April 18, 2022

EMNRD/OCD
Attn: Victoria Venegas
South St. Francis Dr.
Santa Fe, NM 87505

Re: Centennial Resource Development, Inc.
Merchant South Containment and Recycle Facility

Dear Mrs. Venegas,

Cold Peak Environmental, LLC, on behalf of Centennial Resource Development, Inc., submits the attached C-147 registration.

Thank you for allowing Centennial to promote water reuse in the State of New Mexico. Please find attached the C-147 form with accompanying documentation for the Merchant South Containment and Recycle Facility.

The package follows the order of Form C-147 for easier review by OCD.

The current schedule calls for the commencement of filling the containment on or around June 15, 2022, therefore construction would need to begin around May 5, 2022, to achieve the proposed deadline. Though we understand that all variances must be approved prior to construction beginning, we appreciate your diligence and the OCD's commitment to promoting water recycling.

Please do not hesitate to contact me with any questions, comments, or concerns.

Sincerely,

Galan Kelley
Cold Peak Environmental, LLC
Chief Executive Officer

C-147 Registration Package for Merchant South Containment and Recycle Facility

Section 26, Township 22-S, Range 34-E, Lea County

Prepared for:
Centennial Resource Development, Inc.
500 W. Illinois Avenue, Suite 500
Midland, TX 79701

Prepared by:
Cold Peak Environmental, LLC
15 Smith Road, Suite 2008
Midland, TX 79705

Galan Kelley
gkelley@coldpeakenviro.com
361.701.8465

Form C-147

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

Recycling Facility and/or Recycling Containment

Type of Facility: ☒ Recycling Facility ☒ Recycling Containment*

Type of action: ☒ Permit ☒ Registration
☐ Modification ☐ Extension
☐ Closure ☐ Other (explain) _____

*** At the time C-147 is submitted to the division for a Recycling Containment, a copy shall be provided to the surface owner.**

Be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.

Operator: Centennial Resource Development, Inc. (For multiple operators attach page with information) OGRID #: 372165

Address: 500 W. Illinois Avenue, Suite 500, Midland, TX 79701

Facility or well name (include API# if associated with a well): Merchant South Containment and Recycle Facility

OCD Permit Number: _____ (For new facilities the permit number will be assigned by the district office)

U/L or Qtr/Qtr SE / SE Section 26 Township 22S Range 34E County: Lea County

Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

2.

☒ **Recycling Facility:**

Location of recycling facility (if applicable): Latitude 32.357921° Longitude -103.433087° NAD83

Proposed Use: ☐ Drilling* ☒ Completion* ☐ Production* ☐ Plugging *

The re-use of produced water may NOT be used until fresh water zones are cased and cemented

☐ Other, ***requires permit for other uses. Describe use, process, testing, volume of produced water and ensure there will be no adverse impact on groundwater or surface water.***

☒ Fluid Storage

☒ Above ground tanks ☒ Recycling containment ☐ Activity permitted under 19.15.17 NMAC explain type_____

☐ Activity permitted under 19.15.36 NMAC explain type:_____ ☐ Other explain _____

☐ For multiple or additional recycling containments, attach design and location information of each containment

☐ **Closure Report (required within 60 days of closure completion):** ☐ Recycling Facility Closure Completion Date:_____

3.

☒ **Recycling Containment:**

☐ Annual Extension after initial 5 years (attach summary of monthly leak detection inspections for previous year)

Center of Recycling Containment (if applicable): Latitude 32.358205° Longitude -103.434360° NAD83

☐ For multiple or additional recycling containments, attach design and location information of each containment

☒ Lined ☒ Liner type: Thickness 60 Primary mil 40 Secondary ☐ LLDPE ☒ HDPE ☐ PVC ☐ Other _____

☐ String-Reinforced

Liner Seams: ☒ Welded ☐ Factory ☐ Other _____ Volume: 552,599 bbl Dimensions: L 408' x W 478' x D 25'

☐ Recycling Containment Closure Completion Date:_____

Two containments with common wall - volume & dimensions above is each
Total containment capacity for both 1,045,199 (L = 816' x W = 478' x D = 25')

4.

Bonding:

☒ Covered under bonding pursuant to 19.15.8 NMAC per 19.15.34.15(A)(2) NMAC **(These containments are limited to only the wells owned or operated by the owners of the containment.)**

☐ Bonding in accordance with 19.15.34.15(A)(1). Amount of bond $_____ **(work on these facilities cannot commence until bonding amounts are approved)**

☐ Attach closure cost estimate and documentation on how the closure cost was calculated.

5.

Fencing:

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☒ Alternate. Please specify 6-foot tall chain link fence w/ 3-strand barbwire on 45 degree toppers

6.

Signs:

☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

7.

Variances:

Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.

Check the below box only if a variance is requested:

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.

If a Variance is requested, it must be approved prior to implementation.

8.

Siting Criteria for Recycling Containment

Instructions: The applicant must provide attachments that demonstrate compliance for each siting criteria below as part of the application. Potential examples of the siting attachment source material are provided below under each criteria.

General siting

Ground water is less than 50 feet below the bottom of the Recycling Containment. NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; written approval obtained from the municipality	☐ Yes ☒ No ☐ NA
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Minerals Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; topographic map	☐ Yes ☒ No
Within a 100-year floodplain. FEMA map	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; aerial photo; satellite image	☐ Yes ☒ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; topographic map; visual inspection (certification) of the proposed site	☐ Yes ☒ No

9.
Recycling Facility and/or Containment Checklist:
Instructions: Each of the following items must be attached to the application. Indicate, by a check mark in the box, that the documents are attached.

- [X] Design Plan - based upon the appropriate requirements.
- [X] Operating and Maintenance Plan - based upon the appropriate requirements.
- [X] Closure Plan - based upon the appropriate requirements.
- [X] Site Specific Groundwater Data -
- [X] Siting Criteria Compliance Demonstrations –
- [X] **Certify that notice of the C-147 (only) has been sent to the surface owner(s)**

10.
Operator Application Certification:
I hereby certify that the information and attachments submitted with this application are true, accurate and complete to the best of my knowledge and belief.

Name (Print): JD McGuire Title: Water Resource Manager
Signature: Date: 4/18/2022
e-mail address: JD.McGuire@cdevinc.com Telephone: 432-315-0136

11.
OCD Representative Signature: **Approval Date:**
Title: **OCD Permit Number:**
- [ ] OCD Conditions
- [ ] Additional OCD Conditions on Attachment

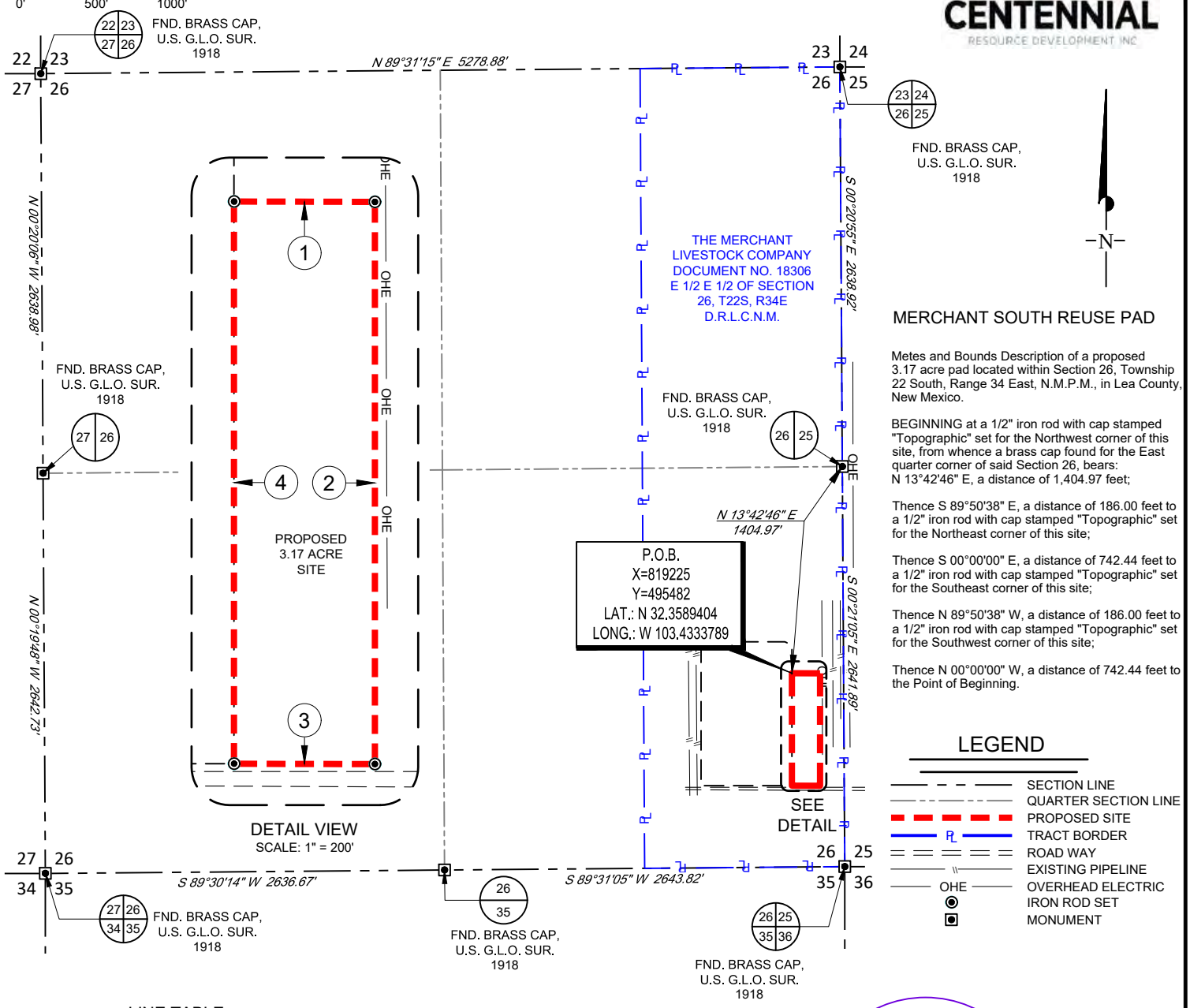
Survey Plats

SCALE: 1" = 1000'

0' 500' 1000'

SECTION 26, TOWNSHIP 22-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

CENTENNIAL RESOURCE DEVELOPMENT INC



MERCHANT SOUTH REUSE PAD

Metes and Bounds Description of a proposed 3.17 acre pad located within Section 26, Township 22 South, Range 34 East, N.M.P.M., in Lea County, New Mexico.

BEGINNING at a 1/2" iron rod with cap stamped "Topographic" set for the Northwest corner of this site, from whence a brass cap found for the East quarter corner of said Section 26, bears: N 13°42'46" E, a distance of 1,404.97 feet;

Thence S 89°50'38" E, a distance of 186.00 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Northeast corner of this site;

Thence S 00°00'00" E, a distance of 742.44 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southeast corner of this site;

Thence N 89°50'38" W, a distance of 186.00 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southwest corner of this site;

Thence N 00°00'00" W, a distance of 742.44 feet to the Point of Beginning.

LEGEND

- SECTION LINE
- QUARTER SECTION LINE
- PROPOSED SITE
- TRACT BORDER
- ROAD WAY
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- IRON ROD SET
- MONUMENT

LINE TABLE

LINE	BEARING	DISTANCE
1	S 89°50'38" E	186.00'
2	S 00°00'00" E	742.44'
3	N 89°50'38" W	186.00'
4	N 00°00'00" W	742.44'

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

RAMON A. DOMINGUEZ NEW MEXICO 24508 PROFESSIONAL SURVEYOR

Ramon Dominguez, P.S. No. 24508

MERCHANT SOUTH RE-USE PAD	REVISION:	
	CAR	04/06/2022
DATE: 04/01/2022		
FILE: BO_MERCHANT_SOUTH_REUSE_PAD_T22S_R34E_SEC_26_REV1		
DRAWN BY: SME		
SHEET : 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.
3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY CENTENNIAL RESOURCE DEVELOPMENT INC.. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.
4. P.O.B. = POINT OF BEGINNING
5. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.

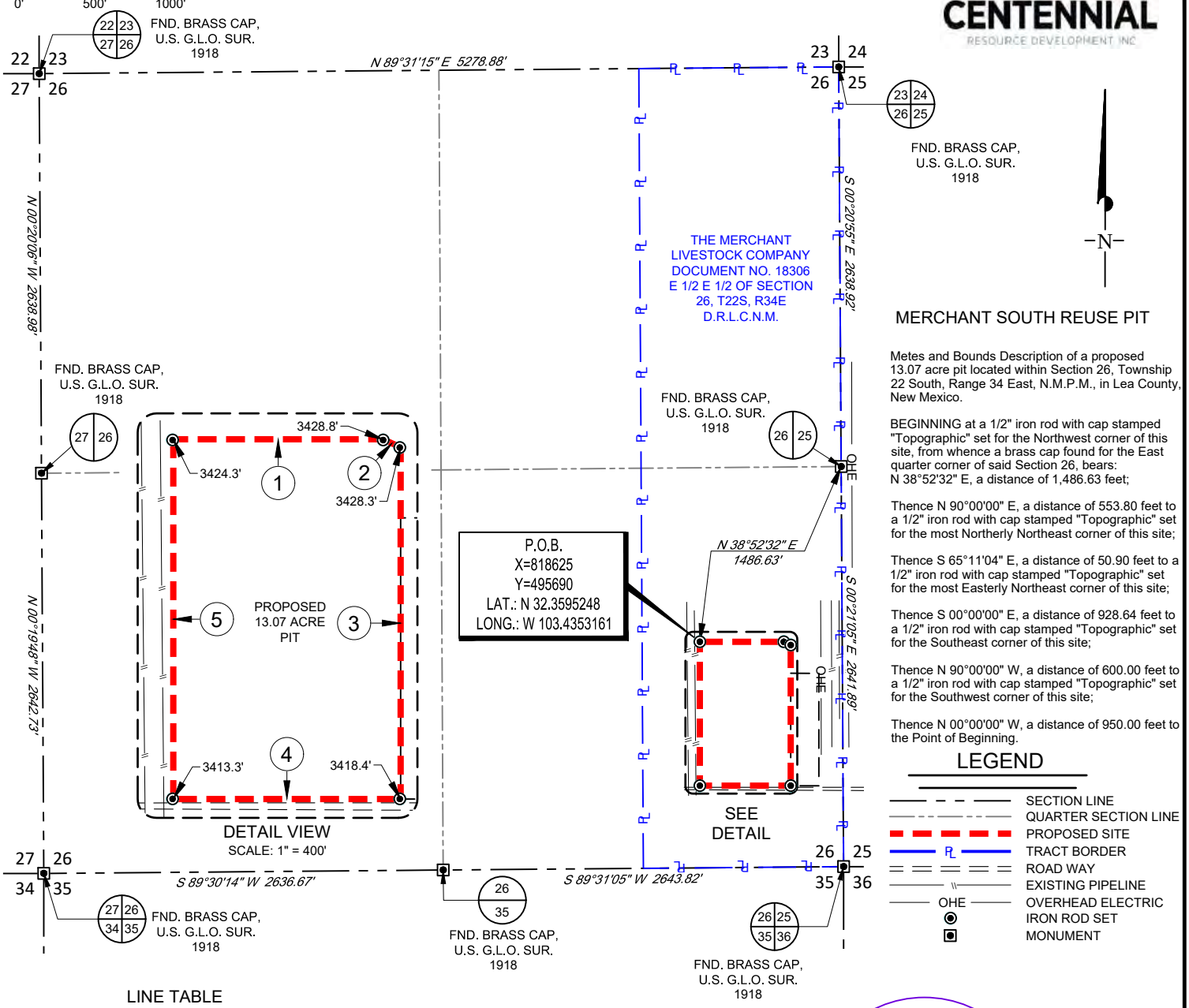
S:\CIVIL\COLD_PEAK_ENVIRONMENTAL_LLC\MERCHANT_REUSE_PIT\SURVEY\FINAL PRODUCTS\BO_MERCHANT_SOUTH_REUSE_PAD_T22S_R34E_SEC_26_REV1.DWG 4/7/2022 1:46:38 PM flopez

SCALE: 1" = 1000'

0' 500' 1000'

SECTION 26, TOWNSHIP 22-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

CENTENNIAL RESOURCE DEVELOPMENT INC



MERCHANT SOUTH REUSE PIT

Metes and Bounds Description of a proposed 13.07 acre pit located within Section 26, Township 22 South, Range 34 East, N.M.P.M., in Lea County, New Mexico.

BEGINNING at a 1/2" iron rod with cap stamped "Topographic" set for the Northwest corner of this site, from whence a brass cap found for the East quarter corner of said Section 26, bears: N 38°52'32" E, a distance of 1,486.63 feet;

Thence N 90°00'00" E, a distance of 553.80 feet to a 1/2" iron rod with cap stamped "Topographic" set for the most Northerly Northeast corner of this site;

Thence S 65°11'04" E, a distance of 50.90 feet to a 1/2" iron rod with cap stamped "Topographic" set for the most Easterly Northeast corner of this site;

Thence S 00°00'00" E, a distance of 928.64 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southeast corner of this site;

Thence N 90°00'00" W, a distance of 600.00 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southwest corner of this site;

Thence N 00°00'00" W, a distance of 950.00 feet to the Point of Beginning.

LEGEND

- SECTION LINE
- QUARTER SECTION LINE
- PROPOSED SITE
- TRACT BORDER
- ROAD WAY
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- IRON ROD SET
- MONUMENT

LINE TABLE

LINE	BEARING	DISTANCE
1	N 90°00'00" E	553.80'
2	S 65°11'04" E	50.90'
3	S 00°00'00" E	928.64'
4	N 90°00'00" W	600.00'
5	N 00°00'00" W	950.00'

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WWW.TOPOGRAPHIC.COM

RAMON A. DOMINGUEZ NEW MEXICO 24508 PROFESSIONAL SURVEYOR

Ramon Dominguez, P.S. No. 24508

MERCHANT SOUTH REUSE PIT	REVISION:	
	CAR	04/06/2022
DATE: 03/31/2022		
FILE: BO_MERCHANT_SOUTH_REUSE_PIT_T22S_R34E_SEC_26_REV1		
DRAWN BY: SME		
SHEET : 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.
3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY CENTENNIAL RESOURCE DEVELOPMENT INC.. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.
4. P.O.B. = POINT OF BEGINNING
5. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.

S:\CIVIL\COLD_PEAK_ENVIRONMENTAL_LLC\MERCHANT_REUSE_PIT\SURVEY\FINAL PRODUCTS\BO_MERCHANT_SOUTH_REUSE_PIT_T22S_R34E_SEC_26_REV1.DWG 4/7/2022 1:46:02 PM flopez

C-147 Detail

Recycling Containment Design Drawings

C-147 Detail

Operator and Facility / Location Detail
The proposed reuse water containment facility & containment pit, referred to as the Merchant South Containment and Recycle Facility, will be owned and operated by Centennial Resource Development, Inc. (Centennial) and located in Township 22 South, Range 34 East, and Section 26 in southcentral Lea County.

Recycling Facility Detail
The proposed containment pit will be located adjacent to the Merchant Water Recycling Facility and will hold treated water for use in Centennial hydraulic fracturing operations. The adjacent recycling facility will utilize advanced water treatment technologies to produce a clean brine effluent prior to storage and subsequent reuse. An oxidation and solids removal/filtering system will treat the incoming influent stream to internal standards sufficient for hydraulic fracturing reuse applications.

Recycling Containment Detail
Centennial is proposing to construct a multi-liner dual containment pit utilizing leak detection systems to ensure an intact leak free barrier system. As depicted in the attached design plan and schematics, *Merchant South Reuse Pit*, the proposed pits will incorporate standards that meet or exceed the required standards per 19.15.34.12 NMAC. The proposed recycle containment will be approximately 278 x 347 inside floor dimensions each with 3:1 inside and outside berm grades. Approximate wall height will average 10ft from outside ground level to ensure no surface water run-on will occur. The top of the levee shall be approximately 20ft wide 2% outside sloping grade to ensure no surface water run-on will occur. The containment pit floor and wall preparation will include laser-finished grade free of rocks, debris, and sharp edges, compacted to a density to ensure an unyielding base. At the onset of pit construction, all vegetative material and topsoil will be removed and stockpiled at the outside toe of the levee slopes. The interior liner system of the containment pit will consist of a 10-ounce geotextile felt base layer to protect the secondary geomembrane liner from any protruding floor irregularities. The secondary geomembrane liner will be composed of 40 mil HDPE. Between the secondary and primary liners will consist of 200 mil geonet sloping to the leak detection trough. The primary liner consists of a 60 mil HDPE liner. All liners will meet or exceed EPA SW-846 method 9090A. All seams will be oriented vertically with 4–6-inch liner overlap, and all seam testing shall exceed all guidelines. As depicted in the attached design plan, *Merchant South Reuse Pit,* the proposed containment pit will include a center-aligned leak detection trough and collection sump completed with perforated pipe and pump casing allowing for the installation of a leak detection pump system. Both inlet and discharge manifold systems, depicted in

Merchant South Reuse Pit, will be installed to prevent any liner damage from water entrance velocity or hose installation. Two audible bird deterrents will be utilized to deter any native birds and wildlife from the containment pit area.

Bonding
Centennial Resource Development, Inc. will source and distribute reuse water for the Merchant South Containment and Recycle Facility from wells solely operated by Centennial. Therefore, attached are the details of Bond Number LPM9260153 – State of New Mexico Land Office Oil and Gas Minerals Division.

Fencing
Please see Variance detail.

Signage
As shown in the attached example sign, Centennial shall place the appropriate signage along the water recycling facility and containment pit perimeter that meets all guidelines established in 19.15.34.12 C NMAC.

Variances
Included are three variances as indicated in Section 7 of the C-147 registration form, to install two audible Mega Blaster Pro bird deterrents capable of covering up to 30 acres each. The second request is to enclose the perimeter with a 6-foot galvanized chain link fence with 3 strands 45-degree barbed wire arm toppers. And the third is to utilize 40-mil HDPE liner, in leu of the 30-mil string reinforced liner.

Siting Criteria for Recycling Containment
Enclosed within this submittal are comprehensive third-party reports detailing conformity to siting criteria described in Section 8 of the C-147 registration form; a detailed list and description of these attachments can be found in the subsequent section: *List of Attachments*.

Recycling Facility and Containment Checklist
As indicated in Section 9 on the attached C-147 form, all the required attachments have been included on the submittal, and certification of C-147 delivery to the landowner is acknowledged.

