050	01/27/2023	ND	2.08	104	2.00	9.53	
Total Xylenes*	<0.150	0.150	01/27/2023	ND	6.22	104	6.00	8.78	
Total BTEX	<0.300	0.300	01/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	01/27/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2023	ND	193	96.4	200	2.97	
DRO >C10-C28*	<10.0	10.0	01/27/2023	ND	216	108	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	01/27/2023	ND					

Surrogate: 1-Chlorooctane *95.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *108 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM, LLC
BEAUX JENNINGS
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	01/26/2023	Sampling Date:	01/26/2023
Reported:	01/30/2023	Sampling Type:	Soil
Project Name:	CITY OF CARLSBAD	Sampling Condition:	Cool & Intact
Project Number:	03B1417055	Sample Received By:	Shalyn Rodriguez
Project Location:	32.3576775,-104.2441101		

Sample ID: FS - 3 0-0.25' (H230372-03)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/27/2023	ND	2.11	106	2.00	8.50	
Toluene*	<0.050	0.050	01/27/2023	ND	2.13	107	2.00	10.2	
Ethylbenzene*	<0.050	0.050	01/27/2023	ND	2.08	104	2.00	9.53	
Total Xylenes*	<0.150	0.150	01/27/2023	ND	6.22	104	6.00	8.78	
Total BTEX	<0.300	0.300	01/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**608**	16.0	01/27/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2023	ND	193	96.4	200	2.97	
DRO >C10-C28*	<10.0	10.0	01/27/2023	ND	216	108	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	01/27/2023	ND					

Surrogate: 1-Chlorooctane *94.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *109 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM, LLC
BEAUX JENNINGS
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	01/26/2023	Sampling Date:	01/26/2023
Reported:	01/30/2023	Sampling Type:	Soil
Project Name:	CITY OF CARLSBAD	Sampling Condition:	Cool & Intact
Project Number:	03B1417055	Sample Received By:	Shalyn Rodriguez
Project Location:	32.3576775,-104.2441101		

Sample ID: FS - 4 0-0.25' (H230372-04)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/27/2023	ND	2.11	106	2.00	8.50	
Toluene*	<0.050	0.050	01/27/2023	ND	2.13	107	2.00	10.2	
Ethylbenzene*	<0.050	0.050	01/27/2023	ND	2.08	104	2.00	9.53	
Total Xylenes*	<0.150	0.150	01/27/2023	ND	6.22	104	6.00	8.78	
Total BTEX	<0.300	0.300	01/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	01/27/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2023	ND	193	96.4	200	2.97	
DRO >C10-C28*	<10.0	10.0	01/27/2023	ND	216	108	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	01/27/2023	ND					

Surrogate: 1-Chlorooctane *99.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *113 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Ensolum, LLC
Project Manager:	Beaux Jennings
Address:	601 N. Marienfeld St. STE 400
City:	Midland **State:** TX **Zip:** 79701
Phone #:	210-219-8858 **Fax #:**
Project #:	03B1417055 **Project Owner:**
Project Name:	City of Carlsbad
Project Location:	32.3576775, -104.2441101
Sampler Name:	KaileeSmith

BILL TO

P.O. #:	
Company:	Oxy USA, Inc.
Attn:	Wade Dittrich
Address:	
City:	
State:	**Zip:**
Phone #:	575-390-2828
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX (8021B)	TPH (8015M)	Chloride (4500-Cl B)
H230372-1	FS-1	0-0.25	C	1			X					X		1-26-23	0747	X	X	X
2	FS-2	0-0.25	C	1			X					X		1-26-23	0749	X	X	X
3	FS-3	0-0.25	C	1			X					X		1-26-23	0751	X	X	X
4	FS-4	0-0.25	C	1			X					X		1-26-23	0753	X	X	X

Relinquished By:	**Date:** 1-26-23 **Time:** 0900	**Received By:**	**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**
Relinquished By:	**Date:** 1-26-23 **Time:** 1221	**Received By:**	**All Results are emailed. Please provide Email address:** BJennings@ensolum.com
			REMARKS:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Observed Temp. °C 0.9 | Corrected Temp. °C 0.3

Sample Condition: Cool ☑ Yes ☐ No | Intact ☑ Yes ☐ No

CHECKED BY: (Initials) SR

Turnaround Time: Standard ☒ Rush ☐

Thermometer ID #113 Correction Factor -0.5°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No | Intact ☐ Yes ☐ No

Observed Temp. °C -0.6 | Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 04, 2023

BEAUX JENNINGS

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: CITY OF CARLSBAD

Enclosed are the results of analyses for samples received by the laboratory on 04/03/23 11:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM, LLC
BEAUX JENNINGS
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	04/03/2023	Sampling Date:	04/03/2023
Reported:	04/04/2023	Sampling Type:	Soil
Project Name:	CITY OF CARLSBAD	Sampling Condition:	Cool & Intact
Project Number:	03B1417055	Sample Received By:	Tamara Oldaker
Project Location:	32.3576775,-104.241101		