CENTENNIAL
RESOURCE DEVELOPMENT, INC

CENTENNIAL RESOURCE DEVELOPMENT, INC.
MERCHANT SOUTH REUSE PIT
CONSTRUCTION PLAN
LEA COUNTY, TEXAS

INDEX	
SHEET 1	COVER SHEET
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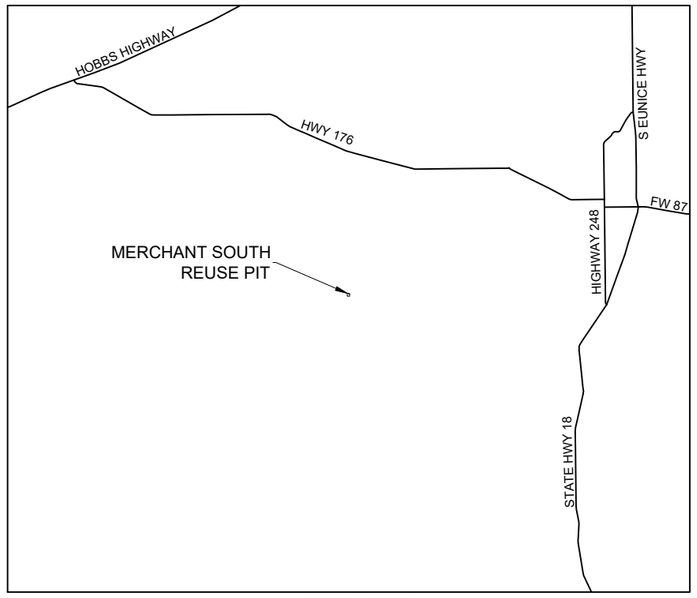
SHEET 3	POND LAYOUT
SHEET 4	POND CALCULATIONS
SHEET 5	POND CROSS SECTION PROFILES
SHEET 6	DETAILS 1 OF 3
SHEET 7	DETAILS 2 OF 3
SHEET 8	DETAILS 3 OF 3



COUNTY MAP
1" = 50.000'

GENERAL NOTES

1. COORDINATE INFORMATION ARE BASED ON STATE PLANES COORDINATE, NEW MEXICO, EAST (2257), NAD 83. THE CONTRACTOR SHALL IDENTIFY ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION.
2. THE CONTRACTOR SHALL IDENTIFY AND LOCATE UTILITY LINES, MONITORING WELLS, SURVEY MONUMENTS, AND OTHER NEARBY STRUCTURES PRIOR TO PERFORMING WORK. UTILITIES, MONITORING WELLS, SURVEY MONUMENTS AND OTHER NEARBY STRUCTURES SHALL BE PROTECTED FROM DAMAGE DURING THIS WORK. ANY DAMAGE TO UTILITY LINES, MONITORING WELLS, SURVEY MONUMENTS, AND OTHER NEARBY STRUCTURES DURING THE WORK SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. COSTS ASSOCIATED WITH THESE REPAIRS SHALL INCLUDE THE ACTUAL REPAIR COSTS AND ANY ENGINEER OR SURVEY COSTS NECESSARY TO COMPLETE THE REPAIR.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, STE. 146
FORT WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512
FAX: (817) 744-7548
WWW.TOPOGRAPHIC.COM

COVER SHEET

MERCHANT SOUTH REUSE PIT

CENTENNIAL RESOURCE DEVELOPMENT, INC.

COURTNEY C. COATES
NEW MEXICO
24108
04/08/22
PROFESSIONAL ENGINEER

DATE:	04/08/22
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	N/A
SHEET:	1 OF 8

REVISION:	
XXX	XX/XX/XXXX
XXX	XX/XX/XXXX
XXX	XX/XX/XXXX

Monument

Nadine

Eunice

Jal

PROPOSED SITE

SCALE: 1" = 4 MI

0 2 MI 4 MI

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, STE. 146
FORT WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512
FAX: (817) 744-7548
WWW.TOPOGRAPHIC.COM

VICINITY MAP

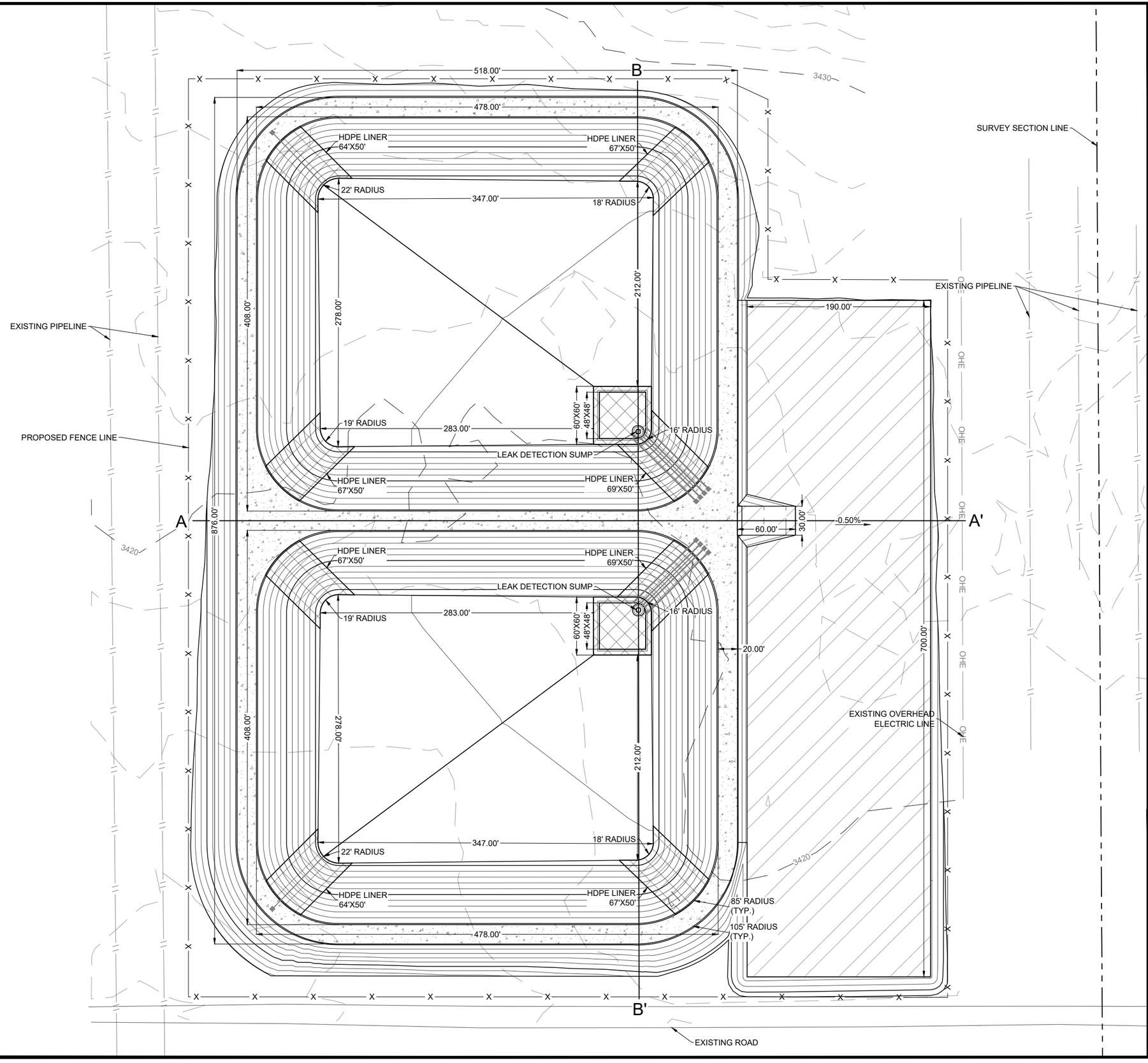
MERCHANT SOUTH REUSE PIT

CENTENNIAL RESOURCE DEVELOPMENT, INC.

COURTNEY C. COATES
NEW MEXICO
24108
04/08/22
PROFESSIONAL ENGINEER

DATE:	04/08/22
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	N/A
SHEET:	2 OF 8

REVISION:		
XXX	XX/XX/XXXX	
XXX	XX/XX/XXXX	
XXX	XX/XX/XXXX	



SCALE: 1" = 150'

0' 75' 150'

CONSTRUCTION AREA = 16.24 ACRES

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED FENCE LINE
- PROPOSED BERM DRIVE
- PROPOSED EQUIPMENT PAD

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LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, STE. 146
FORT WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512
FAX: (817) 744-7548
WWW.TOPOGRAPHIC.COM

POND LAYOUT

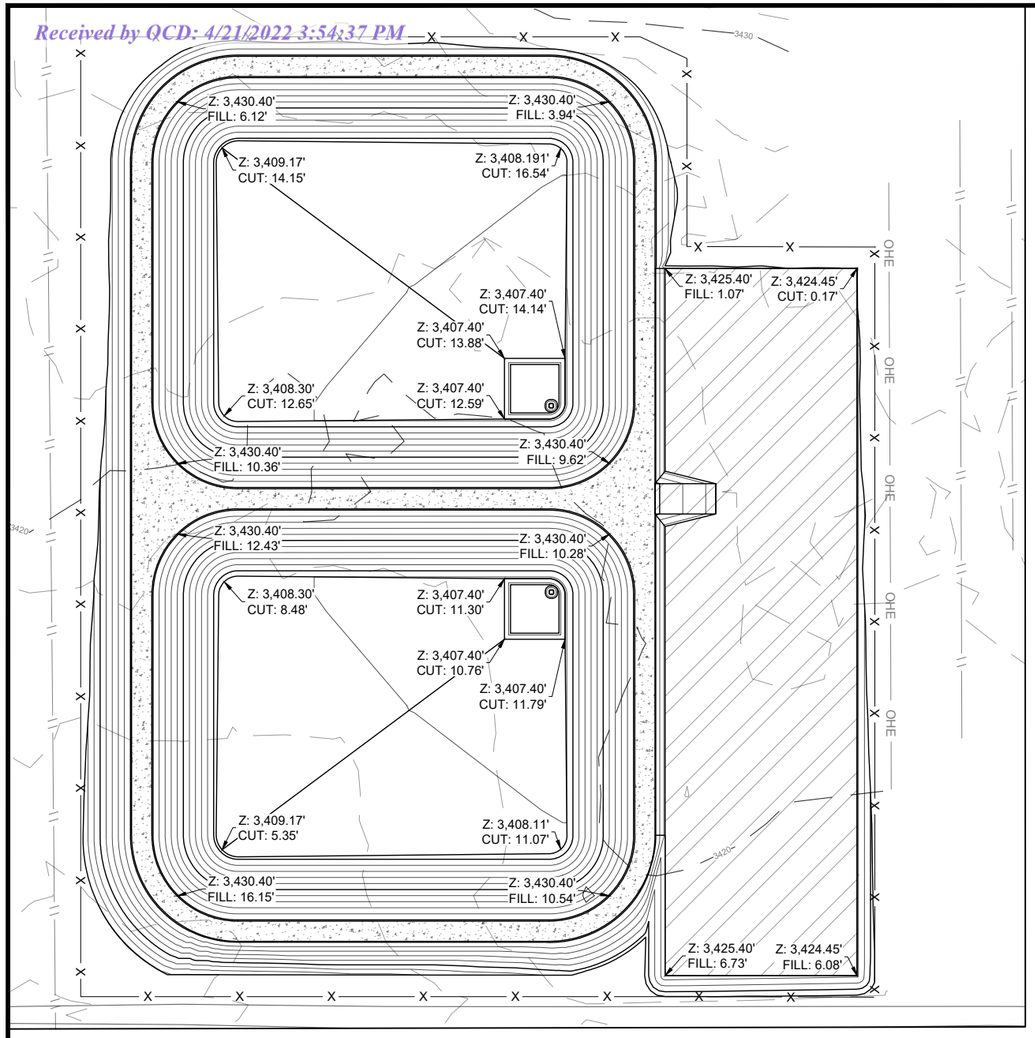
MERCHANT SOUTH REUSE PIT

CENTENNIAL RESOURCE DEVELOPMENT, INC.

COURTNEY C. COATES
NEW MEXICO
24108
04/08/22
PROFESSIONAL ENGINEER

DATE:	04/08/22
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	1" = 100'
SHEET:	3 OF 8

REVISION:	
XXX	XX/XX/XXXX
XXX	XX/XX/XXXX
XXX	XX/XX/XXXX



SCALE: 1" = 150'

0' 75' 150'

Description		Unit Quantity	Unit
Liner Areas			
	Out-Slope Area	97,540	SQ. FT.
	Pond Area	410,745	SQ. FT.
	Rub Sheet	37,590	SQ. FT.
Piping			
	6" HDPE Casing Pipe	160	LN. FT.
	4" HDPE Collection Pipe	855	LN. FT.
	12" HDPE Suction line	750	LN. FT.
Roads			
	Berm Drive (6" Gravel)	66,660	SQ. FT.
Fence			
	5 Strand Barbed Wire Fence	3,700	LN. FT.
Mass Grading			
	Clearing and Grubbing	13.97	ACRE
	Grading	92,955.00	CU. YD.

EARTHWORK QUANTITIES

CUT VOLUME:	100,585 YD^3
FILL VOLUME:	86,825 YD^3
TOPSOIL (6" STOCKPILED):	12,070 YD^3
TOTAL (EXPORT):	1,690 YD^3
TOTAL GRADING AREA:	14.96 ACRES

*VOLUMES ASSUME A FILL FACTOR OF 1.15

POND SUMMARY

MAX VOLUME:	552,599.78 BBLS
MAX AREA:	4.33 ACRES
MAX ELEVATION OF POND:	3,430.40 FT
3' FREEBOARD ELEVATION:	3,427.40 FT
VOLUME AT FREEBOARD:	455,577.54 BBLS

INFORMATION ABOVE IS IDENTICAL PER POND

ELEV	DEPTH (FT)	AREA (ACRES)	VOLUME (BBLS)	VOLUME (ACRE FT)	VOLUME (CY)	NORTH POND	SOUTH POND
3,405.40	0.00	0.05	0.00	0.00	0.00		
3,405.90	0.50	0.06	215.90	0.03	44.89		
3,406.40	1.00	0.07	458.45	0.06	95.33		
3,406.90	1.50	0.07	729.08	0.09	151.61		
3,407.40	2.00	0.08	1,029.33	0.13	214.04		
3,407.90	2.50	0.68	2,374.57	0.31	493.78		
3,408.40	3.00	1.54	6,654.85	0.86	1,383.83		
3,408.90	3.50	2.12	13,896.73	1.79	2,889.73		
3,409.40	4.00	2.27	22,519.14	2.90	4,682.71		
3,409.90	4.50	2.31	31,401.77	4.05	6,529.79		
3,410.40	5.00	2.35	40,450.03	5.21	8,411.32		
3,410.90	5.50	2.40	49,665.26	6.40	10,327.56		
3,411.40	6.00	2.44	59,048.62	7.61	12,278.77		
3,411.90	6.50	2.48	68,601.44	8.84	14,265.22		
3,412.40	7.00	2.53	78,324.93	10.10	16,287.16		
3,412.90	7.50	2.57	88,220.31	11.37	18,344.83		
3,413.40	8.00	2.62	98,288.85	12.67	20,438.52		
3,413.90	8.50	2.66	108,531.83	13.99	22,568.48		
3,414.40	9.00	2.71	118,950.49	15.33	24,734.97		SUB-GRADE VOLUME 118,950.49 BBLS - 15.33 ACRE-FT SHOWN GRAPHICALLY LEFT
3,414.90	9.50	2.75	129,546.07	16.70	26,938.26		
3,415.40	10.00	2.80	140,319.91	18.09	29,178.60		
3,415.90	10.50	2.85	151,273.33	19.50	31,456.30		
3,416.40	11.00	2.89	162,407.53	20.93	33,771.58		
3,416.90	11.50	2.94	173,723.74	22.39	36,124.71		
3,417.40	12.00	2.99	185,223.19	23.87	38,515.95		
3,417.90	12.50	3.04	196,907.14	25.38	40,945.55		
3,418.40	13.00	3.08	208,776.79	26.91	43,413.76		
3,418.90	13.50	3.13	220,833.48	28.46	45,920.87		
3,419.40	14.00	3.18	233,078.46	30.04	48,467.14		
3,419.90	14.50	3.23	245,513.01	31.64	51,052.82		
3,420.40	15.00	3.28	258,138.38	33.27	53,678.18		
3,420.90	15.50	3.33	270,955.82	34.92	56,343.49		
3,421.40	16.00	3.38	283,966.61	36.60	59,048.99		
3,421.90	16.50	3.43	297,171.98	38.30	61,794.96		
3,422.40	17.00	3.48	310,571.90	40.03	64,581.39		
3,422.80	17.40	3.52	321,431.51	41.43	66,839.57	SUB-GRADE VOLUME 321,431.51 BBLS - 41.43 ACRE-FT SHOWN GRAPHICALLY LEFT	
3,422.90	17.50	3.53	324,165.97	41.78	67,408.19		BREACH VOLUME 336,627.06 BBLS - 43.39 ACRE-FT SHOWN GRAPHICALLY LEFT
3,423.40	18.00	3.58	337,956.79	43.56	70,275.90		
3,423.90	18.50	3.63	351,946.65	45.36	73,185.00		
3,424.40	19.00	3.68	366,137.53	47.19	76,135.90		
3,424.90	19.50	3.74	380,530.52	49.05	79,128.83		
3,425.40	20.00	3.79	395,126.94	50.93	82,164.05		
3,425.90	20.50	3.84	409,928.23	52.84	85,241.89		
3,426.40	21.00	3.90	424,936.08	54.77	88,362.67		
3,426.90	21.50	3.95	440,152.30	56.73	91,526.78		
3,427.40	22.00	4.00	455,577.54	58.72	94,734.36		
3,427.90	22.50	4.06	471,213.01	60.73	97,985.65		
3,428.40	23.00	4.11	487,060.02	62.78	101,280.94		
3,428.90	23.50	4.17	503,120.24	64.85	104,620.55		
3,429.40	24.00	4.22	519,395.01	66.95	108,004.79		
3,429.90	24.50	4.28	535,886.80	69.07	111,434.14		
3,430.40	25.00	4.33	552,599.78	71.22	114,909.50	BREACH VOLUME 134,146.03 BBLS - 17.29 ACRE-FT SHOWN GRAPHICALLY LEFT	

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FIRM NO. 18409

POND CALCULATIONS

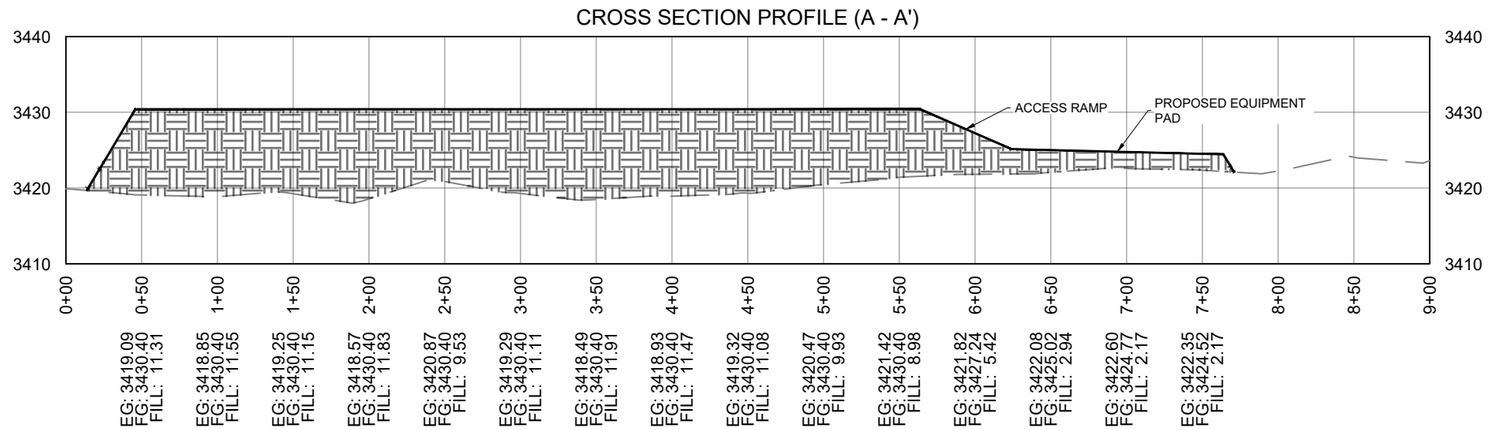
MERCHANT SOUTH REUSE PIT

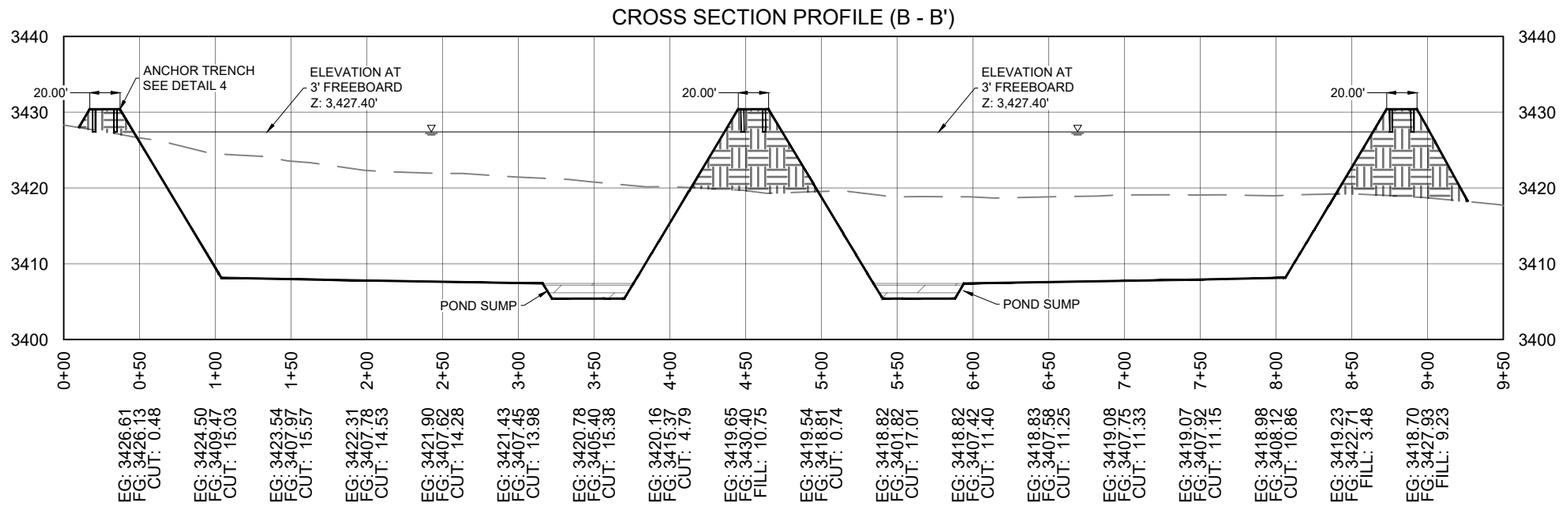
CENTENNIAL RESOURCE DEVELOPMENT, INC.

COURTNEY C. COATES
NEW MEXICO
24108
04/08/22
PROFESSIONAL ENGINEER

DATE:	04/08/22
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	1" = 150'
SHEET:	4 OF 8

REVISION:	
XXX	XX/XX/XXXX
XXX	XX/XX/XXXX
XXX	XX/XX/XXXX





SCALE: 1" = 20'
0' 10' 20'
VERTICAL SCALE

SCALE: 1" = 100'
0' 50' 100'
HORIZONTAL SCALE

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POND CROSS SECTION PROFILES

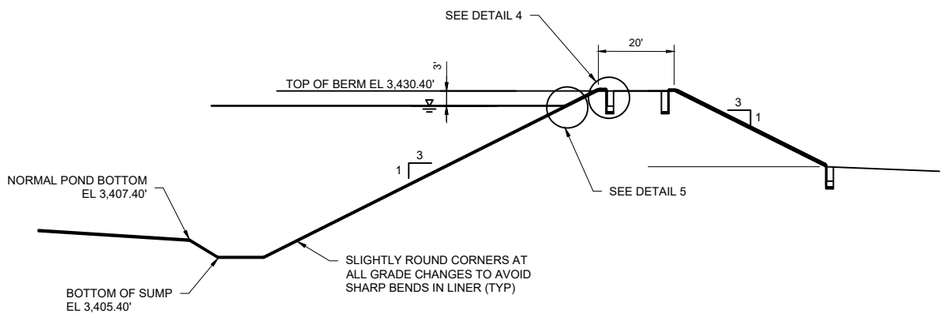
MERCHANT SOUTH REUSE PIT

CENTENNIAL RESOURCE DEVELOPMENT, INC.

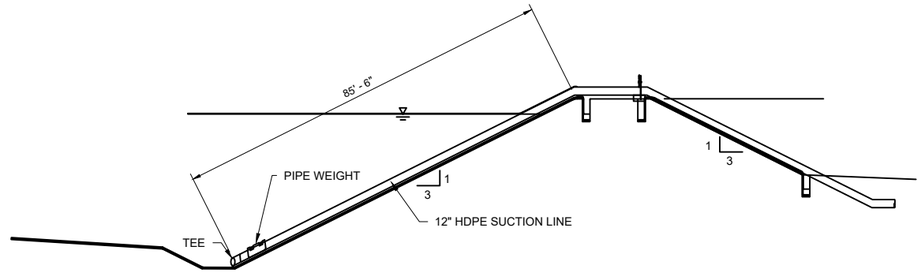
COURTNEY C. COATES
NEW MEXICO
24108
04/08/22
PROFESSIONAL ENGINEER

DATE:	04/08/22
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	1" = 100'
SHEET:	5 OF 8

REVISION:		
XXX	XX/XX/XXXX	
XXX	XX/XX/XXXX	
XXX	XX/XX/XXXX	

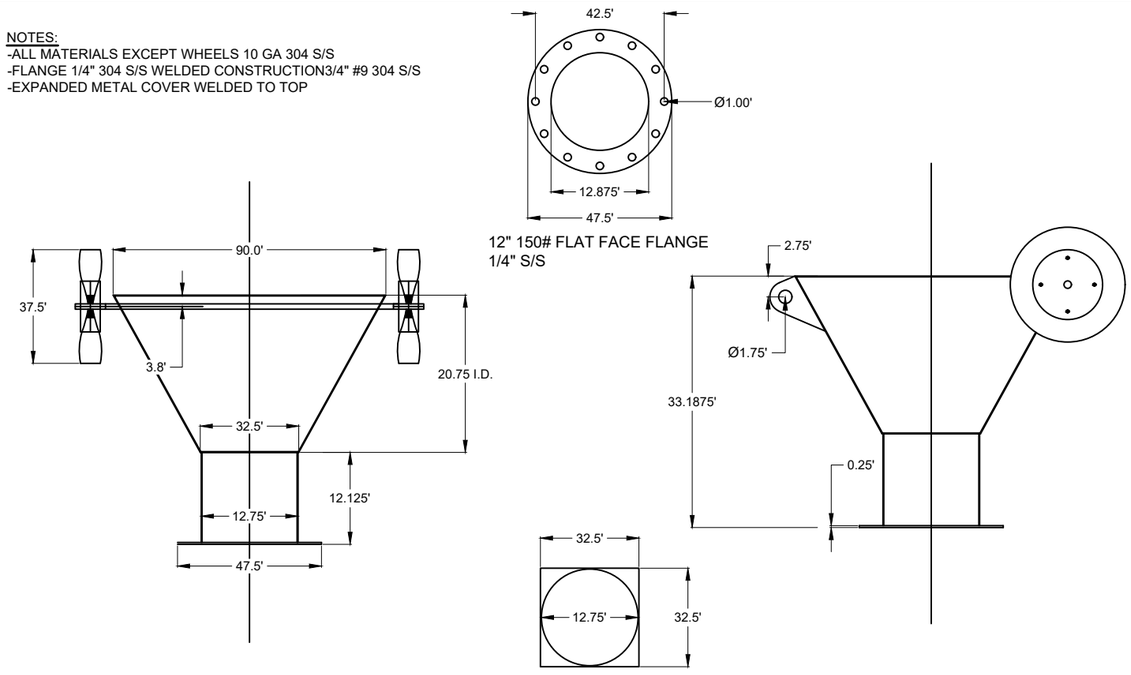


1 TYPICAL BERM SECTION
NTS

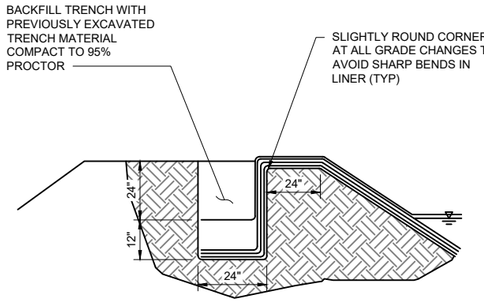


2 SUCTION PIPE SECTION
NTS

NOTES:
-ALL MATERIALS EXCEPT WHEELS 10 GA 304 S/S
-FLANGE 1/4" 304 S/S WELDED CONSTRUCTION3/4" #9 304 S/S
-EXPANDED METAL COVER WELDED TO TOP



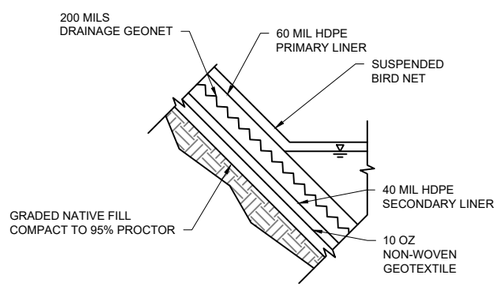
3 SUCTION FUNNEL
NTS



NOTES:

1. AMOUNT OF LAYERS WILL VARY BY POND TYPE AND WHERE A RUB SHEET IS UTILIZED.

4 TYPICAL ANCHOR TRENCH
NTS



5 BRINE WATER LINER SYSTEM
NTS

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DETAILS (1 OF 3)

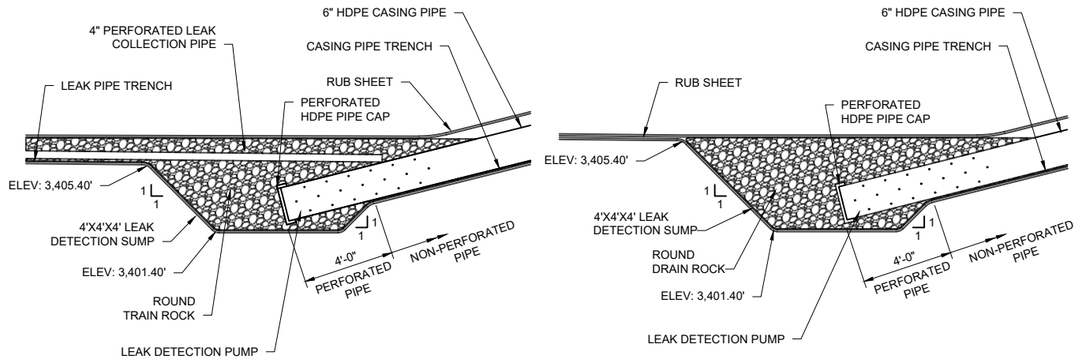
MERCHANT SOUTH REUSE PIT

CENTENNIAL RESOURCE DEVELOPMENT, INC.

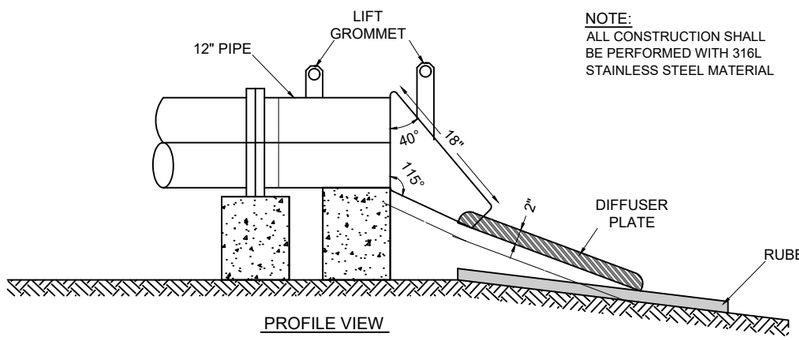
COURTNEY C. COATES
NEW MEXICO
24108
04/08/22
PROFESSIONAL ENGINEER

DATE:	04/08/22
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	N/A
SHEET:	6 OF 8

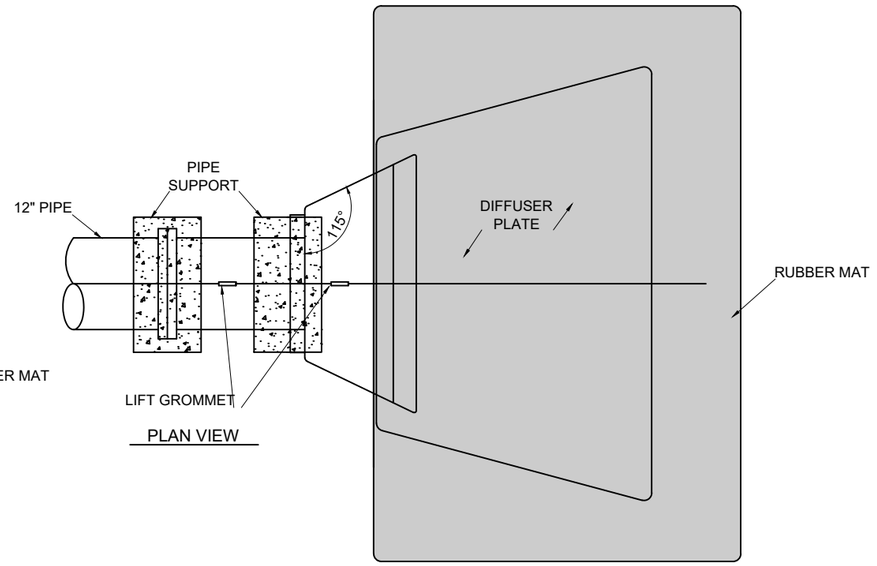
REVISION:		
XXX	XX/XX/XXXX	
XXX	XX/XX/XXXX	
XXX	XX/XX/XXXX	

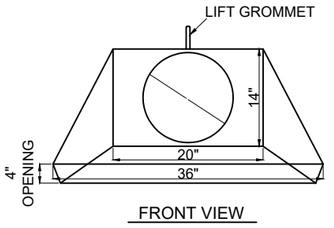


6 LEAK DETECTION SUMP
NTS



NOTE:
ALL CONSTRUCTION SHALL BE PERFORMED WITH 316L STAINLESS STEEL MATERIAL





7 POND FILL APPARATUS
NTS

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DETAILS (2 OF 3)

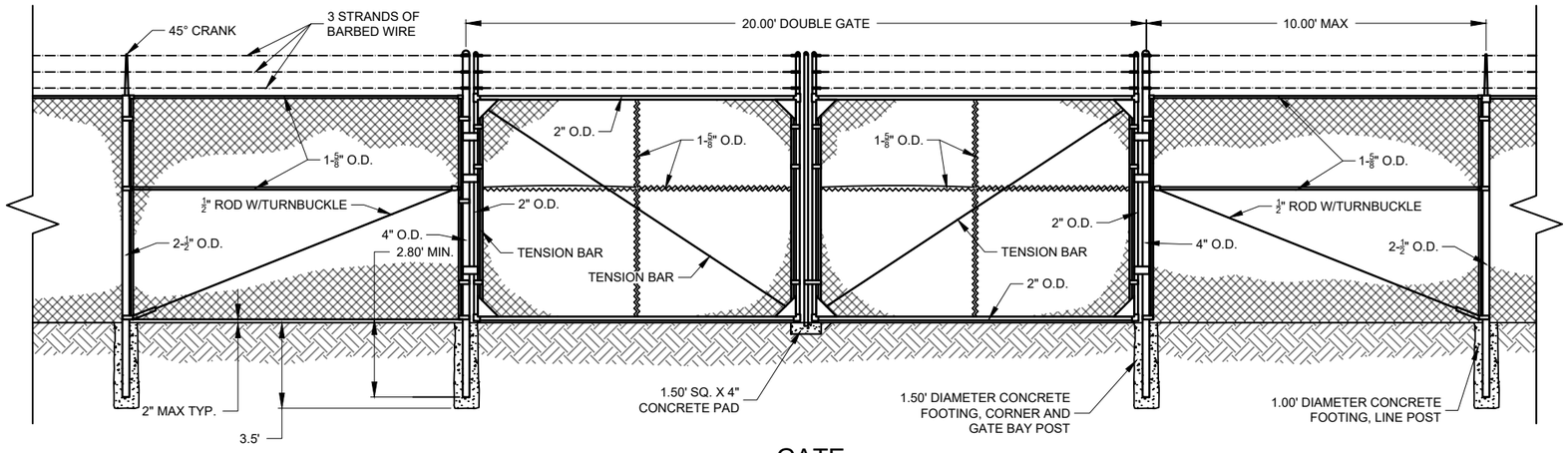
MERCHANT SOUTH REUSE PIT

CENTENNIAL RESOURCE DEVELOPMENT, INC.

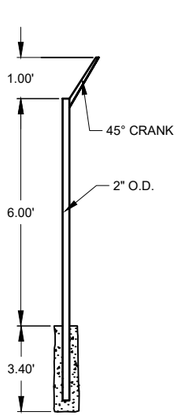
COURTNEY C. COATES
NEW MEXICO
#24108
04/08/22
PROFESSIONAL ENGINEER

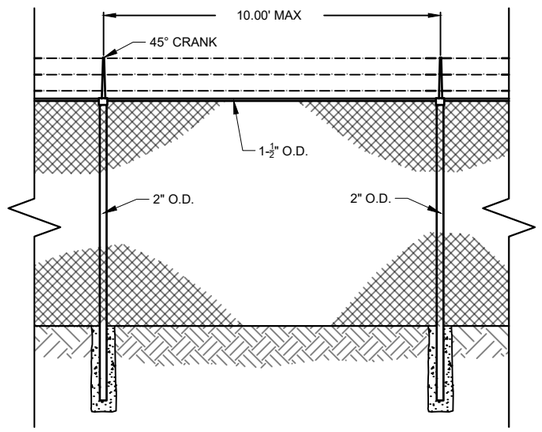
DATE:	04/08/22
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	N/A
SHEET :	7 OF 8

REVISION:		
XXX	XX/XX/XXXX	XX/XX/XXXX
XXX	XX/XX/XXXX	XX/XX/XXXX
XXX	XX/XX/XXXX	XX/XX/XXXX

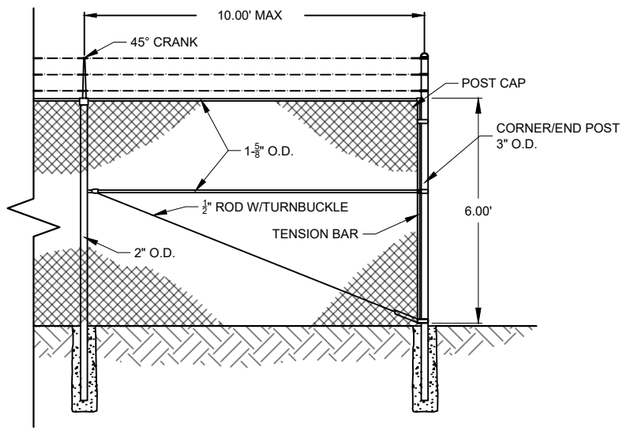


GATE





UNREINFORCED SECTION



CORNER SECTION

PERMANENT 6' CHAINLINK FENCE WITH BARBED WIRE DETAIL

8 NTS

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DETAILS (3 OF 3)

MERCHANT SOUTH REUSE PIT

CENTENNIAL RESOURCE DEVELOPMENT, INC.

COURTNEY C. COATES
NEW MEXICO
24108
04/08/22
PROFESSIONAL ENGINEER

DATE:	04/08/22
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	N/A
SHEET:	8 OF 8

REVISION:	
XXX	XX/XX/XXXX
XXX	XX/XX/XXXX
XXX	XX/XX/XXXX

Liner Installation

Installation Procedure

(This is a "Layman's" guide specific instructions follow as determined by IAGI)

1. Mobilize equipment and crew to location.
2. Once at location before any work is done complete a "JSA" and an equipment check list.
3. Inspect subgrade to determine if it is acceptable to begin work.
4. Begin excavation a 2'x2' anchor trench around the pits perimeter once a line locate has been completed
5. Once subgrade is accepted and before liner is deployed pull samples from one of the rolls to be used and test welders and seam quality (samples will be kept for QAQC documentation).
6. Anytime the welders set for more than two hours or a notable change in temperature occurs, the welders must be retested (samples will be kept for QAQC documentation)
7. The deployment direction will be determined by the direction of the wind on the first day, panels will be deployed moving in the direction that puts the wind at the back of the installer so that it is less likely for wind to get under the material and create air pockets, and unnecessary wrinkles.
    a. NOTE: You must also look at the forecast and consider any changing wind directions.
8. The first panel will be laid across the width of the pit five feet from the toe, the panel will be "squared" up with the pit and secured in place with the sand bags.
9. You then will begin end cap deployment. Panels will be pulled 3-5 feet past the first toe pull that was installed, corners will be "cut in" so that there are no perpendicular welds on the wall after end cap is completed.
10. Once the end cap is complete proceed with the floor installation.
    a. Note: For each panel pull overlap and adjust from there for the welder tract
    b. Note: Each pull will be pulled out to account for the current wind direction. Make sure that the end flap is not in the wind, if needed lift the flap of the installed panel and pull underneath it.
11. Complete the second end cap the same as in #8
12. If the pit is a "multi-layer" pit, or the customer has requested air channel testing you will now begin the QC and air test's.
    a. All extrusion welds will be Vacuum tested
    b. All testing will be done in accordance to IAGI standards
13. Net will now be installed in the floor using zip ties every 6" to secure panels together
14. Secondary layer will be installed in the same manner as # 4-11
15. "Dump Pads" or "Rub Sheets" will be installed in the requested location of the customer and will be alternate in color to the main liner. They will be extruded fully.
16. Sand bags will be installed around the entire toe of the pit to ballast the pit until water is available.
17. Documentation will be done throughout the installation, noting the roll numbers, and length of each panel. All repairs will also be documented.

Patriot Environmental, LLC
220 W. Carl Hubbell Blvd. # 671
Meeker, OK 74855

Bonding

4.

Bonding:

☒ Covered under bonding pursuant to 19.15.8 NMAC per 19.15.34.15(A)(2) NMAC **(These containments are limited to only the wells owned or operated by the owners of the containment.)**

☐ Bonding in accordance with 19.15.34.15(A)(1). Amount of bond $_____ **(work on these facilities cannot commence until bonding amounts are approved)**

☐ Attach closure cost estimate and documentation on how the closure cost was calculated.

ONLINE Version

NEW MEXICO STATE LAND OFFICE – Oil, Gas, and Minerals Division

BOND FOR CONTRACT PERFORMANCE AND SURFACE OR IMPROVEMENT DAMAGE

Surface Improvement Damage Megabond

BOND NO. LPM9260153
(For use of Surety Company)

BOND NO. _____
(For use of State Land Office)

Know all men by these presents

Centennial Resource Production, LLC., as **Principal,**

and Fidelity and Deposit Company of Maryland, as **Surety,** a corporation organized,

existing and doing business under and by virtue of the laws of the State of Maryland and

authorized to transact a surety business in the State of New Mexico, are held and firmly bound unto the New Mexico Commissioner of Public Lands in the sum of **Twenty-five Thousand Dollars ($25,000)** for the following uses:

1. For the use and benefit of the Commissioner, to secure the performance of said Principal as lessee under one or more state leases or permits for minerals, oil and gas, coal or geothermal resources or as holder under one or more state rights-of-way or easements which Principal has heretofore executed or may hereafter execute with the Commissioner; and

2. For the use and benefit of the Commissioner, state surface lessees, state land contract purchasers, state patentees, and their successors and assigns, to pay for damages to the surface of lands subject to a state lease or permit for minerals, oil and gas, coal or geothermal resources or a state right-of-way or easement held by Principal, or for damages to surface improvements located thereon, suffered by reason of Principal's operations under a state lease or permit for minerals, oil and gas, coal or geothermal resources or under a state right-of-way or easement.

For the payment of said sum, well and truly to be made, Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

The conditions of the foregoing obligations are:

1. If the above bound Principal or its successors or assigns shall well and truly perform and keep all terms, covenants, conditions, and requirements of all state leases for minerals, oil and gas, coal or geothermal resources and of all state rights-of-way and easements heretofore or hereafter executed by the Commissioner and Principal, including the payment of royalties when due and compliance with all established mining plans; and

2. If Principal or its successors or assigns shall in all respects make good and sufficient recompense, satisfaction or payment to the Commissioner of Public Lands for damages to the surface of lands subject to a state lease or permit for minerals, oil and gas, coal or geothermal resources or a state right-of-way or easement held by Principal and for damages to livestock, water, crops, tangible improvements or surface improvements of any kind located thereon suffered by reason of Principal's operations under such state lease, permit, right-of-way or easement heretofore or hereafter executed by the Commissioner and Principal;

THEN, the obligation to pay the sum of Twenty-five Thousand Dollars ($25,000) shall be null and void.

If, however, Principal shall default or otherwise fail in performance under such state lease, permit, right-of-way or easement, including the failure to pay royalties when due or to comply with established mining plans, or if Principal shall fail or refuse to make good and sufficient recompense, satisfaction or payment to the Commissioner for damages to the surface of the above designated lands or to improvements located thereon, then the obligation to pay said sum shall remain in full force and effect.

The liability of Surety upon this bond shall not expire upon the termination of any state lease or permit or any

renewal or extension thereof for minerals, oil and gas, coal or geothermal resources or any state right-of-way or easement or any renewal or extension thereof which Principal or its successors or assigns has heretofore executed or may hereafter execute with the Commissioner, but shall be and remain in full force and effect until released in writing by the Commissioner of Public Lands.

Principal and Surety further agree that in the event an action is brought on this bond and a court of competent jurisdiction determines Principal or Surety is in breach of the agreements contained in this bond, Principal or Surety or both of them shall pay to the Commissioner the costs associated with the recovery of the amounts due hereunder, including reasonable attorneys' fees.

This bond is executed pursuant to the laws of the State of New Mexico, including Sections 19-8-24, 19-9-12, 19-10-26, 19-13-19, and 46-6-1 through -9, NMSA 1978.

The premium for which this bond is written is $375.00 *Dollars.*

In witness whereof we hereunto set our hands this 11th *day of* July, *20* 17.

Centennial Resource Production, LLC.	Fidelity and Deposit Company of Maryland
PRINCIPAL	*SURETY*
1001 17th St, Flr 18, Denver, CO 80202	1299 Zurich Way, Schaumburg, IL 60196
Address	*Address*
BY [signature]	*BY* [signature]
Signature	*Attorney-in-Fact* *Signature*
Chief Operating Officer	Desiree E. Westmoreland
Title	
(Note: Principal, if corporation, affix Corporate seal here.)	*(Note: Corporate surety, affix Corporate seal here.)*

ACKNOWLEDGMENT FORM FOR NATURAL PERSONS

STATE OF _____)
) *ss.*
COUNTY OF _____)

On this _____ *day of* _____, *20*_____.

before me personally appeared _____, *to me known to be the person(s) described in and who executed the same as (his, her, their) free act and deed.*

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

_____	_____	_____
My commission expires	*Notary Public name*	*Signature, notary*

(Notary Seal)

ACKNOWLEDGMENT FORM FOR ~~CORPORATION~~ LIMITED LIABILITY COMPANY SK

STATE OF COLORADO)
) *ss.*
COUNTY OF DENVER)

On this 13th *day of* July, *20* 17,
before me personally appeared SEAN S Smith, *to me personally known, who, being by me duly sworn, did say that s/ he is* CHIEF OPERATING OFFICER *of* CENTENNIAL RESOURCE PRODUCTION, LLC
and that this instrument was signed and sealed on behalf of said ~~corporation~~ LIMITED LIABILITY COMPANY *by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said ~~corporation~~* LIMITED LIABILITY COMPANY SK.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

05-11-2018 — *My commission expires*
Julie A. Hinkle — *Notary Public name*
Signature notary

JULIE A HINKLE (Notary Seal)
Notary Public
State of Colorado
Notary ID 20064018287
My Commission Expires May 11, 2018

ACKNOWLEDGMENT FORM FOR CORPORATE SURETY

STATE OF Kansas)
) *ss.*
COUNTY OF Sedgwick)

On this 11th *day of* July, *20* 17,
before me personally appeared Desiree E. Westmoreland, *to me personally known, who, being by me duly sworn, did say that s/ he is* Attorney-in-Fact *of* Fidelity and Deposit Company of Mary land
and that this instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

1/11/21 — *My commission expires*
Myriah Valdivia — *Notary Public name*
Myriah Valdivia — *Signature, notary*

(Notary Seal)

MYRIAH VALDIVIA
Notary Public - State of Kansas
My Appt. Expires 1/11/2021

Note: Corporate surety, attach power of attorney.