Sample ID: FS - 3 1' (H231510-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**720**	16.0	04/04/2023	ND	416	104	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

Company Name:	Ensolum, LLC	**BILL TO**	
Project Manager:	Beaux Jennings	P.O. #:	
Address:	601 N. Marienfeld St. STE 400	Company:	Oxy USA, Inc.
City: Midland	State: TX Zip: 79701	Attn:	Wade Dittrich
Phone #: 210-219-8858	Fax #:	Address:	
Project #: City of Carlsbad	Project Owner:	City:	
Project Name: 03B 1417055		State:	Zip:
Project Location: 32.3576775, -104.241101		Phone #:	575-390-2828
Sampler Name: Kailee Smith		Fax #:	

Lab I.D. (FOR LAB USE ONLY)	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	MATRIX: WASTEWATER	MATRIX: SOIL	MATRIX: OIL	MATRIX: SLUDGE	MATRIX: OTHER :	PRESERV.: ACID/BASE:	PRESERV.: ICE / COOL	PRESERV.: OTHER :	SAMPLING: DATE	SAMPLING: TIME	ANALYSIS REQUEST: Chlorides 4500
H231510 1	FS-3	1'	C	1			X					X		4-3-23	0920	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: [signature]	Date: 4-3-23 Time: 1155	Received By: [signature]	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address: BJennings@ensolum.com
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 1.5 Corrected Temp. °C 0.9	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TC

Turnaround Time: 24hr Standard ☒ Rush ☑
Thermometer ID #113
Correction Factor -0.5°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 19, 2023

BEAUX JENNINGS

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: CITY OF CARLSBAD

Enclosed are the results of analyses for samples received by the laboratory on 04/14/23 15:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM, LLC
BEAUX JENNINGS
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	04/14/2023	Sampling Date:	04/13/2023
Reported:	04/19/2023	Sampling Type:	Soil
Project Name:	CITY OF CARLSBAD	Sampling Condition:	Cool & Intact
Project Number:	03B1417055	Sample Received By:	Tamara Oldaker
Project Location:	32.3576775,-104.241101		

Sample ID: FS - 3 2' (H231818-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2120**	16.0	04/19/2023	ND	400	100	400	3.92	

Sample ID: SW - 1 0-2' (H231818-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**496**	16.0	04/19/2023	ND	400	100	400	3.92	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Ensolum, LLC
Project Manager:	Beaux Jennings
Address:	601 N. Marienfeld St. STE 400
City:	Midland
State:	TX
Zip:	79701
Phone #:	210-219-8858
Fax #:	
Project #:	03B1417055
Project Owner:	
Project Name:	City of Carlsbad
Project Location:	32.3576775, -104.2441101 Eddy County, NM
Sampler Name:	Kailee Smith

BILL TO

P.O. #:	
Company:	Oxy USA, Inc.
Attn:	Wade Dittrich
Address:	
City:	
State:	
Zip:	
Phone #:	575-390-2828
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides 4500
H231818												✓				
1	FS-3	2'	C	1			X					X		4-13-23	1052	X
2	SW-1	0-2'	C	1			X					X		4-13-23	1054	X

NFE
VS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 4-14-23	Received By:	Verbal Result: ☐ Yes ☒ No Add'l Phone #:
	Time: 1555		All Results are emailed. Please provide Email address: BJennings@ensolum.com
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 2.5	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: Standard ☒ Rush ☐
	Corrected Temp. °C 1.9			Thermometer ID #113 Correction Factor -0.5°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 26, 2023

BEAUX JENNINGS

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: CITY OF CARLSBAD

Enclosed are the results of analyses for samples received by the laboratory on 04/21/23 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM, LLC
BEAUX JENNINGS
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	04/21/2023	Sampling Date:	04/21/2023
Reported:	04/26/2023	Sampling Type:	Soil
Project Name:	CITY OF CARLSBAD	Sampling Condition:	Cool & Intact
Project Number:	03B1417055	Sample Received By:	Yvonne Muniz
Project Location:	32.3576775,-104.241101		

Sample ID: FS - 3 3' (H231964-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**816**	16.0	04/25/2023	ND	400	100	400	4.08	

Sample ID: SW - 1 0-3' (H231964-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1500**	16.0	04/25/2023	ND	400	100	400	4.08	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	Ensolum, LLC
Project Manager:	Beaux Jennings
Address:	601 N. Marienfeld St. STE 400
City:	Midland **State:** TX **Zip:** 79701
Phone #:	210-219-8858 **Fax #:**
Project #:	03B1417055 **Project Owner:**
Project Name:	City of Carlsbad
Project Location:	32.357675, -104.24101 Eddy County, NM
Sampler Name:	Kailee Smith