APPROVED *this* _____ *day of* _____, *20*_____.

_____
COMMISSIONER OF PUBLIC LANDS

NOTE: File <u>before</u> development or operations are commenced, with:

Commissioner of Public Lands
New Mexico State Land Office, OGMD
P.O. Box 1148 *or* *310 Old Santa Fe Trail*
Santa Fe, New Mexico 87504-1148 *Santa Fe, NM 87501-2708*

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **GERALD F. HALEY, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Bret S. BURTON, Tim H. HEFFEL, Desiree E. WESTMORELAND, Timothy Craig SMITH, David B. McKINNEY, Todd Alan RAMBO and Myriah A. VALDIVIA, all of Wichita, Kansas, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND,** this 7th day of March, A.D. 2017.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____ _____

Secretary — *Eric D. Barnes*

Vice President — *Gerald F. Haley*

State of Maryland
County of Baltimore

On this 7th day of March, A.D. 2017, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **GERALD F. HALEY, Vice President, and ERIC D. BARNES, Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Maria D. Adamski, Notary Public
My Commission Expires: July 8, 2019

POA-F 076-6692B

Sign

6.

Signs:

☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

48”x48”

CENTENNIAL

MERCHANT SOUTH REUSE WATER PIT
SE/SE SEC. 26 – T22S-R34E
LEA COUNTY, NM

32.357921°, -103.433087°

Variances

7.

Variances:

Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.

Check the below box only if a variance is requested:

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.

If a Variance is requested, it must be approved prior to implementation.

Variance Request for Bird Deterrent

Re: Merchant Reuse Water Recycling Facility and Containment Pit

Centennial Resource Development, Inc. would like to request the OCD's approval for a variance regarding bird deterrents at the location described above. Centennial proposes to utilize the Bird-X Mega Blaster Pro, creating intermittent distress calls to create a "danger zone" that frightens native and or migrating birds and wildlife from the water recycling facility and containment pit area. Two units would be installed, each containing 2 built-in high output amplifiers and housing 20 speakers, capable of producing up to 125 decibels and a frequency range from 2,000 – 10,000 Hz.

Please see the details below.

Mega Blaster Pro – Specs:

- Coverage: Up to 30 acres from a single unit
- Box dimensions: Box 1: 23" x 18" x 16" (23 lbs., unit & speaker), Box 2: 32" x 24" x 5" (17 lbs., solar panel)
- Power Input: 12vDC (3 amps) via solar panel and battery
- Sound Pressure: up to 125 decibels
- Frequency: 2,000–10,000 Hz
- Library of predator calls
- Full customizable to the species of bird in our area of operation
- Compliance: UL & CE listed
- EPA Est. 075310-OR-001

- Included: Generating unit with two built-in high-output amplifiers, 20-speaker tower with audio cables, 40-watt solar panel, battery clips, & all mounting hardware
- The unit is typically mounted with a tripod pole setup. The tripod would be a typical sturdy tripod that would be used to support a large PA speaker. The pole that would fit into the top of the tripod that the speaker tower, control box, and solar panel would mount to should be ¾" in diameter and be 6-12 feet tall. The taller the pole the greater the distance the sound will travel.
- The effective range of the Mega Blaster Pro is 30 acres, in a circular coverage pattern around the 20-speaker tower with a radius of about 666 feet. The 20-speaker tower features 5 speakers pointing in each direction to create the even dispersal

This is the typical configuration Centennial proposes to utilize at the Merchant Water Recycling Facility and Containment Pit.

EFFECTIVE WIDE-AREA BIRD CONTROL!

Mega Blaster PRO
sonic bird repeller
covers 30 acres!

- NEMA Rated Case
- Crystal-Clear Digital Sounds

Mega Blaster PRO uses intermittent distress calls to create a "danger zone" that frightens infesting birds away for good.

PREDATOR cries help scare all the birds.

- *Laughing Gull*
- *Ring-Billed Gull*
- *Herring Gull*
- *California Gull*
- *Black-Headed Gull*
- *Glaucous-Winged Gull*
- *Double Crested Cormorant*
- *Marsh Hawk*

Perfect for Landfills, Airfields, Fish Farms, Farm Fields or any multi-acre facility.

Our most powerful system features two high-output amplifiers that drive our specially-designed 20 speaker tower. The intense sound output covers up to 30 acres (12 hectares).

It features solid-state electronics mounted inside a NEMA-type control box, suitable for most any application.

The generating unit mounts easily to a post or pole using the included hardware. The unit comes pre-recorded in four different configurations for the most common bird infestations.

Choose any or all of the 8 sounds, including predators to give the birds even more of a sense of danger. Customize by choosing volume and silent time between sounds.

CONFIGURATIONS AVAILABLE:

- Agricultural
  # MEGA-AG
- Crow / Raven
  # MEGA-CROW
- Woodpecker
  # MEGA-WP
- Marine / Gull
  # MEGA-MAR

Mega Blaster PRO

Complete system includes the generating unit with two built-in high-output amplifiers, 20-speaker tower with audio cables, 40 watt solar panel, battery clips and all mounting hardware.

BIRD-X

The Bird Control 'X'-Perts

NOTE: This unit is capable of sound output up to 125 decibels. **HEARING PROTECTION IS RECOMMENDED.**

HEARING PROTECTION RECOMMENDED

Mega Blaster Pro

Effective Wide-Area Bird Control:

Mega Blaster PRO sonic bird repeller covers 30 acres!

Mega Blaster PRO uses intermittent distress calls to create a "danger zone" that frightens infesting birds away for good.
PREDATOR cries scare all pest birds.

Our most powerful system features two high-output amplifiers that drive our specially-designed 20 speaker tower. The intense sound output covers up to 30 acres (12 hectares). It features solid-state electronics mounted inside a NEMA-type control box, suitable for almost any large outdoor application.
The generating unit mounts easily to a post or pole using the included hardware. The unit comes pre-recorded in four different configurations for the most common bird infestations. Choose any or all of the 8 sounds, including predators to give the birds even more of a sense of danger. Customize by choosing volume and silent time between sounds.

Birds are stubborn and territorial, returning year after year. Mega Blaster Pro uses their memory against them and scares them away repeatedly so they learn not to return.

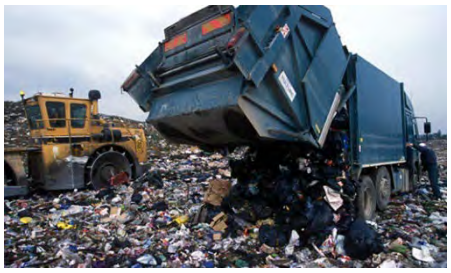
NOTICE: This unit is capable of sound output up to 125 decibels. HEARING PROTECTION IS RECOMMENDED.

Coverage: up to 30 acres from single unit.
Pests: gulls and marine birds, crows, ravens, starlings, blackbirds, grackles, woodpeckers, ring-billed gull, herring gull, california gull, black-headed gull, glaucous-winged gull, double crested cormorant
Uses: any multi-acre facility including landfills, airfields, fish farms, beaches, lakes, parks, large estates.

Configuration Options:

- Agricultural # MEGA-AG
- Crow / Raven # MEGA-CROW
- Woodpecker # MEGA-WP
- Marine / Gull # MEGA-MAR

SPECIFICATIONS:
Combined Shipping Weight: 26 pounds
Coverage: To 30 acres(12 hectares)
Power Input: 12VDC (3 AMPS) via Solar Panel and Battery
Sound Pressure: up to 125 decibels
Frequency: 2,000 - 10,000 Hz
Compliance: UL / CUL listed; EPA Est. 075310-OR-001
Included: Complete system includes the generating unit with two built-in high-output amplifiers, 20-speaker tower with audio cables, 40 watt solar panel, battery clips and all mounting hardware.
Origin: Proudly made in the USA



ELECTRONIC SONIC DEVICES

Variance Request for Fencing

Re: Merchant South Containment and Recycle Facility

Centennial Resource Development, Inc. would like to request the OCD's approval for a variance regarding fencing at the location described above. Centennial proposes to utilize a 6-foot galvanized chain link fence with 3 strands of barb wire on the top of the chain-link fencing. The 3 strands of barb wire will be mounted on a galvanized barb bracket with a 45-degree angle pointing towards the outside of the location. Each post hole will be drilled via an auger to ensure a consistent and accurate depth and will be set in concrete. Six 18" x 18" swinging gates will be installed at ground level for temporary waterlines to pass through. The gates will remain closed as depicted in the pictures below to ensure no wildlife can access the containment site when no waterlines are present.

Please see the details below.

This is the typical configuration Centennial proposes to utilize at the Merchant South Containment and Recycle Facility.

Variance Request for Secondary Liner

Re: Merchant South Reuse Water Recycling Facility and Containment Pit

Centennial Resource Development, Inc. would like to request the OCD's approval for a variance regarding the secondary liner at the location described above. Centennial proposes to utilize 40-mil HDPE for the secondary liner, in lieu of a 30-mil LLDPE string-reinforced liner. The standard LLDPE string-reinforced liner has a hydraulic conductivity no greater than $1x10^{-9}$ cm/sec and meets or exceeds the EPA SW-846 method 9090A per 19.15.34.12 NMAC.

The proposed 40-mil HDPE Geomembrane liner has a typical Hydraulic Conductivity no greater than 10^{-12} cm/sec, per the attached letter from Raven Industries, Inc. This hydraulic conductivity of no greater than 10^{-12} cm/sec exceeds the standard 30-mil LLDPE string-reinforced liner and EPA SW-846 method 9090A.

RAVEN INDUSTRIES INC.
Statement of Performance

SUBJECT: Raven HD400 and HD600 geomembrane liners

IN REFERENCE TO: Hydraulic conductivity rating

DATE: April 15, 2022

Raven Industries hereby certifies that our Hydraline HD40 and HD60 polyethylene membranes have hydraulic conductivity of less than 1×10^{-10} cm/sec.

Permeance is calculated from Water Vapor Transmission (WVT) data generated by test method ASTM E96 *Water Vapor Transmission of Materials* or F1249 *Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor*. Using this data, specific hydraulic conductivity rates for the two materials are as follows:

Hydraline HD40	2.10×10^{-12} cm/sec
Hydraline HD60	4.08×10^{-13} cm/sec

Clint Boerhave

Clint Boerhave
Staff Quality Engineer
Raven Industries - Engineered Films Division

RAVEN

Siting Criteria for Recycling Containment

8.
Siting Criteria for Recycling Containment

Instructions: The applicant must provide attachments that demonstrate compliance for each siting criteria below as part of the application. Potential examples of the siting attachment source material are provided below under each criteria.

General siting	
Ground water is less than 50 feet below the bottom of the Recycling Containment. NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; written approval obtained from the municipality	☐ Yes ☒ No ☐ NA
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Minerals Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; topographic map	☐ Yes ☒ No
Within a 100-year floodplain. FEMA map	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; aerial photo; satellite image	☐ Yes ☒ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; topographic map; visual inspection (certification) of the proposed site	☐ Yes ☒ No

Souder, Miller & Associates♦201 S. Halagueno St.♦Carlsbad, NM 88220

April 18, 2022

#5E31326-BG1

Mr. JD McGuire
Centennial Resource Development, Inc.
500 W. Illinois Avenue, Suite 500
Midland, Texas 79701

SUBJECT: C-147 Recycling Containment Permit Siting Criteria Attachment, Proposed Merchant South Containment and Recycle Facility, Lea County, New Mexico

Mr. McGuire:

Souder, Miller & Associates (SMA) is pleased to submit the enclosed C-147 Recycling Containment Permit Siting Criteria Attachment, for the Proposed Merchant South Containment and Recycle Facility, located in Lea County, New Mexico. The facility will be located in the E ½ SE ¼ of Section 26, Township 22S, Range 34E, approximately 16.5 miles southwest of the Eunice, New Mexico. The proposed facility will include a lined containment pit and supporting pad.

Below are details on the siting criteria in Section 8 of the C-147 permit. Supporting documentation are included in the Appendices indicated in each siting criteria explanation. Information obtained from the supporting documentation was confirmed during a site visit by Patrick Braley with SMA on April 11, 2022.

8.1 Groundwater is less than 50 feet below the bottom of the recycling containment

The facility is located within the San Simon Swale, a subdivision of the Great Plains physiographic province in Eastern New Mexico. The San Simon Swale is an area of subsidence believed to have formed through erosion and solution-subsidence of the underlying Permian beds, which is infilled with Cenozoic sediments. This infilling has resulted in a very thick package (in excess of 500 feet) of alluvial sediments overlying Triassic-aged redbed units, including the Chinle Formation and the Santa Rosa Sandstone (Nicholson & Clebsch, 1961). Near the proposed facility, the alluvium is estimated to be approximately 950 feet thick and is referred to as the Pecos Valley Alluvium.

Groundwater, as described on lithology logs from recent drilling activities at and near the site (illustrated on Figure 2), was not encountered to a depth of 75 feet below ground surface (bgs), indicating that groundwater elevation at the site is at below 3,345 feet above mean sea level (amsl). The proposed facility is located at an elevation of approximately 3,420 feet above mean sea level, and the base of the containment pond will be installed to a maximum depth of 20 feet bgs, or an elevation of approximately 3,400 ft amsl. As such, groundwater is present at an elevation greater than 50 feet from below the bottom of the proposed facility. Supporting information from nearby New Mexico Office of the State Engineer (NMOSE) registered wells, United States Geological Society (USGS) monitoring wells, and recent lithology logs are included as Appendix A.

8.2 Facility is located within municipal boundary or within a defined fresh water well field

The proposed facility is located approximately 16.5 miles from the nearest municipality (City of Eunice) in an area consisting predominantly of oil and gas development. The proposed facility is not within any defined freshwater field as no municipal water wells are present near the proposed facility location. A vicinity map of the proposed facility on a USGS topographic map is included as Figure 1 and an aerial site map illustrating nearby wells registered with the NMOSE is included as Figure 2.

8.3 Facility is located within an area overlying a subsurface mine

Information from the USGS Topographic map covering the location of the proposed facility and a map from the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) indicates that no subsurface mines or quarries are present within the proposed facility boundaries. There are no quarries or subsurface mines within a one (1) mile radius of the proposed facility boundaries. A vicinity map of the proposed facility on a USGS topographic map is included as Figure 1. A map indicating the location of active mines from the EMNRD website is included as Appendix B.

8.4 Facility is located within an unstable area

The proposed facility is located in generally flat topography with no nearby mapped faults. The USGS Seismic hazard map places the region as a low-risk area for potential earthquakes or other seismic hazards. Additionally, the Bureau of Land Management karst map indicates the site lies within a low karst potential area. As such, SMA believes the proposed facility is not located in an unstable area. A vicinity map of the proposed facility on a USGS topographic map is included as Figure 1, and a geologic map of the area with known faults is included as Figure 3. The seismic hazards map and karst maps are included as Appendix C.

8.5 Facility is located within a 100-year floodplain

The proposed facility is located within FEMA Zone D in an area that is not covered by a printed flood map. Information from the FEMA Floodplain online database indicates that no known 100-year floodplains are present within 1 mile of the proposed facility. A map showing the proposed facility area from the online FEMA Floodplain database is included as Appendix D.

8.6 Facility is located within 300 feet of a continuously flowing watercourse or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake

The nearest significant watercourse is located approximately 1 mile northwest of the proposed facility. A vicinity map of the proposed facility on a USGS topographic map is included as Figure 1, and an aerial photo of the project area is included as Figure 2. The absence of watercourses, lakebeds, sinkholes, and playa lakes in the near vicinity of the proposed facility was confirmed by a site visit conducted by Mr. Patrick Braley of SMA on April 11, 2022.

8.7 Facility is located within 1,000 feet of an existing residence, school, hospital, institution, or church at time of initial inspection

There is no existing residence, school, hospital, institution, or church present within 1 mile of the proposed facility. The immediately surrounding development consists only of existing oil field tank batteries and well pads. A vicinity map of the facility on a USGS topographic map is included as Figure 1, and an aerial photo of the project area is included as Figure 2. The absence of residences, schools, hospitals, churches, or institutions near the proposed facility was confirmed by a site visit conducted by Mr. Patrick Braley of SMA on April 11, 2022.

8.8 Facility is located within 500 feet of a spring or fresh water well in existence at time of initial inspection

The nearest freshwater well registered with the NMOSE or USGS is located just over 1 mile to the northeast of the proposed facility. No springs are indicated on USGS topographic maps within 1,000 feet of the proposed facility. A vicinity map of the proposed facility on a USGS topographic map is included as Figure 1, and an aerial photo of the project area indicating the location of registered wells is included as Figure 2. Supporting information from nearby NMOSE wells and the USGS monitoring wells is included as Appendix A. The absence of springs or drinking water wells near the proposed facility was confirmed by a site visit conducted by Mr. Patrick Braley of SMA on April 11, 2022.

8.9 Facility is located within 500 feet of a wetland

The nearest wetland as mapped by the United States Fish and Wildlife Service (USFWS) is approximately 1,050 feet east of the proposed facility. A map prepared by the US FWS online wetland database is included as Appendix E. The absence of potential wetlands near the proposed facility was confirmed by a site visit conducted by Mr. Patrick Braley of SMA on April 11, 2022.

If there are any questions regarding this report, please contact Heather Woods at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Heather M. Woods, P.G.
Project Geoscientist

Reviewed by:

Reid A. Allan, P.G.
Principal

REFERENCES:

Nicholson, Alexander Jr., and Clebsh, Alfred Jr., Geology and Ground-Water Conditions in Southern Lea County, New Mexico, United States Geological Survey, Ground-Water Report 6, 1961.

ATTACHMENTS:

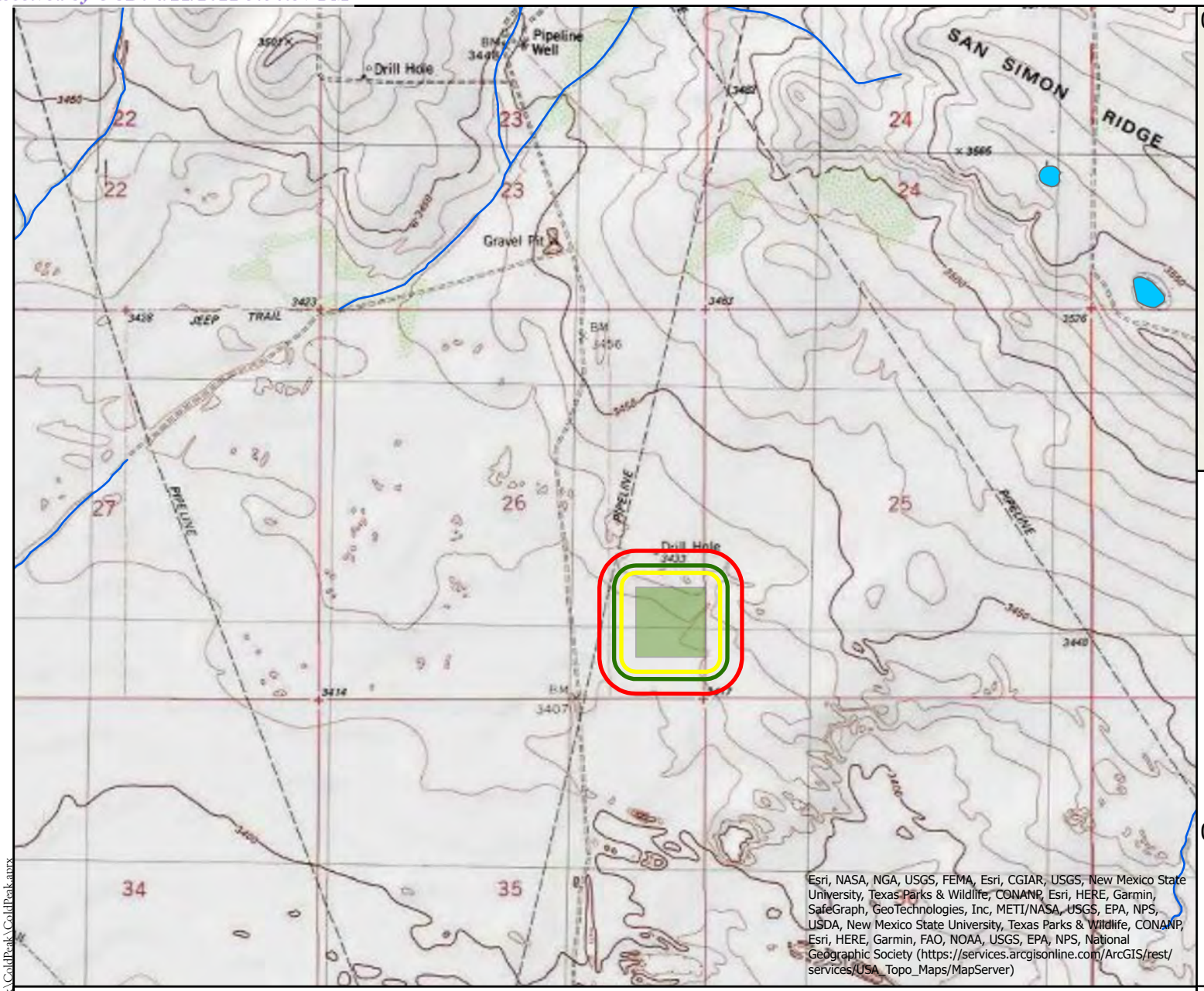
Figures:

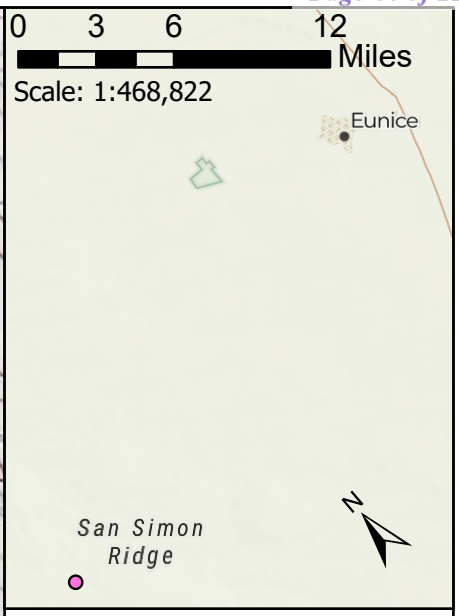
Figure 1: Topographic Site Map
Figure 2: Aerial Site Map
Figure 3: Geologic Map

Appendices:

Appendix A: Groundwater and Well Information
Appendix B: Active Mine Map
Appendix C: USGS Seismic Hazard Map and BLM Karst Map
Appendix D: FEMA Floodplain Map
Appendix E: Wetlands & Critical Habitat Map

FIGURES





Legend

- Stream/Rivers/Canals
- Lakes/Playas
- Recycling Facility
- 200 Foot Radius
- 300 Foot Radius
- 500 Foot Radius
- Recycling Facility

N

0 0.25 0.5 1

Miles

Scale: 1:28,892

Coordinates of Location:
-103.43424W 32.35806N

Topographic Site Map

Merchant South Containment and Recycle Facility - Centennial Resource Development, Inc.

S: 26 T: 22S R: 34E, Lea County, New Mexico

Figure 1

C:\Users\ss\Desktop\GIS\Cold Peak\ColdPeak\ColdPeak.aprx
Date Saved: 4/12/2022

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn Sarahmay Schlea
Date 4/18/2022
Checked
Approved

SMA
Souder, Miller & Associates
Engineering • Environmental
Surveying

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Carlsbad, New Mexico 88221
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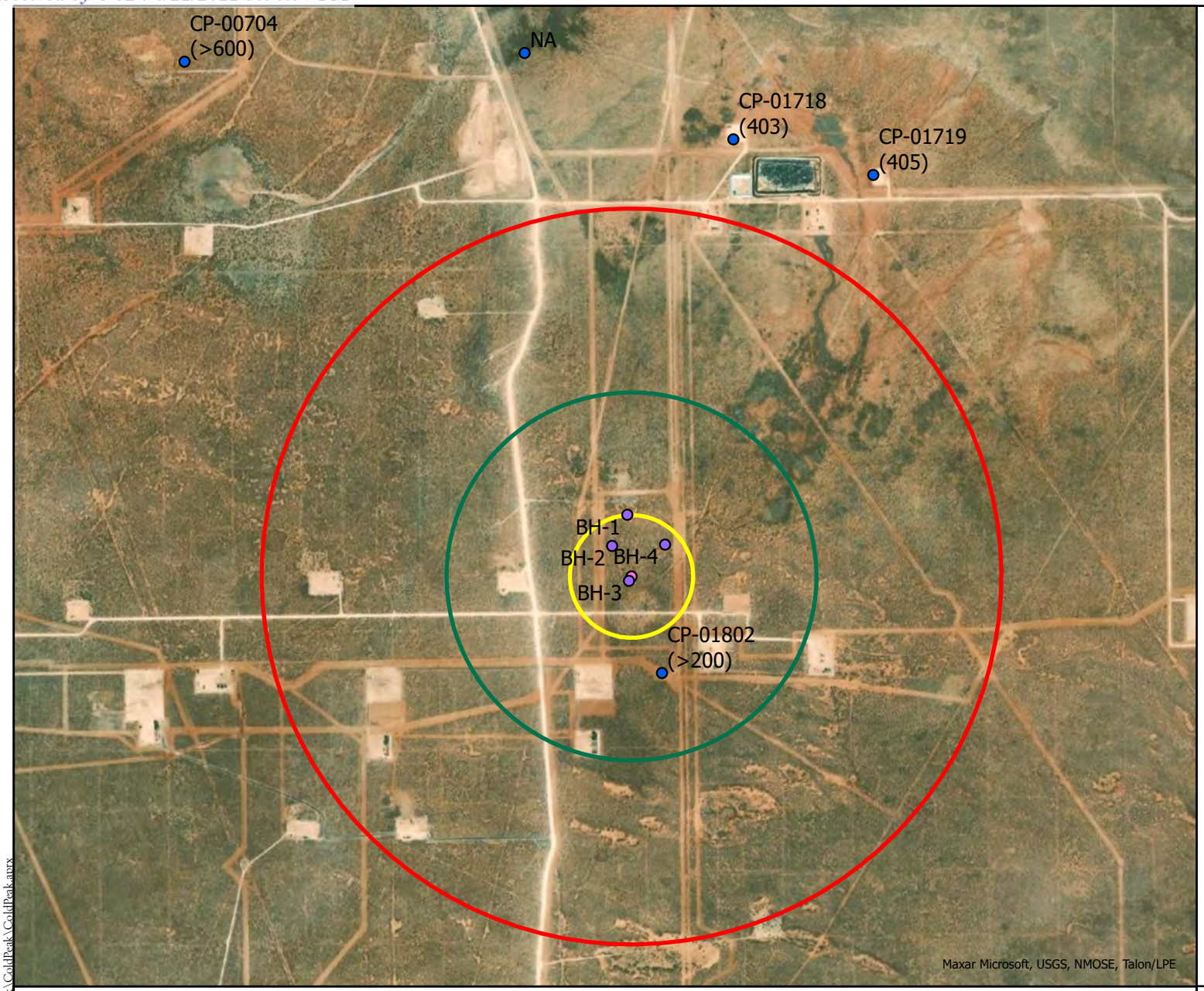

Legend

- Recycling Facility
- Soil Borings
- OSE GW Wells (depth in ft)
- USGS GW Wells (depth in ft)
- 300 Foot Radius
- 0.5 Mile Radius
- 1 Mile Radius

N

0 0.17 0.35 0.7

Miles

Scale: 1:21,517

Coordinates of Location:
-103.43424W 32.35806N

Aerial Site Map

Merchant South Containment and Recycle Facility - Centennial Resource Development, Inc.

S: 26 T: 22S R: 34E, Lea County, New Mexico

Figure 2

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Date Saved: 4/18/2022

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn Sarahmay Schlea
Date 4/19/2022
Checked
Approved

SMA
Souder, Miller & Associates
Engineering • Environmental
Geomatics

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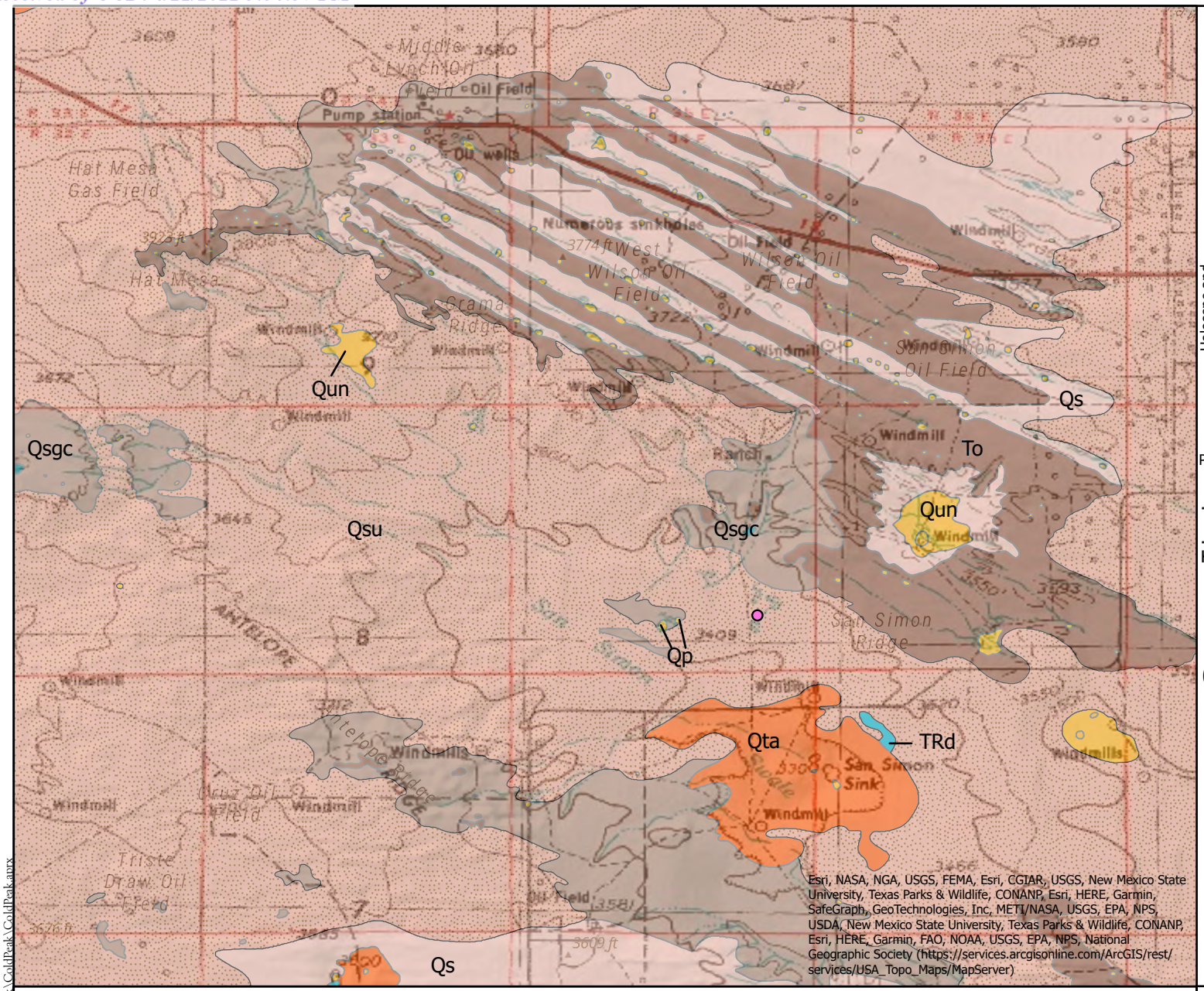

Legend

Recycling Facility

Unit Descriptions

- Holocene
  - Qal - Alluvium
  - Qcd - Eolian Deposits
  - Qsu - WIndblown Sand
  - Qs - Windblown Sand
  - Qsd - Windblown Sand
- Holocene and Pleistocene
  - Qp - Playa Deposits
  - Qcc - Caliche
  - Qsgc - Colluvial Deposits
- Pleistocene
  - Qun - Pond Deposits
  - Qg - Gatuña Formation
  - Qta - Tahoka Formation
- Pliocene
  - To - Ogallala Formation
- Triassic
  - TRc - Chinle Formation
  - TRd - Dockum Group
  - TRs - Santa Rosa Sandstone
- Permian
  - Pru - Rustler Formation
  - Pdl - Dewey Lake Redbeds

0 1.8 3.6 7.2

Miles

N

Scale: 1:217,451

Coordinates of Location:
-103.43424W 32.35806N

Geologic Map

Merchant South Containment and Recycle Facility - Centennial Resource Development, Inc.

S: 26 T: 22S R: 34E, Lea County, New Mexico

Figure 3

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Date Saved: 4/12/2022

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Sarahmay Schlea
Date 4/18/2022
Checked
Approved

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APPENDIX A

GROUNDWATER AND WELL INFORMATION

SOIL BORING / MONITORING WELL LOG

PROJECT: Cold Peak Environmental Lea County Temp Wells
PROJECT NUMBER: 70142.001.01
CLIENT:
BORING / WELL NUMBER: BH-1
TOTAL DEPTH: 200
SURFACE ELEVATION:
GEOLOGIST: J Michalsky
LATITUDE: 32 21' 36.4"N

DRILLING COMPANY: Talon/LPE
DRILLER: J.Michaksky
DRILLING METHOD: Air Rotary
BORE HOLE DIAMETER: 5.75"
SCREEN: Diam. ___ Length _____ Slot Size _____
CASING: Diam. ____ Length _____ Type _____
DATE DRILLED: December 09-10,2022
LONGITUDE: 103 26' 03.7"W

DEPTH (FT.)	Soil Symbol	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT.)
0								0
							Sand, No Odor Pink Sandstone, No Odor	
20						18'		20
							Red Clay and Sand, No Odor	
40								40
60								60
						75'		
80							End of Log	80
100								100
120								120

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT

SOIL BORING / MONITORING WELL LOG

PROJECT: Cold Peak Environmental Lea County Temp Wells
PROJECT NUMBER: 70142.001.01
CLIENT:
BORING / WELL NUMBER: BH-2
TOTAL DEPTH: 200
SURFACE ELEVATION:
GEOLOGIST: J Michalsky
LATITUDE: 32 21' 32.7"N

DRILLING COMPANY: Talon/LPE
DRILLER: J.Michaksky
DRILLING METHOD: Air Rotary
BORE HOLE DIAMETER: 5.75"
SCREEN: Diam. ___ Length _____ Slot Size _____
CASING: Diam. ___ Length _____ Type _____
DATE DRILLED: December 09-10,2022
LONGITUDE: 103 26' 05.9"W

PAGE 1 of 1

DEPTH (FT.)	Soil Symbol	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT.)
0								0
							Sand, No Odor Pink Sandstone, No Odor	
20						18'		20
							Red Clay and Sand, No Odor	
40								40
60								60
						75'		
80							End of Log	80
100								100
120								120

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT

SOIL BORING / MONITORING WELL LOG

PROJECT: Cold Peak Environmental Lea County Temp Wells
PROJECT NUMBER: 70142.001.01
CLIENT:
BORING / WELL NUMBER: BH-3
TOTAL DEPTH: 200
SURFACE ELEVATION:
GEOLOGIST: J Michalsky
LATITUDE: 32 21' 28.5"N

DRILLING COMPANY: Talon/LPE
DRILLER: J.Michaksky
DRILLING METHOD: Air Rotary
BORE HOLE DIAMETER: 5.75"
SCREEN: Diam. ___ Length _____ Slot Size _____
CASING: Diam. ____ Length _____ Type _____
DATE DRILLED: December 16-17,2022
LONGITUDE: 103 26' 03.6"W

DEPTH (FT.)	Soil Symbol	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT.)
0								0
							Sand, No Odor	
							Soft Rock, No Odor	
						15'		
20							Clay, No Ordor	20
						25'		
						30'	Sand, No Odor	
40							Red Clay, No Odor	40
60								60
						75'		
80							End of Log	80
100								100
120								120

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT

SOIL BORING / MONITORING WELL LOG

PROJECT: Cold Peak Environmental Lea County Temp Wells
PROJECT NUMBER: 70142.001.01
CLIENT:
BORING / WELL NUMBER: BH-4
TOTAL DEPTH: 200
SURFACE ELEVATION:
GEOLOGIST: J Michalsky
LATITUDE: 32 21' 32.8"N

DRILLING COMPANY: Talon/LPE
DRILLER: J.Michaksky
DRILLING METHOD: Air Rotary
BORE HOLE DIAMETER: 5.75"
SCREEN: Diam. ___ Length _____ Slot Size _____
CASING: Diam. ___ Length _____ Type _____
DATE DRILLED: December 16-17,2022
LONGITUDE: 103 26' 58.5"W

PAGE 1 of 1

DEPTH (FT.)	Soil Symbol	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT.)
0								0
							Sand, No Odor	
							Soft Rock, No Odor	
						15'		
20							Clay, No Ordor	20
						25'		
						30'	Sand, No Odor	
40							Red Clay, No Odor	40
60								60
						75'		
80							End of Log	80
100								100
120								120

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Poorly graded sand
	Low plasticity clay

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00598 POD1	CP	LE		4	1	23	22S	34E	646480	3583511*	70		
CP 00704	CP	LE		2	4	22	22S	34E	645681	3583097*	600		
CP 01682 POD1	CP	LE	1	2	2	23	22S	34E	647164	3583992	294	42	252
CP 01683 POD1	CP	LE	2	3	2	23	22S	34E	646949	3583562	300		
CP 01684 POD1	CP	LE	2	1	4	23	22S	34E	646932	3583129	300		
CP 01718 POD1	CP	LE	2	3	3	24	22S	34E	647700	3582811	1172	855	317
CP 01719 POD1	CP	LE	4	4	3	24	22S	34E	648215	3582680	1173	838	335
CP 01740 POD1	CP	LE	1	1	1	34	22S	34E	644402	3580765	600	560	40
CP 01802 POD1	CP	LE	2	2	2	35	22S	34E	647437	3580847	200	0	200
CP 01803 POD1	CP	LE	1	1	1	34	22S	34E	644357	3580786	240	180	60
CP 01826 POD1	CP	LE	1	1	1	34	22S	34E	644379	3580778	698	180	518

Average Depth to Water: **379 feet**

Minimum Depth: **0 feet**

Maximum Depth: **855 feet**

Record Count: 11

PLSS Search:

Section(s): 22, 23, 24, 25, 26, 27, 34, 35, 36 **Township:** 22S **Range:** 34E

***UTM location was derived from PLSS - see Help**

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
CP-1802	22472	

WELL OWNER NAME(S)	PHONE (OPTIONAL)
LIMESTONE BASIN PROPERTIES RANCH LLC	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
3300 N A STREET, BLDG 1, STE 220	MIDLAND	TX	79705

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	21	17.43	N
	LONGITUDE	103	25	59.15	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NE 1/4 NE 1/4 NE 1/4 S35 T22S R34E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD1706	BRYCE WALLACE	ELITE DRILLERS CORPORATION

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/07/19	11/09/19	200	200	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☐ AIR ☑ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	160	7 7/8	SDR17 PVC	SPLINE	4.28	SDR17	
160	200	7 7/8	SDR17 PVC	SPLINE	4.28	SDR17	.32

2020 FEB 13 PM 4:32

OSE ROSWELL, NM

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
25	200	7 7/8	8/16 SILICA SAND	40	POUR
0	25	7 7/8	PORTLAND I/II	6	POUR

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. CP-1802	POD NO. 1	TRN NO. 659873	
LOCATION Lea 22.34.35.222		WELL TAG ID NO. 22472	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	5	5	SANDY TOPSOIL	Y ✓N	
5	25	20	SANDY CALICHE	Y ✓N	
25	65	40	BROWN CLAY	Y ✓N	
65	105	40	TAN SANDY CLAY	Y ✓N	
105	185	80	BROWN SANDY CLAY WITH SOME BROWN SAND STRINGERS	Y ✓N	
185	200	15	RED CLAY	Y ✓N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:
☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

2020 FEB 13 PM 2:36

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

BRYCE WALLACE — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

11/20/19 — DATE

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO. CP-1802	POD NO. 1	TRN NO. 659873	
LOCATION Lea 22.34.35.222		WELL TAG ID NO. 72472	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
CP-1718-POD1 MLP West		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Merchant Livestock Company/Glenn's Water Well Service, Inc.	575-398-2424

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
PO Box 692	Tatum	NM	88267

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	22	21.06	N
	LONGITUDE	-103	25	48.00	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE
NW1/4 NE1/4 SW1/4 Section 24, Township 22 South, Range 34 East on Merchant Livestock Company Land

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD 421	Corky Glenn	Glenn's Water Well Service, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
05/09/19	05/13/19	1,172	1,172	855'

COMPLETED WELL IS: ☑ ARTESIAN ☐ DRY HOLE ☐ SHALLOW (UNCONFINED)
STATIC WATER LEVEL IN COMPLETED WELL (FT): 403'

DRILLING FLUID: ☐ AIR ☑ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	40	20"	ASTM A53 Sch 40 Steel 16" OD	None	15.5	.25	---
0	800	14.75"	API Steel Grade J-55/K-55 10.75" OD	Thread & Collar	10.05	.35	---
752	1,172	9.875"	Steel Casing 8 5/8" / 8.625" OD	Plain End	8.125	.25	1/8"
			(420' Total) Bottom 378 Perforated				

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	40'	20"	Cemented	2 yards	Top Pour
0	800'	14.75"	Float and Shoe Cemented to Surface 28 Barrels	345 Sacks Pumped	Circulated

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	CP-1718	POD NO.	1	TRN NO.	628247
LOCATION	22S.34E.24.3.3.2	EXPL		WELL TAG ID NO.	N/A

PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	5	5	Sand	Y ✓ N	
5	25	20	Caliche	Y ✓ N	
25	125	100	Sand & Red Clay	Y ✓ N	
125	550	425	Red Clay & Shale	Y ✓ N	
550	800	250	Red Shale & Clay	Y ✓ N	
800	855	55	Sandrock & Shale	✓ Y N	
855	918	63	Sandrock & Shale	✓ Y N	
918	950	32	Sandrock& Blue & Red Shale	✓ Y N	
950	1,139	189	Sand	✓ Y N	120.00
1,139	1,172	33	Red Shale	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 120.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

0' to 800' drilled with mud.
800' to 1,172' drilled with air and foam.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Corky Glenn — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

5/27/19 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. CP-1718	POD NO. 1	TRN NO. 628247	
LOCATION 225.34E.24.3.3.2 EXPL		WELL TAG ID NO. N/A	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
CP-1719-POD1 MLP East		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Merchant Livestock Company/Glenn's Water Well Service, Inc.	575-398-2424

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
PO Box 692	Tatum	NM	88267

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	22	16.56	N
	LONGITUDE	-103	25	28.38	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

SE1/4 SE1/4 SW1/4 Section 24, Township 22 South, Range 34 East on Merchant Livestock Company Land

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD 421	Corky Glenn	Glenn's Water Well Service, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
05/20/19	05/24/19	1,173	1,173	838'

COMPLETED WELL IS: [✓] ARTESIAN [ ] DRY HOLE [ ] SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 405'

DRILLING FLUID: [ ] AIR [✓] MUD ADDITIVES – SPECIFY:

DRILLING METHOD: [✓] ROTARY [ ] HAMMER [ ] CABLE TOOL [ ] OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	40	20"	ASTM A53 Sch 40 Steel 16" OD	None	15.5	.25	---
0	788	14.75"	API Steel Grade J-55/K-55 10.75" OD	Thread & Collar	10.05	.35	---
753	1,173	9.875"	Steel Casing 8 5/8" / 8.625" OD	Plain End	8.125	.25	1/8"
			(420' Total) Bottom 378 Perforated				

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	40'	20"	Cemented	2 yards	Top Pour
0	788'	14.75"	Float and Shoe Cemented to Surface 47 Barrels	405 Sacks Pumped	Circulated

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. CP-1719 POD NO. 171370 TRN NO. POD 1

LOCATION 22S.34E.24.344 WELL TAG ID NO. —— PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	8	8	Clay	Y ✓ N	
8	25	17	Caliche	Y ✓ N	
25	120	95	Sand & Red Clay	Y ✓ N	
120	500	380	Red Clay & Shale	Y ✓ N	
500	728	228	Brown Shale	Y ✓ N	
728	788	60	Red Shale & Clay	Y ✓ N	
788	794	6	Red Shale & Clay	Y ✓ N	
794	826	32	Red Shale & some Blue Clay	Y ✓ N	
826	857	31	Blue Sand Shale	✓ Y N	
857	953	96	Red Sand & Shale	✓ Y N	
953	1,150	197	Sand	✓ Y N	100.00
1,150	1,173	23	Red Shale	✓ Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:
☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 100.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

0' to 788' drilled with mud.
788' to 1,173' drilled with air and foam.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Corky Glenn — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

6/14/19 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. CP-1719	POD NO. 1	TRN NO. 671370
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

4X638

Section 1. GENERAL INFORMATION

(A) Owner of well Apache Corp Owner's Well No. _____

Street or Post Office Address 2466 E 61st Suite 500

City and State Tulsa, OKla 74133-1201

Well was drilled under Permit No. CP 704 and is located in the:

a. ~~NW¼~~ SE ¼ ~~NE¼~~ SE ¼ SE ¼ ¼ of Section 22 Township 22S Range 33E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in Lea County.