BILL TO

P.O. #:	
Company:	Oxy USA, Inc.
Attn:	Wade Dittrich
Address:	
City:	
State:	**Zip:**
Phone #:	575-390-2828
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides 4500
H23914																
1	FS-3	3'	C	1			X					X		4-21-23	0948	X
2	SW-1	0-5'	C	1			X					X		4-21-23	0950	X

NFE
5

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	**Date:** 4-21-23	**Received By:**	
	Time: 1230		
Relinquished By:	**Date:**	**Received By:**	
	Time:		

Verbal Result: ☐ Yes ☑ No **Add'l Phone #:**
All Results are emailed. Please provide Email address:
BJennings@ensolum.com
REMARKS:

Delivered By: (Circle One)	Observed Temp. °C 4.1	**Sample Condition** Cool ☑ Yes Intact ☑ Yes	**CHECKED BY: (Initials)** 4.1 VN	**Turnaround Time:** Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 3.5	☐ No ☐ No		Thermometer ID #113 Correction Factor -0.5°C

Bacteria (only) Sample Condition Cool ☐ Yes Intact ☐ Yes ☐ No ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 08, 2023

BEAUX JENNINGS

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: CITY OF CARLSBAD

Enclosed are the results of analyses for samples received by the laboratory on 05/05/23 9:23.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM, LLC
BEAUX JENNINGS
705 W WADLEY AVE.
MIDLAND TX, 79705
Fax To:

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	CITY OF CARLSBAD	Sampling Condition:	Cool & Intact
Project Number:	03B1417055	Sample Received By:	Shalyn Rodriguez
Project Location:	32.3576775,-104.241101		

Sample ID: FS - 3 8' (H232226-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	05/08/2023	ND	416	104	400	0.00	

Sample ID: SW - 1 0-8' (H232226-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	05/08/2023	ND	400	100	400	3.92	QM-07

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Ensolum, LLC
Project Manager:	Beaux Jennings
Address:	601 N. Marienfeld St. STE 400
City:	Midland State: TX Zip: 79701
Phone #:	210-219-8858 Fax #:
Project #:	03B1417055 Project Owner:
Project Name:	City of Carlsbad
Project Location:	32.357675, -104.244101 Eddy County, NM
Sampler Name:	Kaitlyn Smith

BILL TO

P.O. #:	
Company:	Oxy USA, Inc.
Attn:	Wade Dittrich
Address:	
City:	
State:	Zip:
Phone #:	575-390-2828
Fax #:	

ANALYSIS REQUEST

Chlorides 4500

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	
H232226 1	FS-3	8'	C	1			X					X		5.4.23	1520	X
2	SW-1	0-8'	C	1			X					X		5.4.23	1522	X

NFE
LS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 5/5/23 Time: 0923	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: BJennings@ensolum.com
			REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 2.5 Corrected Temp. °C 1.9	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) SR

Turnaround Time: 48hr. Standard ☐ Rush ☑
Thermometer ID #113
Correction Factor -0.5°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

ENSOLUM

APPENDIX F

C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nAB1800955279
District RP	2RP-4556
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Oxy USA Inc.	OGRID: 16696
Contact Name: Wade Dittrich	Contact Telephone: 575-390-2828
Contact email: wade_dittrich@oxy.com	Incident # nAB1800955279
Contact mailing address: PO Box 4294, Houston, TX 77210	

Location of Release Source

Latitude 32.3576775 Longitude -104.2441101
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: City of Carlsbad	Site Type: Central Tank Battery
Date Release Discovered: 01/03/2018	API# 30-015-20325

Unit Letter	Section	Township	Range	County
A	25	22S	26E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☒ Produced Water	Volume Released (bbls): 90	Volume Recovered (bbls): NA
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release: 3-inch drain line from production tank failure.		

State of New Mexico
Oil Conservation Division

Incident ID	nAB1800955279
District RP	2RP-4556
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release is greater than 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by Wade Dittrich of Oxy to Mike Bratcher (NMOCD) and Crystal Weaver (SLO) on 01/03/2018 at 0358.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Wade Dittrich

Title: Environmental Specialist

Signature: Wade Dittrich

Date: 5/30/23

email: wade_dittrich@oxy.com

Telephone: 575-390-2828

OCD Only

Received by: _____

Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1800955279
District RP	2RP-4556
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	≤ 50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☒ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☒ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	nAB1800955279
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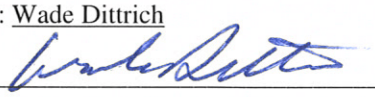
Printed Name: Wade Dittrich Title: Environmental Specialist

Signature:  Date: 5-30-23

email: wade_dittrich@oxy.com Telephone: 575-390-2828

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1800955279
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Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Wade Dittrich Title: Environmental Specialist

Signature: Wade Dittrich Date: 5-30-23

email: wade_dittrich@oxy.com Telephone: 575-390-2828

OCD Only

Received by: Jocelyn Harimon Date: 5/31/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: 8/18/2023

Printed Name: Jocelyn Harimon Title: Environmental Specialist

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
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 222171

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 222171
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	8/18/2023