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

(B) Drilling Contractor Dubose Drilling License No. WD 1107

Address 5407 N. Golden Odessa, Tx

Drilling Began 12-15-86 Completed 12-17-86 Type tools Rotary Size of hole 9 7/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 600 ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well Dry 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)
			Dry	

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

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 Dubose

Address 5407 N. Golden

Plugging Method Backfill Natural soil

Date Well Plugged 12-17-86

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 January 15, 1988

Quad _____ FWL _____ FSL _____

File No. CP-704 Use OWD Location No. 22.34.22.42133

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	8		Surface Sand
8	25		Caliche
25	130		Coarse Red Sand
130	160		Red Purple gray Clay mix
160	190		Red brown Sandy Clay (Trace moisture)
190	250		Red brown Clay
250	330		Red Brown Clay w/ blue shale mix
330	410		Red Purple Blue mix Clay
410	480		Red Brown Clay
480	600		Red Brown Clay
			No Water
			Backfill w/ native soil

Section 7. REMARKS AND ADDITIONAL INFORMATION

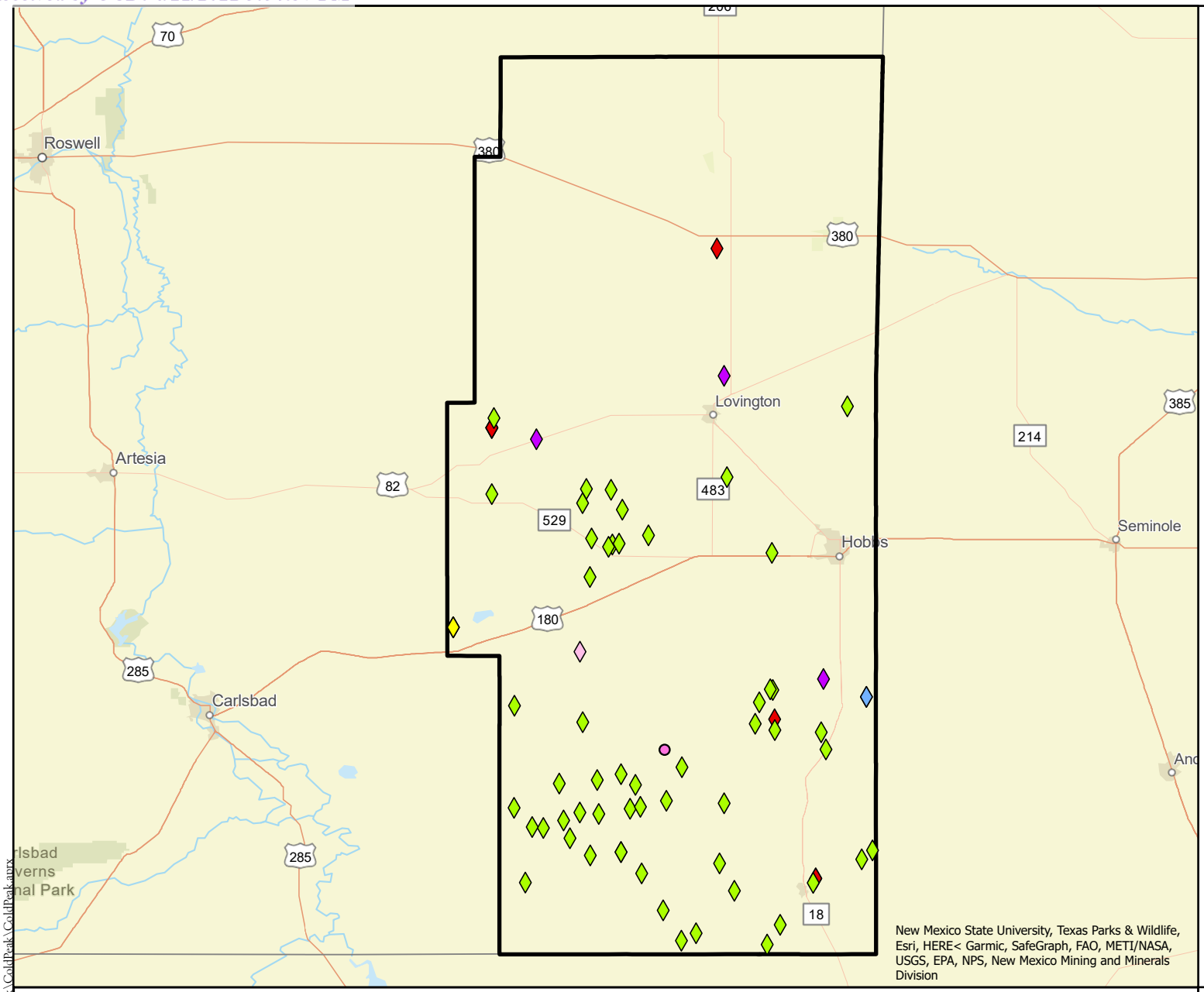
JAN 15 8 26 AM '88
STATE ENGINEER
ROSWELL, NM

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.

Bill Dubose
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.

APPENDIX B
ACTIVE MINE MAP



Legend

- Lea County
- Recycling Facility

Active Mines

- aggregate
- aggregate, caliche
- aggregate, clay, shale
- calcite
- caliche
- potash

N

0 9 18 36

Miles

Scale: 1:1,139,901

Coordinates of Location:
-103.43424W 32.35806N

Active Mines Map

Merchant South Containment and Recycle Facility - Centennial Resource Development, Inc.

S: 26 T: 22S R: 34E, Lea County, New Mexico

C:\Users\ss\Desktop\GIS\Cold Peak\ColdPeak\ColdPeak.aprx
Date Saved: 4/12/2022

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn Sarahmay Schlea
Date 4/18/2022
Checked
Approved

SMA
Souder, Miller & Associates
Engineering • Environmental
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Carlsbad, New Mexico 88221
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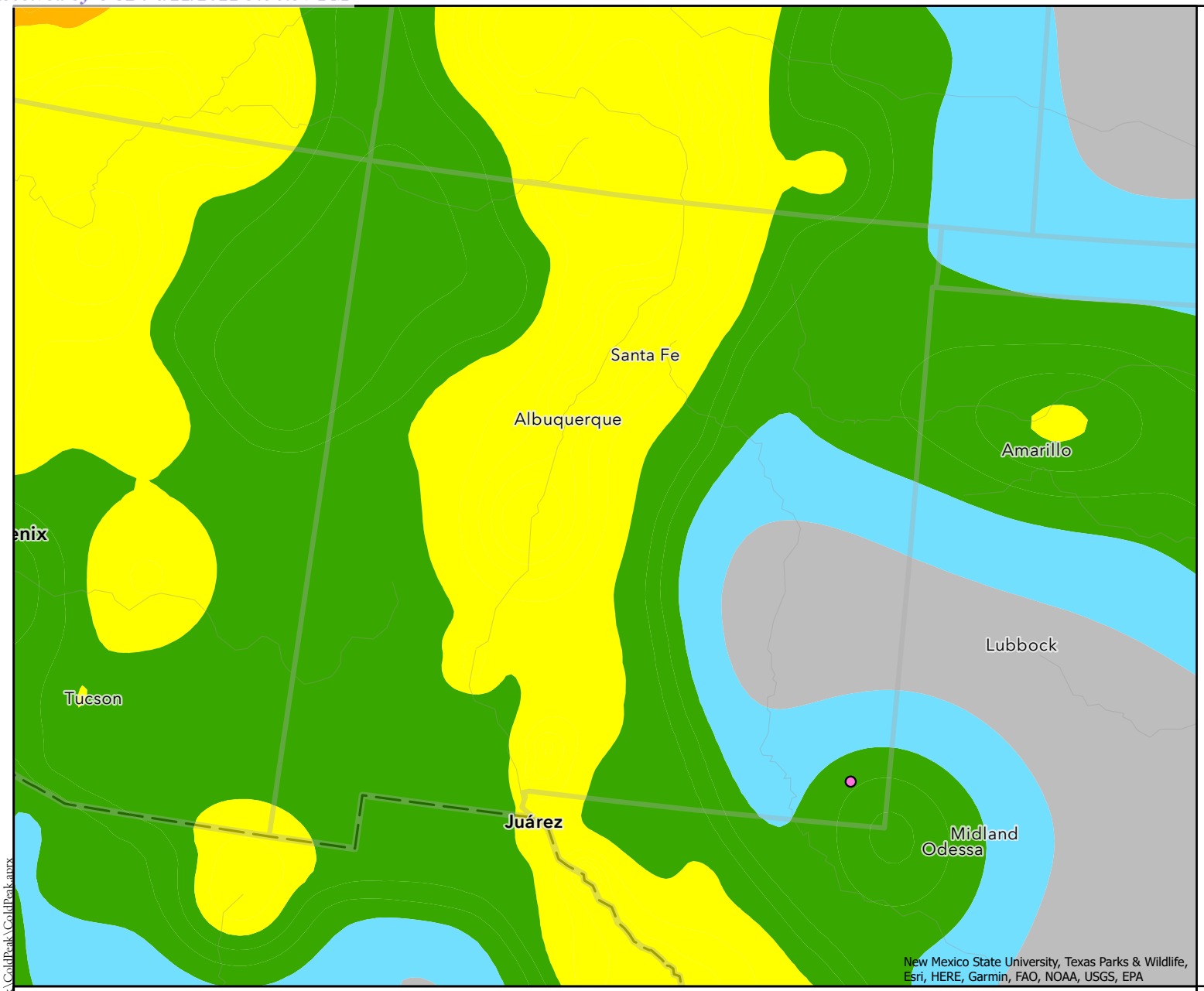
APPENDIX C

USGS SEISMIC HAZARDS MAP AND KARST MAP



Legend

- Recycling Facility

Expected # of Earthquake Occurences

- <2
- 2-4
- 4-10
- 10-20
- 20-50
- 50-100
- 100-250
- >250

0 40 80 160

Miles

Scale: 1:5,419,368

N

Coordinates of Location:
-103.43424W 32.35806N

Seismic Hazard Map
Merchant South Containment and Recycle Facility - Centennial Resource Development, Inc.
S: 26 T: 22S R: 34E, Lea County, New Mexico

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Date Saved: 4/12/2022

Revisions
By: _____ Date: _____ Descr: _____
By: _____ Date: _____ Descr: _____

Drawn Sarahmay Schlea
Date 4/18/2022
Checked _____
Approved _____

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Surveying
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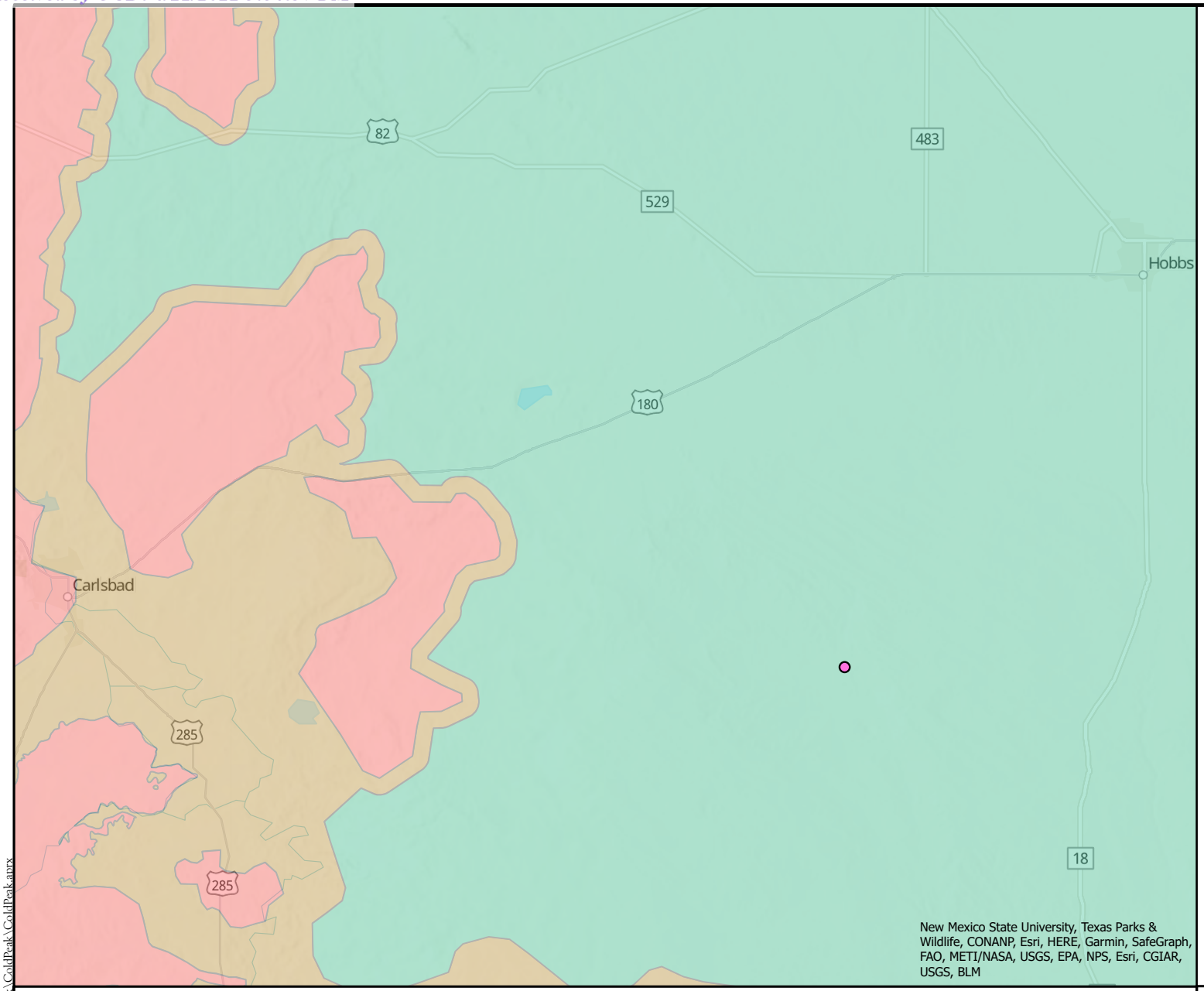

Legend

- Recycling Facility

Karst Potential

- High
- Low
- Medium

N

0 5 10 20

Miles

Scale: 1:666,237

Coordinates of Location:
-103.43424W 32.35806N

Karst Map

Merchant South Containment and Recycle Facility - Centennial Resource Development, Inc.

S: 26 T: 22S R: 34E, Lea County, New Mexico

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Date Saved: 4/12/2022

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn Sarahmay Schlea
Date 4/18/2022
Checked
Approved

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APPENDIX D
FEMA FLOODPLAIN MAP

National Flood Hazard Layer FIRMette

FEMA

103°26'22"W 32°21'44"N

103°25'45"W 32°21'14"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 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 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 4/7/2022 at 5:12 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.

Coordinates of Location:
-103.43424W 32.35806N

FEMA Flood Map

Merchant South Containment and Recycle Facility - Centennial Resource Development, Inc.

S: 26 T: 22S R: 34E, Lea County, New Mexico

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Date Saved: 4/12/2022

Drawn Sarahmay Schlea

Date 4/18/2022

Checked

Approved

SMA Souder, Miller & Associates Engineering • Environmental Consultants

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APPENDIX E

WETLANDS AND CRITICAL HABITAT MAP

U.S. Fish and Wildlife Service
National Wetlands Inventory

Merchant Recycling Facility

April 11, 2022

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.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Coordinates of Location:
-103.43424W 32.35806N

Wetlands Map
Merchant South Containment and Recycle Facility - Centennial Resource Development, Inc.
S: 26 T: 22S R: 34E, Lea County, New Mexico

Revisions
By:_____ Date:_____ Descr:_____
By:_____ Date:_____ Descr:_____

Drawn Sarahmay Schlea
Date 4/18/2022
Checked
Approved

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Date Saved: 4/12/2022

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

18 April 2022

J. D. McGuire
Centennial Resource Development, Inc.
500 W. Illinois Avenue, Suite 500
Midland, Texas, 79701

Re: Comprehensive Resource Review – Merchant South Containment and Recycle Facility Lea County, New Mexico

Dear Mr. McGuire:

Goshawk Environmental Consulting, Inc. (Goshawk) conducted a comprehensive desktop resource review and limited field investigations for the Merchant South Containment and Recycle Facility in Lea County, New Mexico. The work was conducted on behalf of our client, Centennial Recourse Development, Inc. (Centennial). This resource review included Waters of the US (WATERS), threatened or endangered (T/E) species, and cultural resources. The purpose of these investigations was to evaluate whether the proposed water reuse pit contained any protected resources, the approximate size and location of identified protected resources, and associated development constraints, if applicable. Goshawk also conducted a cultural resources survey of the water reuse pit. All figures are in Appendix A.

INTRODUCTION

The Merchant South Containment and Recycle Facility will include a double-lined water pit with leak detection, a tanker off load and storage area, and a reuse water treatment facility. The pit site is approximately 600 feet wide (east–west) and 950 feet long (north–south) and encompasses approximately 13.07 acres. In addition, a 145-foot-wide by 740-foot-long caliche capped offload/storage area, which encompasses 3.17 acres, will abut the water pit's eastern side. The pit site is generally located in a very rural portion of Lea County, where land use is primarily cattle ranching and oil/gas exploration and production.

WATERS REVIEW

Regulatory Background and Methodology

Investigations to identify potential WATERS within the proposed Merchant South Containment and Recycle Facility included a resource review, followed by a field investigation. The resource review included inspection of available United States Geological Survey (USGS) 7.5-minute topographic quadrangle for San Simon Sink, New Mexico; recent digital aerial orthoimagery; and the Natural Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO). Field investigations were performed in accordance with US Army Corps of Engineers (USACE) guidelines, utilizing the *Corps of Engineers Wetlands Delineation Manual – Technical Report Y-87-1* (January 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) – ERDC/EL TR-08-28* (September 2008).

The jurisdictional status of identified features was determined based on 33 CFR 328.3(a), along with the US Army Core of Engineers (USACE)–Environmental Protection Agency (EPA) joint guidance on Clean

Water Act (CWA) jurisdiction, following the US Supreme Court's decision in *Rapanos v. United States* and *Carabell v. United States*. Current guidance states that the USACE and EPA will assert jurisdiction over (1) traditionally navigable waters (TNWs) and all wetlands adjacent to TNWs; (2) relatively permanent waters (RPWs), which include non-navigable tributaries of TNWs that typically flow year-round or have continuous flow at least seasonally, and all wetlands that are directly abutting RPWs; and (3) other water bodies such as non-RPWs; wetlands adjacent to non-RPWs; and wetlands adjacent to but not directly abutting an RPW that are analyzed and determined to have a significant nexus with a TNW. A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW.

LITERATURE REVIEW

Topographic Map

The topographic quadrangle (Figure 1) indicates the Merchant South Containment and Recycle Facility is entirely within grasslands (white background). The terrain is relatively flat, with elevations ranging from slightly below 3,420 feet above mean sea level (AMSL), to slightly below 3,410 feet AMSL. Drainage occurs by overland sheet flow in a generally southwest direction. No mapped waterbodies (dot-dash blue line) are indicated within the proposed pit or surrounding area. The Merchant South Containment and Recycle Facility is within the Lower Pecos River Watershed. The nearest direct line point to the Pecos River is approximately 33.3 miles west southwest. There are no improvements mapped within the pit site; however, a pipeline is mapped/indicated to the west of the pit site.

Aerial Orthoimagery

The aerial orthoimagery (Figure 2) indicates the Merchant South Containment and Recycle Facility is within relatively open rangeland, dominated by shrubs and short coppice dunes/blowouts. The pipeline indicated in the topographic map is visible in the aerial orthoimagery, along with several more recent buried pipeline ROWs, caliche capped access road, and caliche capped oil and gas pads.

Soils

The NRCS SSURGO spatial data (Figure 3) indicate the soil map unit underlying the Merchant South Containment and Recycle Facility is Berino-Cacique loamy fine sands association (BE). These soils consist of sandy eolian deposits derived from sedimentary rock over calcareous sandy alluvium derived from sedimentary rock. They are typically located on plains and are well drained. While runoff is considered high for Cacique soils, it is low for Berino soils. Neither of the primary components of these soils are listed as hydric soils.

Precipitation

Data derived from the National Centers for Environmental Information indicated that mean annual precipitation in Lea County for the period of April 1900 to March 2021 was 15.0 inches. However, Lea County only received 8.7 inched of precipitation in the last 12 months (April 2020 to March 2021).

Subsurface Water

Centennial contracted to have four subsurface water wells drilled in the vicinity of the proposed project to determine the presence and depth of groundwater (Figure 4). The wells were left open for 48 hours. None of the wells located groundwater.

Field Investigation

A field investigation was conducted on 15 February 2022 to determine the presence of potential WATERS within the Merchant South Containment and Recycle Facility. The water reuse pit was traversed on-foot. The conditions were generally consistent with those depicted on the topographic map and aerial orthoimagery described above. The area was relatively flat and dominated by shrubland vegetation, intermixed with grasses and bare ground. Vegetation within the area consisted primarily of honey mesquite (*Prosopis glandulosa*), Plains yucca (*Yucca glauca*), shinnery oak (Quercus havardii), and broom snakeweed (*Gutierrezia*. Vegetative coverage within the site was approximately 70 percent.

Drainage occurs primarily by overland sheet flow toward the southwest. No evidence of an Ordinary High Water Mark (OHWM) or standing water was found within the pit site. Additionally, no flowing watercourse, lakebed, sinkhole, or playa exhibiting an OHWM were found within the pit site or its vicinity. A search in the general vicinity of the pit site did not reveal any seeps, springs, wetlands, or water wells within the pits vicinity

Regulatory Development Constraints

It is Goshawk's opinion that construction of the Merchant South Containment and Recycle Facility will not impact any regulated WATERS. It is important to note that only USACE has the authority to make a formal determination defining its jurisdictional limits under the CWA. Approved jurisdictional determinations are made by USACE in accordance with internal policies and procedures in place at that time and on a case-by-case basis using information at its disposal (such as other permits in the local area and case law) that may not be readily available to the public. Therefore, Goshawk's opinion should not be considered authoritative and cannot wholly eliminate uncertainty regarding USACE's jurisdictional limits.

FEMA FLOODPLAIN

Regulatory Background

Floodplain management is regulated under the Federal Emergency Management Agency (FEMA); however, a local floodplain administrator is usually responsible for implementation within a community. A local floodplain administrator will operate under FEMAs minimum floodplain management standards or the state and/or local regulations, which provide standards for the purpose of flood damage prevention and reduction. Floodplain management standards are based on FEMA floodplain maps, which identify special flood hazard areas.

Development Constraints

Lea County would be the floodplain administrator for the proposed project. Although Lea County participates in the National Flood Program, FEMA floodplain maps have not been produced for rural portions of Lea County. The proposed project falls within FEMA flood hazard zone D, which indicates that the area has not been assessed for flood hazards by FEMA. The proposed project falls within panel

35025C1775D, which is listed as “Not Printed”. The Merchant South Containment and Recycle Facility can be developed without any correspondence with Lea County for purposes of floodplain consideration.

THREATENED OR ENDANGERED SPECIES

Regulatory Background and Methodology

The Endangered Species Act prohibits any action that causes a “take” of any listed T/E species. A “Take” is defined as harm or harassment, including hunting, wounding, killing, trapping, and the capture or collection of individuals of listed species. The law also protects against the degradation or loss of vital habitat for listed species. The United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service are the regulatory authorities for federally listed T/E species.

State-listed T/E species are protected under New Mexico Wildlife Conservation Act (17-2-41). The New Mexico Department of Game and Fish (NMDGF) has the authority to establish a list of fish and wildlife species that are endangered or threatened. Unlike the federal act, the state’s regulation makes no provision for the protection of wildlife species from indirect take (e.g., destruction of habitat or unfavorable management practices); rather, it protects from the unlawful killing, trade, or transportation of state-listed species. Therefore, the state-listed species are only a potential development constraint if listed species are determined to be currently occupying the pit site.

Literature and agency file searches were conducted to identify the potential occurrence of any federally and state-listed T/E species near the Merchant South Containment and Recycle Facility. An internet search of the USFWS *Information, Planning, and Conservation System* (IPaC) was conducted for Lea County to identify federally listed T/E species “that should be considered as part of an effects analysis” for the pit site. Additionally, a report from the NMDGF Biota Information System of New Mexico (BISON-M) was obtained and reviewed for the Lea County.

Resource Review

The T/E species listed in the IPaC Trust Resource Report for Lea County (Appendix B) includes only the Northern Aplomado Falcon (*Falco femoralis septentronalis)*, which has an experimental population in Lea County. Critical habitat for this species is not designated within the Merchant South Containment and Recycle Facility or the immediate vicinity.

The state-listed T/E species on NMDGF BISON-M County List for Lea County dated 18 March 2022 (Appendix C) include: broad-billed hummingbird (*Cynanthus latirostris*), least tern (*Sternula antillarum*), bald eagle (*Haliaeetus leucocephalus*), aplomado falcon (*Falco femoralis septentronalis*), peregrine falcon (*Falco peregrinus*), Bell's vireo (*Vireo bellii*), Baird's sparrow (*Centronyx bairdii*), and dunes sagebrush lizard (*Sceloporus arenicolus*). Fish and mollusks are also listed for Lea County; however, due to the nature of the pit site and lack of potential habitat, these species would not occur at the pit site.

Development Constraints

The federally listed least tern is listed because of migratory routes. Although these species occasionally stop at points along the migration routes, use of the proposed Merchant South Containment and Recycle Facility Site would be unlikely due to the lack of suitable habitat. The northern aplomado falcon is listed for many southeastern New Mexico counties (including Lea County) within its historic range. Historically,

the falcon utilized open desert grasslands and/or savannas, where scattered shrubs and trees provide roosting and nesting locations. Although the proposed site is within a shrubland, the land uses of this area (heavy cattle grazing and oil/gas production) likely preclude the northern aplomado falcon from utilizing the site. The two listed fish and one mollusk would only be found in perennial aquatic habitats. No aquatic habitats exist within the water reuse pit site. No impacts are expected to any of the federally listed species.

State regulations prohibit the taking, possession, transportation, or sale of any state-listed T/E species. Because Lea County has the potential to support state-listed T/E species, care should be taken to avoid direct impacts (including harassment, harm, killing, and/or collection) to any species that may inhabit the pit site. The state-listed birds would have the ability to leave the pit site during active construction to avoid impacts. However, slower-moving species (reptiles and amphibians) are ground-dwelling and relatively slow-moving, which makes them more likely to be impacted by construction activities than other state-listed species.

The dunes sagebrush lizard is more commonly found in portions of Lea County where large sand dunes exists. The pit site lacks suitable habitat for the dunes sagebrush lizard. Care should be taken to avoid harassment, harm, killing, and/or collecting of these species, including slower-moving species. No further investigations relative to T/E species are recommended.

CULTURAL RESOURCES DESKTOP REVIEW

REGULATORY BACKGROUND AND METHODOLOGY

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires Federal agencies to consider the effects of their actions on historic properties and provide the State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on their projects. Historic properties are defined as archaeological sites, standing structures, or other historic resources listed on or eligible for listing on the National Register of Historic Places (NRHP). The New Mexico Prehistoric and Historic Sites Preservation Act and the New Mexico Cultural Properties Act provide protection of archaeological sites (prehistoric and historic) listed in the State Register of Cultural Properties or on the NRHP.

The regulatory process seeks to determine if a project will have an “effect” upon historic properties. The term “effect” is defined as an “alteration to the characteristics of historic property qualifying it for inclusion in, or eligibility for the National Register (of Historic Places).” An effect is “adverse” when it will endanger those qualities that make the property eligible for inclusion on the NRHP.

Goshawk performed an archival review to evaluate the potential for historic properties present near the Merchant South Containment and Recycle Facility. The Archaeological Records Management Section’s (ARMS) New Mexico Cultural Resources Information System (NMCRIS) online database, geospatial data obtained from the US Bureau of Land Management (BLM) Carlsbad Field Office, and the Natural Resources Conservation Service Web Soil Survey were utilized for the review.

ARCHIVAL REVIEW

Archival Research

According to NMCRIS, the proposed Merchant South Containment and Recycle Facility and surrounding area was subjected to archaeological survey under 24 different survey projects. NMCRIS Activity #149694 provides 100-percent archaeological survey coverage; the remaining previous surveys provide partial coverage. Previous surveys have yielded largely negative results in the immediate vicinity of the proposed Merchant Reuse Pit (Table 1).

Table 1: Surveys Undertaken Within 1,640 feet (500 meters) of the Proposed Project

Activity Number	Organization Name	Lead Agency	Total Acres	Sites Visited	Date of Survey Start/End
18298	Archaeological Survey Consultants	US Bureau of Land Management Roswell District	16.30	2	15 Jan to 18 Mar 1987
25630	New Mexico Archaeological Services,Inc	US Bureau of Land Management Roswell District	23.57	2	19 to 23 Mar 1989
26931	New Mexico Archaeological Services,Inc	US Bureau of Land Management Roswell District	0.70	0	30 to 31 Aug 1989
26938	New Mexico Archaeological Services,Inc	US Bureau of Land Management Roswell District	20.32	0	4 to 5 Sept 1989
28012	New Mexico Archaeological Services,Inc	US Bureau of Land Management Roswell District	3.67	0	22 Nov to 1 Dec 1989
28440	Pecos Archaeological Consultants	US Bureau of Land Management Roswell District	2.13	0	30 Jan to 2 Feb 1990
75147	Lone Mountain Archaeological Services	US Bureau of Land Management Carlsbad Field Office	9540.00	171	18 May to 6 Sept 2001
127141	Boone Arch Svcs of NM	US Bureau of Land Management Carlsbad Field Office	41.66	4	29 Mar to 18 Apr 2013
134877	Boone Arch Svcs of NM	Boone Arch Svcs of NM	57.35	3	11 to 15 Dec 2015
136776	Boone Arch Svcs of NM	US Bureau of Land Management Carlsbad Field Office	351.99	12	5 Apr to 24 Jul 2016
137350	Lone Mountain Archaeological Services	US Bureau of Land Management Carlsbad Field Office	39453.25	324	27 Dec 2016 to 8 Sept 2017
140333	Western Cultural Resource Management	NM State Land Office	5.86	0	20 Apr 2018
140906	J. T. Rein Archaeology, LLC.	NM State Land Office	106.26	3	3 May to 2 Jul 2018
141105	J. T. Rein Archaeology, LLC.	US Bureau of Land Management Carlsbad Field Office	25.78	1	26 Jun 2018 to 27 Feb 2019
141880	SWCA Environmental Consultants	NM State Land Office	214.81	0	15 Nov to 13 Dec 2018
143432	J. T. Rein Archaeology, LLC.	NM State Land Office	6.35	0	11 to 24 Jun 2019

Activity Number	Organization Name	Lead Agency	Total Acres	Sites Visited	Date of Survey Start/End
143782	SWCA Environmental Consultants	NM State Land Office	30.06	1	5 to 13 Aug 2019
144171	Boone Archaeological Consultants, LLC.	US Bureau of Land Management Carlsbad Field Office	75.37	0	13 Aug 2019
145244	Boone Archaeological Consultants, LLC.	US Bureau of Land Management Carlsbad Field Office	23.80	0	13 Jan 2020
145451	J. T. Rein Archaeology, LLC.	NM State Land Office	80.54	4	28 Feb to 18 Mar 2020
145743	Boone Archaeological Consultants, LLC.	NM State Land Office	20.74	0	24 to 30 Apr 2020
146208	SWCA Environmental Consultants	NM State Land Office	18.97	1	15 to 16 Jul 2020
147980	J. T. Rein Archaeology, LLC.	NM State Land Office	9.80	0	14 to 17 May 2021
149694	Goshawk Environmental Consulting	Private Corporation	18.06	0	15 Feb 2022

There are six previously documented archaeological sites within 500 meters (1,640 feet) of the proposed project.

Table 2: Archaeological Sites within 500 Meters (1,640 Feet) of the Proposed Project

Site Number	Discovering Activity	Original Recorder	Cultural Affiliation	NRHP Eligibility Determination
43408	18298	Archaeological Survey Consultants	Mogollon	Unevaluated – Recorder, BLM., SHPO
132891	75147	Lone Mountain Archaeological Services	Mogollon	Eligible – SHPO, Recorder
132903	75147	Lone Mountain Archaeological Services	Unknown Aboriginal	Unevlauated – Recorder, BLM, SHPO
187231	137350	Lone Mountain Archaeological Services	Mogollon	Unevlauated – Recorder, BLM, SHPO
187239	137350	Lone Mountain Archaeological Services	Unknown Aboriginal	Unevlauated – Recorder, SHPO
191797	141105	J. T. Rein Archaeology, LLC.	Mogollon	Unevlauated – Recorder, SHPO

The nearest site, LA #187231, was 124 feet (37.8 m) north of the proposed Merchant South Containment and Recycle Facility. Archaeological site LA #187231 was originally recorded in 2017 by Lone Mountain Archaeological Services during NMCRIS Activity #137350. The site, which measured 195 by 77 m, was documented as a Mogollon prehistoric artifact scatter. The artifact assemblage included lithic debitage, stone tool manufacturing components, ground stone tools, prehistoric brownware ceramics, and fire-cracked rock. Subsurface deposits were not present due to the shallow depth of sediments. Site LA #187231 has not been revisited. In 2017, the recorder, the BLM, and the State Historic Preservation Office (SHPO) determined the site unevaluated for listing on the National Register of Historic Places (NRHP).

The next closest site, LA #43408, is 223 feet (68.1 m) northeast of the proposed project. The site was originally recorded in 1973 by the US Bureau of Land Management New Mexico State Office during NMCRIS Activity #18298. LA #43408 measured 116 by 64 meters and was recorded as a prehistoric Mogollon artifact scatter. The artifact assemblage consisted of lithic debitage, chipped stone tools, stone tool manufacturing components, ground stone tools, prehistoric diagnostic ceramics, and fire-cracked rock. Site features included one hearth. The site was revisited five times, most recently in 2018 by J. T. Rein Archaeology, LLC. Under NMCRIS Activity #140906. In their most recent determinations, the BLM and SHPO determined the site unevaluated for NRHP listing in 2017, and the most recent recorder considered the site unevaluated for NRHP listing in 2018.

The third closest site, LA #132891, was located 446 feet (136.0 meters) east of the proposed project. The site was originally recorded in 2001 by the Lone Mountain Archaeological Servicesduring NMCRIS Activity # 75147. LA #132891 measured 218 by 173 meters and was recorded as a Mogollon artifact scatter. The artifact assemblage consisted of lithic debitage, chipped stone tools, diagnostic projectile points, stone tool manufacturing components, ground stone tools, prehistoric diagnostic ceramics, and fire-cracked rock. Site features included “several” concentrations of fire-cracked rock. The site was revisited by Lone Mountain Archaeological Services in 2017 under NMCRIS Activity # 137350. The recorder, BLM, and SHPO all determined the site was eligible for NRHP listing in 2001, 2017, and 2018, respectively.

National Register Properties

No NRHP-listed properties have been recorded near the proposed site. According to the NMCRIS database, the nearest NRHP-listed property is the Pope’s Wells Site (LA# 69016). This site consists of the remains of a camp and well site that was part of efforts to establish a water well in the area in the 1850’s. The Pope’s Wells Site lies approximately 30.3 miles southwest of the proposed pit site.

Soils Analysis

Soils mapped within the proposed site consisted of Berino-Cacique loamy fine sands association. Berino-Cacique loamy fine sands association are shallow soils overlaying sandy clay loams. These soils are derived from sandy eolian deposits derived from sedimentary rock over calcareous sandy alluvium derived from sedimentary rock and are typically located on plains. These soils are well-drained and present a low probability for the presence of temporally stratified cultural deposits. The primary use of all soil types is rangeland where the vegetation is dominated by short and mid grasses; however, shrubs can become prevalent when overgrazed. Native vegetation is typically a mixture of sparse grasses and shrubs. Considering the soils present, there is a low probability for the presence of significant cultural resources sites within the proposed Merchant South Containment and Recycle Facility.

FIELD REVIEW

A Class III archaeological survey of the pit, infrastructure, and surrounding area was conduct on 15 February 2022 under NMCRIS activity 149694. A total of 18.06 acres was surveyed on foot by a two-person crew traversing 50-foot (30.48-meter) transects. No archaeological sites, isolated manifestations, or other cultural resources were observed in the course of the survey.

DEVELOPMENT CONSTRAINTS

The cultural resources archival review determined there is a low probability for the presence of significant prehistoric resources within the pit site. Further, a pedestrian survey of the proposed project area did not locate any cultural resources. No impacts to cultural resources would be expected by the Merchant South Containment and Recycle Facility.

SUMMARY

Based on the results of the Resource Review, it is Goshawk's opinion that the construction of the Merchant South Containment and Recycle Facility is unlikely to impact any sensitive natural resources, including WATERS and T/E species. Based on the negative results from previous cultural resources survey, it is Goshawk's opinion that the pit site is not likely to contain significant cultural resources. In the unlikely event that cultural resources (including human remains) are discovered, all construction or maintenance activities should be immediately halted, and a qualified archaeologist should be notified. If you have any questions or desire additional information, please contract our office.

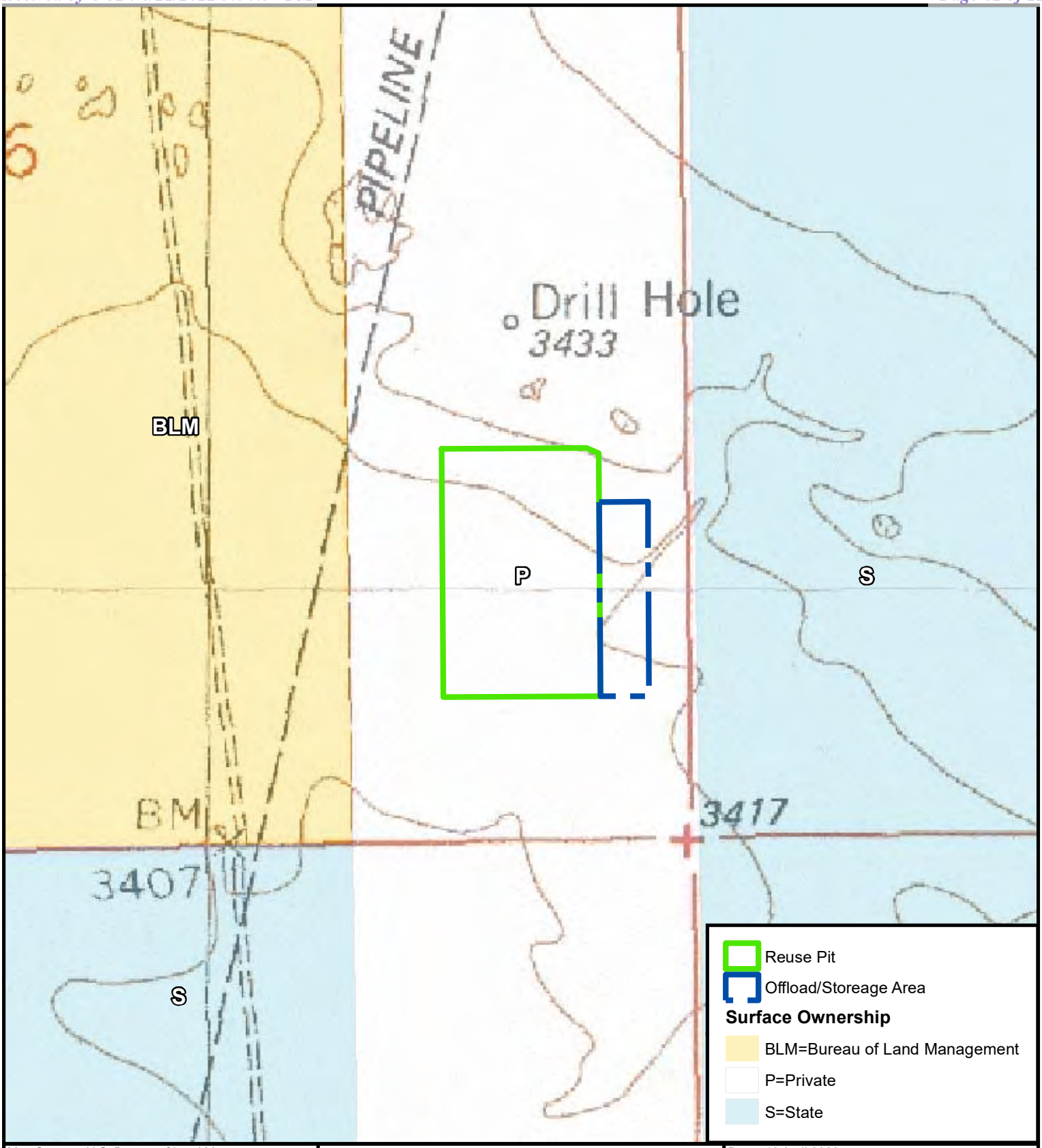
Sincerely,

Zane Homesley
President

Steven Evans
Cultural Resources Manager

Cc: J. D. McGuire, Centennial Resource Development, Inc.
Galan Kelley, Cold Peak Environmental, LLC.

APPENDIX A
FIGURES



Map Source: U.S. Bureau of Land Management - New Mexico State Office - GIS Data Download; USGS, San Simon Sink, New Mexico Quadrangle.

0 250 500 Feet

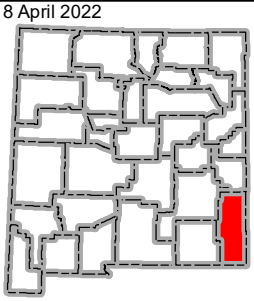
0 80 160 Meters

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

Figure 1
USGS Topographic Map
Lea County, New Mexico

Merchant South Containment and Recycle Facility
Township 22S; Range 34E; Section 26

Date: 18 April 2022



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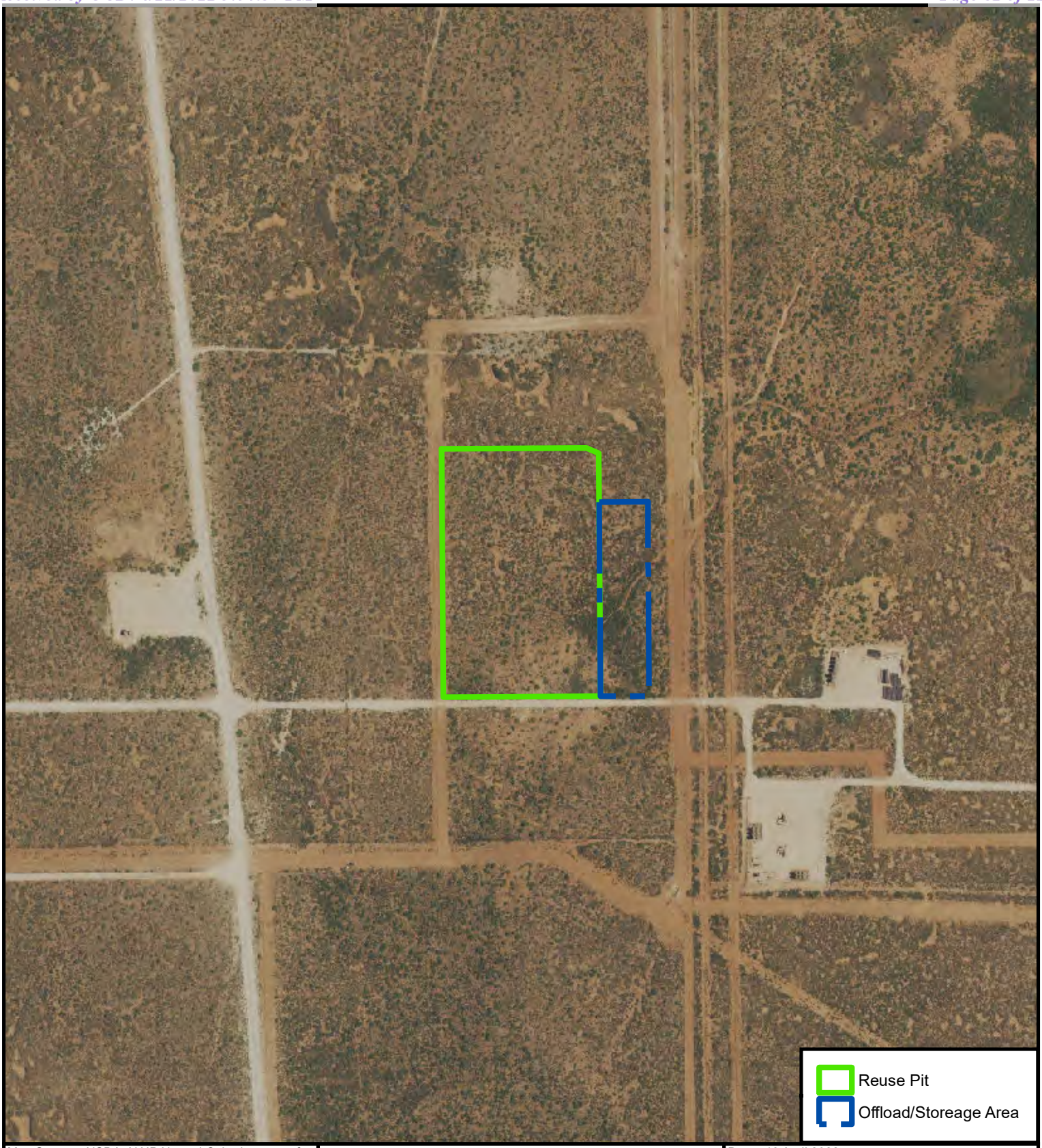


Map Source: USDA, NAIP Natural Color Imagery of New Mexico, 2020.

0 250 500 Feet

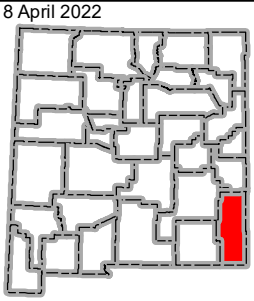
0 80 160 Meters

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

Figure 2
Aerial Orthoimagery
Lea County, New Mexico

Merchant South Containment and Recycle Facility
Township 22S; Range 34E; Section 26

Date: 18 April 2022



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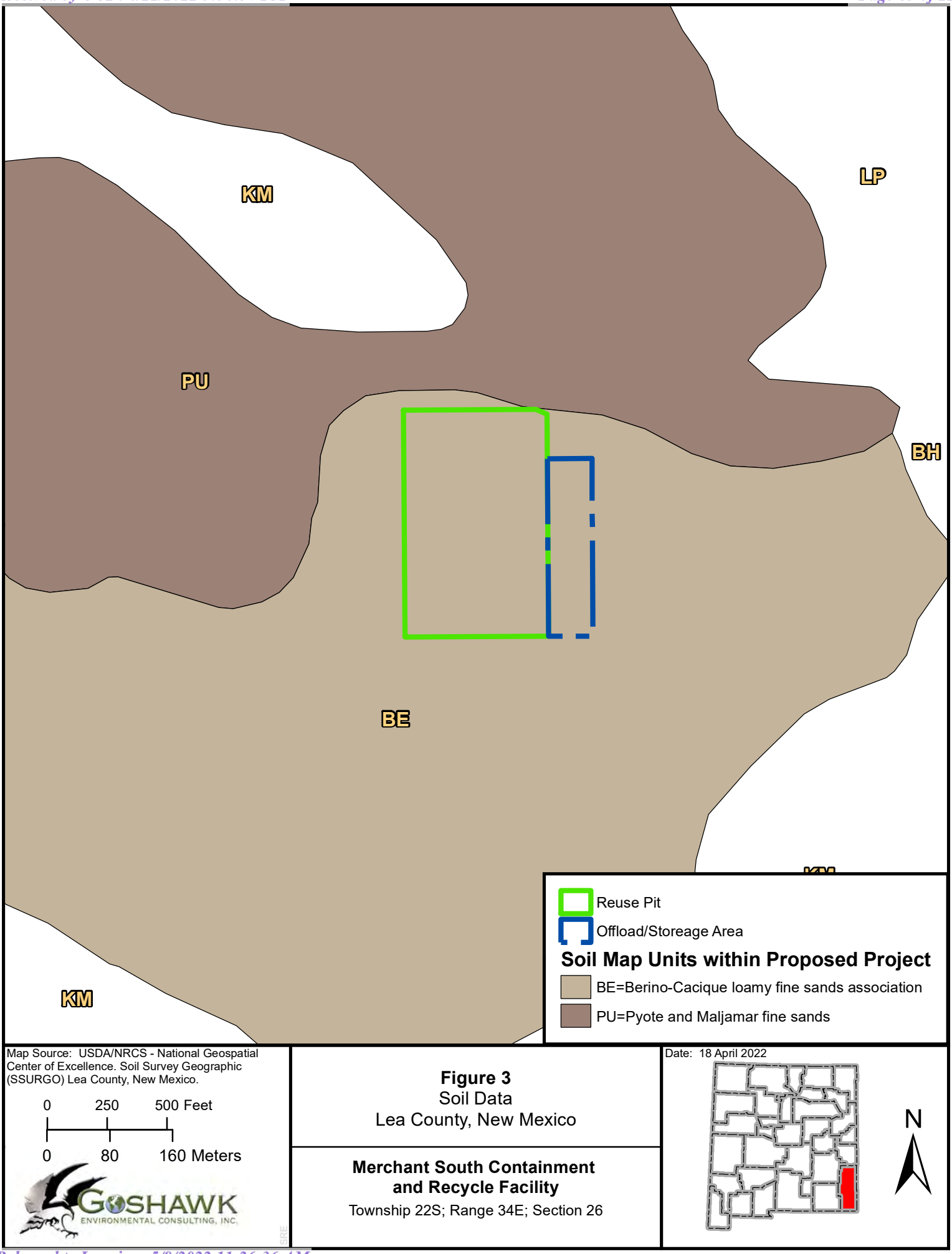


Map Source: USDA/NRCS - National Geospatial Center of Excellence. Soil Survey Geographic (SSURGO) Lea County, New Mexico.

0 250 500 Feet

0 80 160 Meters

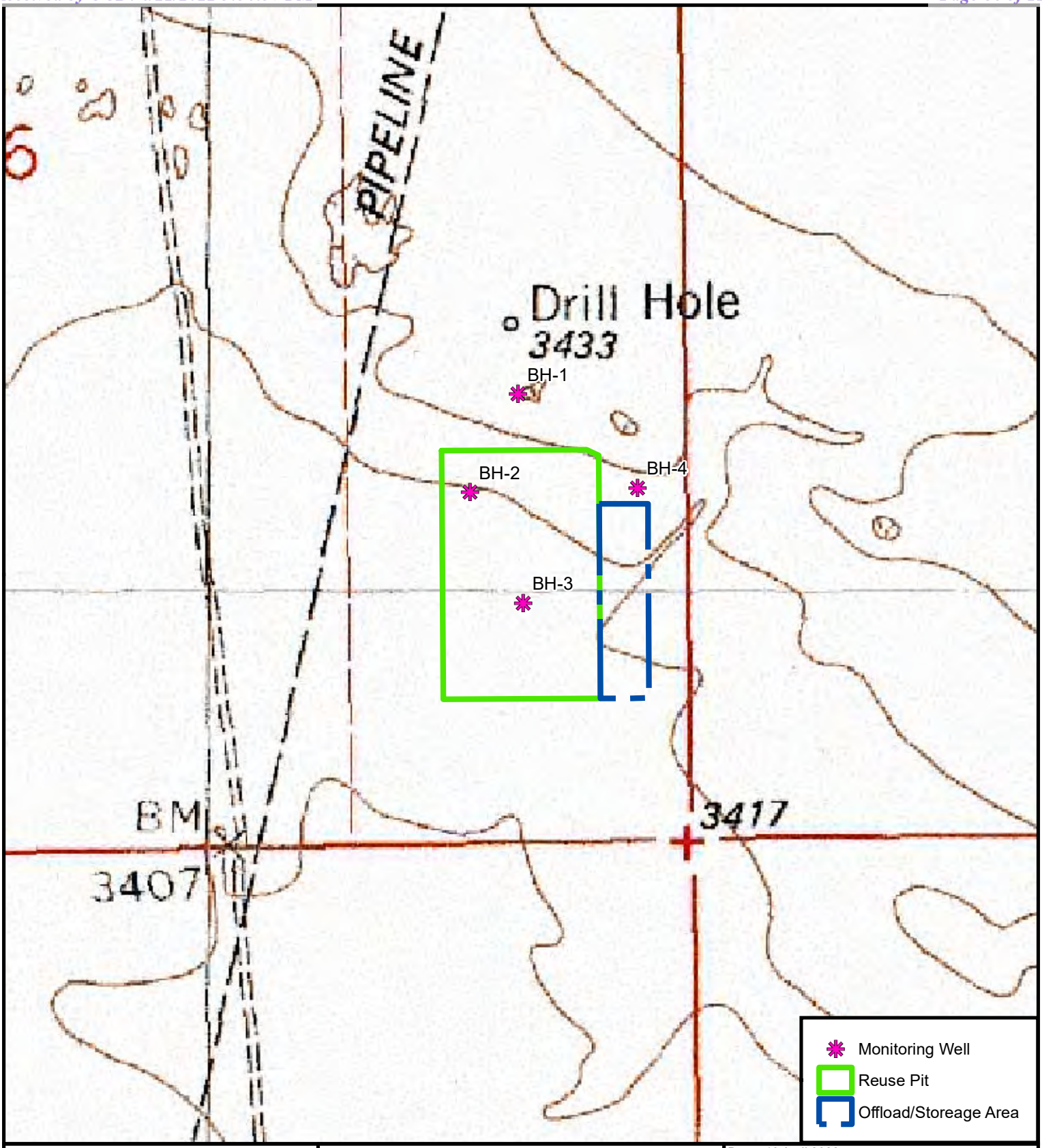
GOSHAWK ENVIRONMENTAL CONSULTING, INC.

Figure 3
Soil Data
Lea County, New Mexico

Merchant South Containment and Recycle Facility
Township 22S; Range 34E; Section 26

Date: 18 April 2022

N



0 250 500 Feet

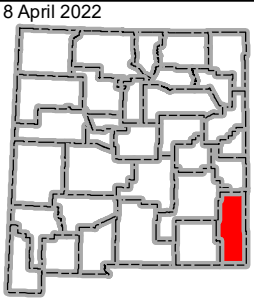
0 80 160 Meters

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

Figure 4
Monitoring Well Locations
Lea County, New Mexico

Merchant South Containment and Recycle Facility
Township 22S; Range 34E; Section 26

Date: 18 April 2022



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APPENDIX B

USFWS IPAC RESOURCE TRUST REPORT

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Lea County, New Mexico

Local office

New Mexico Ecological Services Field Office

(505) 346-2525
(505) 346-2542

2105 Osuna Road Ne
Albuquerque, NM 87113-1001

http://www.fws.gov/southwest/es/NewMexico/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Northern Aplomado Falcon Falco femoralis septentrionalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1923	EXPN

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31
Cassin's Sparrow *Aimophila cassinii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9512	Breeds Aug 1 to Oct 10
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 10

Ferruginous Hawk Buteo regalis — Breeds Mar 15 to Aug 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/6038

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Long-billed Curlew Numenius americanus — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/5511

Long-eared Owl asio otus — Breeds Mar 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Mccown's Longspur Calcarius mccownii — Breeds May 1 to Aug 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9292

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Sprague's Pipit Anthus spragueii — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8964

Virginia's Warbler Vermivora virginiae — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9441

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

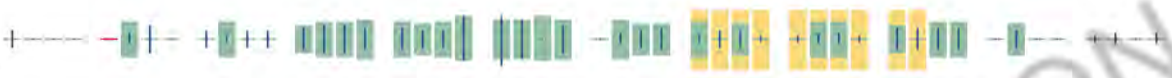
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort – no data

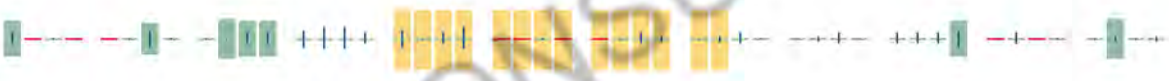
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Bald Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Cassin's Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Chestnut-collared Longspur BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

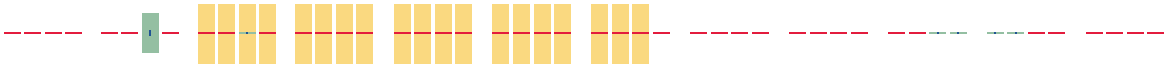


Ferruginous Hawk BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Lesser Yellowlegs BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

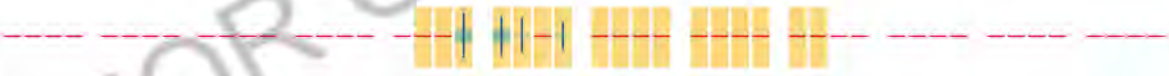
Long-billed Curlew BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Long-eared Owl BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Mccown's Longspur BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Red-headed Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Sprague's Pipit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Virginia's Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds

guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid

or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX C

NMDGF BISON-M COUNTY LIST

All Species
Lea

Taxonomic Group	# Species	Taxonomic Group	# Species
Amphibians	10	Birds	164
Coleoptera; beetles	17	Crustaceans	2
Fish	3	Lepidoptera; moths and butterflies	45
Mammals	45	Molluscs	8
Odonata; dragonflies	30	Orthoptera; grasshoppers & crickets	63
Reptiles	37	Spiders	3

TOTAL SPECIES: 427

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Virginia Opossum	Didelphis virginiana					View
Nine-banded Armadillo	Dasypus novemcinctus					View
Black-tailed Jackrabbit	Lepus californicus					View
Desert Cottontail Rabbit	Sylvilagus audubonii					View
Cave Myotis	Myotis velifer					No Photo
Coyote	Canis latrans					View
Common Gray Fox	Urocyon cinereoargenteus					View
Kit Fox	Vulpes macrotis					View
Swift Fox	Vulpes velox					View
Bobcat	Lynx rufus					View
Common Hog-nosed Skunk	Conepatus leuconotus					View
Striped Skunk	Mephitis mephitis					View
Western Spotted Skunk	Spilogale gracilis					View
American Badger	Taxidea taxus					View
Ringtail	Bassariscus astutus					View
Common Raccoon	Procyon lotor					View
Pronghorn	Antilocapra americana americana					View
Mule Deer	Odocoileus hemionus					View
White-tailed Deer (Texas)	Odocoileus virginianus texana					View
Feral Pig	Sus scrofa					No Photo
Collared Peccary	Peccari tajacu sonoriensis; angulatus					View
American Beaver	Castor canadensis					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
White-toothed woodrat	Neotoma leucodon					View
Southern Plains Woodrat	Neotoma micropus canescens					No Photo
Northern Grasshopper Mouse	Onychomys leucogaster					No Photo
White-footed Mouse	Peromyscus leucopus					View
Deer Mouse	Peromyscus maniculatus					No Photo
Hispid Cotton Rat	Sigmodon hispidus berlandieri; confinis; texianus					View
Western Harvest Mouse	Reithrodontomys megalotis megalotis; aztecus					No Photo
Plains Harvest Mouse	Reithrodontomys montanus					No Photo
Yellow-faced Pocket Gopher	Cratogeomys castanops					No Photo
Jones' Pocket Gopher	Geomys knoxjonesi					No Photo
Chihuahuan Pocket Mouse	Chaetodipus eremicus					No Photo
Desert Pocket Mouse	Chaetodipus penicillatus					No Photo
Merriam's Kangaroo Rat	Dipodomys merriami					View
Ord's Kangaroo Rat	Dipodomys ordii					View
Banner-tailed Kangaroo Rat	Dipodomys spectabilis baileyi; clarencei; spectabilis					No Photo
Plains Pocket Mouse	Perognathus flavescens					No Photo
Silky Pocket Mouse	Perognathus flavus flavus; hopiensis					No Photo
Norway Rat	Rattus norvegicus					No Photo
Black-tailed Prairie Dog	Cynomys ludovicianus ludovicianus				Y	View
Rio Grande Ground Squirrel	Ictidomys parvidens					View
Thirteen-lined Ground Squirrel	Ictidomys tridecemlineatus arenicola; blanca; hollisteri					View
Eastern Fox Squirrel	Sciurus niger rufiventer; limitis					View
Spotted Ground Squirrel	Xerospermophilus spilosoma					No Photo
Northern Pintail	Anas acuta					View
Northern Bobwhite Quail	Colinus virginianus					View
Scaled Quail	Callipepla squamata					View
Lesser Prairie-Chicken	Tympanuchus pallidicinctus		P		Y	View
Eared Grebe	Podiceps nigricollis				Y	View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Band-tailed Pigeon	Patagioenas fasciata					View
Eurasian Collared-Dove	Streptopelia decaocto					View
Mourning Dove	Zenaida macroura					View
Greater Roadrunner	Geococcyx californianus					View
Yellow-billed Cuckoo (eastern pop)	Coccyzus americanus occidentalis					No Photo
Lesser Nighthawk	Chordeiles acutipennis					View
Common Nighthawk	Chordeiles minor				Y	View
Common Poorwill	Phalaenoptilus nuttalli					No Photo
Rufous Hummingbird	Selasphorus rufus					View
Broad-billed Hummingbird	Cynanthus latirostris	T			Y	View
Sandhill Crane	Antigone canadensis					View
American Avocet	Recurvirostra americana					View
Killdeer	Charadrius vociferus					View
Mountain Plover	Charadrius montanus				Y	View
Snowy Plover	Charadrius nivosus				Y	View
Long-billed Curlew	Numenius americanus				Y	View
Pectoral Sandpiper	Calidris melanotos					View
Spotted Sandpiper	Actitis macularius					View
Solitary Sandpiper	Tringa solitaria					View
Wilson's Phalarope	Phalaropus tricolor					View
Least Tern	Sternula antillarum	E			Y	View
American Bittern	Botaurus lentiginosus				Y	View
White-faced Ibis	Plegadis chihi					View
Turkey Vulture	Cathartes aura					View
Osprey	Pandion haliaetus					View
Northern Harrier	Circus hudsonius					View
Sharp-shinned Hawk	Accipiter striatus					View
Cooper's Hawk	Accipiter cooperii					View
Northern Goshawk	Accipiter gentilis					View
Bald Eagle	Haliaeetus leucocephalus	T			Y	View
Mississippi Kite	Ictinia mississippiensis					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Harris's Hawk	Parabuteo unicinctus					View
Red-shouldered Hawk	Buteo lineatus					View
Swainson's Hawk	Buteo swainsoni					View
Red-tailed Hawk	Buteo jamaicensis					View
Ferruginous Hawk	Buteo regalis					View
Flammulated Owl	Psiloscops flammeolus				Y	View
Great Horned Owl	Bubo virginianus					View
Burrowing Owl	Athene cunicularia				Y	View
Belted Kingfisher	Megaceryle alcyon					View
Red-headed Woodpecker	Melanerpes erythrocephalus				Y	View
Williamson's Sapsucker	Sphyrapicus thyroideus				Y	View
Ladder-backed Woodpecker	Dryobates scalaris					View
American Kestrel	Falco sparverius					View
Aplomado Falcon	Falco femoralis	E	E		Y	View
Peregrine Falcon	Falco peregrinus	T			Y	View
Arctic Peregrine Falcon	Falco peregrinus tundrius					No Photo
Ash-throated Flycatcher	Myiarchus cinerascens					View
Great Crested Flycatcher	Myiarchus crinitus					No Photo
Great Kiskadee	Pitangus sulphuratus					View
Cassin's Kingbird	Tyrannus vociferans					View
Western Kingbird	Tyrannus verticalis					View
Scissor-tailed Flycatcher	Tyrannus forficatus					View
Olive-sided Flycatcher	Contopus cooperi				Y	View
Western Wood Pewee	Contopus sordidulus					View
Willow Flycatcher	Empidonax traillii brewsteri; adastus					View
Least Flycatcher	Empidonax minimus					View
Hammond's Flycatcher	Empidonax hammondii					View
Dusky Flycatcher	Empidonax oberholseri					View
Say's Phoebe	Sayornis saya					View
Loggerhead Shrike	Lanius ludovicianus				Y	View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Bell's Vireo	Vireo bellii	T			Y	View
Cassin's Vireo	Vireo cassinii					View
Blue-headed Vireo	Vireo solitarius					View
Plumbeous Vireo	Vireo plumbeus					View
Warbling Vireo	Vireo gilvus					View
Red-eyed Vireo	Vireo olivaceus					View
Woodhouse's Scrub Jay	Aphelocoma woodhouseii					View
Chihuahuan Raven	Corvus cryptoleucus					View
Horned Lark	Eremophila alpestris					View
Northern Rough-winged Swallow	Stelgidopteryx serripennis					View
Barn Swallow	Hirundo rustica					View
Cliff Swallow	Petrochelidon pyrrhonota					View
Verdin	Auriparus flaviceps					View
Red-breasted Nuthatch	Sitta canadensis					View
Rock Wren	Salpinctes obsoletus					View
House Wren	Troglodytes aedon					View
Bewick's Wren	Thryomanes bewickii					View
Cactus Wren	Campylorhynchus brunneicapillus					View
Blue-gray Gnatcatcher	Polioptila caerulea					View
Ruby-crowned Kinglet	Regulus calendula					View
Swainson's Thrush	Catharus ustulatus					View
Hermit Thrush	Catharus guttatus					View
Gray Catbird	Dumetella carolinensis					View
Curve-billed Thrasher	Toxostoma curvirostre					View
Brown Thrasher	Toxostoma rufum					View
Crissal Thrasher	Toxostoma crissale					View
Sage Thrasher	Oreoscoptes montanus					View
Northern Mockingbird	Mimus polyglottos					View
European Starling	Sturnus vulgaris					View
Phainopepla	Phainopepla nitens					View
House Sparrow	Passer domesticus					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
American Pipit	Anthus rubescens					View
Sprague's Pipit	Anthus spragueii				Y	View
Evening Grosbeak	Coccothraustes vespertinus				Y	View
House Finch	Haemorhous mexicanus					View
Pine Siskin	Spinus pinus					View
Lesser Goldfinch	Spinus psaltria					View
American Goldfinch	Spinus tristis					View
Thick-billed Longspur	Rhynchophanes mccownii				Y	View
Cassin's Sparrow	Peucaea cassinii				Y	View
Grasshopper Sparrow	Ammodramus savannarum perpallidus					View
Black-throated Sparrow	Amphispiza bilineata					View
Lark Sparrow	Chondestes grammacus					View
Lark Bunting	Calamospiza melanocorys					View
Chipping Sparrow	Spizella passerina					View
Clay-colored Sparrow	Spizella pallida					View
Field Sparrow	Spizella pusilla					View
Brewer's Sparrow	Spizella breweri					View
White-crowned Sparrow	Zonotrichia leucophrys					View
Sagebrush Sparrow	Artemisiospiza nevadensis				Y	View
Vesper Sparrow	Pooecetes gramineus				Y	View
Baird's Sparrow	Centronyx bairdii	T			Y	View
Song Sparrow	Melospiza melodia					View
Lincoln's Sparrow	Melospiza lincolnii					View
Rufous-crowned Sparrow	Aimophila ruficeps					View
Green-tailed Towhee	Pipilo chlorurus					View
Spotted Towhee	Pipilo maculatus					View
Yellow-breasted Chat	Icteria virens					View
Yellow-headed Blackbird	Xanthocephalus xanthocephalus					View
Eastern Meadowlark	Sturnella magna					View
Western Meadowlark	Sturnella neglecta					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Orchard Oriole	Icterus spurius					View
Bullock's Oriole	Icterus bullockii					View
Baltimore Oriole	Icterus galbula					View
Red-winged Blackbird	Agelaius phoeniceus					View
Brown-headed Cowbird	Molothrus ater					View
Rusty Blackbird	Euphagus carolinus					View
Brewer's Blackbird	Euphagus cyanocephalus					View
Great-tailed Grackle	Quiscalus mexicanus					View
Ovenbird	Seiurus aurocapilla					No Photo
Northern Waterthrush	Parkesia noveboracensis					View
Black-and-white Warbler	Mniotilta varia					View
Prothonotary Warbler	Protonotaria citrea					No Photo
Orange-crowned Warbler	Leiothlypis celata					View
Nashville Warbler	Leiothlypis ruficapilla					View
Virginia's Warbler	Leiothlypis virginiae				Y	View
Macgillivray's Warbler	Geothlypis tolmiei					View
Common Yellowthroat	Geothlypis trichas					View
Hooded Warbler	Setophaga citrina					View
American Redstart	Setophaga ruticilla					View
Northern Parula	Setophaga americana					No Photo
Yellow Warbler	Setophaga petechia					View
Chestnut-sided Warbler	Setophaga pensylvanica					No Photo
Yellow-rumped Warbler	Setophaga coronata					View
Black-throated Gray Warbler	Setophaga nigrescens				Y	View
Black-throated Green Warbler	Setophaga virens					View
Wilson's Warbler	Cardellina pusilla					View
Hepatic Tanager	Piranga flava					View
Summer Tanager	Piranga rubra					View
Western Tanager	Piranga ludoviciana					View
Pyrrhuloxia	Cardinalis sinuatus					View
Rose-breasted Grosbeak	Pheucticus ludovicianus					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Black-headed Grosbeak	Pheucticus melanocephalus					View
Blue Grosbeak	Passerina caerulea					View
Lazuli Bunting	Passerina amoena					View
Indigo Bunting	Passerina cyanea					View
Painted Bunting	Passerina ciris					View
Dickcissel	Spiza americana					View
Ornate Box Turtle	Terrapene ornata					View
Red-eared Slider	Trachemys scripta					View
Yellow Mud Turtle	Kinosternon flavescens					View
Sonoran Mud Turtle	Kinosternon sonoriense sonoriense				Y	View
Eastern Collared Lizard	Crotaphytus collaris					View
Long-nosed Leopard Lizard	Gambelia wislizenii					View
Common Lesser Earless Lizard	Holbrookia maculata maculata; bunkeri; ruthveni					View
Texas Horned Lizard	Phrynosoma cornutum					View
Round-tailed Horned Lizard	Phrynosoma modestum					View
Dunes Sagebrush Lizard	Sceloporus arenicolus	E			Y	View
Central Fence Lizard	Sceloporus consobrinus					View
Common Side-blotched Lizard	Uta stansburiana					View
Chihuahuan Spotted Whiptail	Aspidoscelis exsanguis					View
Texas Spotted Whiptail	Aspidoscelis gularis					View
Woodland Striped Whiptail	Aspidoscelis inornata junipera					No Photo
Marbled Whiptail	Aspidoscelis marmorata					View
Prairie Racerunner	Aspidoscelis sexlineata					View
Common Checkered Whiptail	Aspidoscelis tesselata					View
Many-lined Skink	Plestiodon multivirgatus					View
Great Plains Skink	Plestiodon obsoletus					View
Texas Blind Snake	Rena dissecta					View
Glossy Snake	Arizona elegans					View
Coachwhip	Coluber flagellum					View
Ringneck Snake	Diadophis punctatus					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Plains Hog-nosed Snake	Heterodon nasicus					View
Chihuahuan Nightsnake	Hypsiglena jani					View
Milk Snake	Lampropeltis gentilis					View
Desert Kingsnake	Lampropeltis splendida					View
Gophersnake	Pituophis catenifer					View
Texas Long-nosed Snake	Rhinocheilus lecontei					View
Ground Snake	Sonora semiannulata					View
Plains Black-headed Snake	Tantilla nigriceps					View
Smith's Black-headed Snake	Tantilla hobartsmithi					View
Marcy's Checkered Gartersnake	Thamnophis marcianus					View
Western Diamond-backed Rattlesnake	Crotalus atrox					View
Prairie Rattlesnake	Crotalus viridis					View
Western Massasauga	Sistrurus tergeminus				Y	View
Tiger Salamander	Ambystoma mavortium mavortium; nebulosum					View
Plains Spadefoot	Spea bombifrons					View
New Mexico Spadefoot	Spea multiplicata					View
Great Plains Toad	Anaxyrus cognatus					View
Western Green Toad	Anaxyrus debilis					View
Texas Toad	Anaxyrus speciosus					View
Woodhouse's Toad	Anaxyrus woodhousii					View
Plains Leopard Frog	Lithobates blairi				Y	View
Bullfrog	Lithobates catesbeianus					View
Couch's Spadefoot	Scaphiopus couchii					View
Grass Carp	Ctenopharyngodon idella					No Photo
Rainbow Trout	Oncorhynchus mykiss					View
Largemouth Bass	Micropterus salmoides					View
Decollate Snail	Rumina decollata					View
Crested Snaggletooth Snail	Gastrocopta cristata					No Photo
Slim Snaggletooth Snail	Gastrocopta pellucida					No Photo
White-lipped Dagger Snail	Pupoides albilabris					No Photo

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Multirib Vallonia Snail	Vallonia gracilicosta					No Photo
Lovely Vallonia Snail	Vallonia pulchella					No Photo
Black-bodied Glass Snail	Oxychilus draparnaudi					No Photo
Brown Gardensnail	Helix aspersa					View
Brine Shrimp	Artemia franciscana				Y	View
Versatile Fairy Shrimp	Branchinecta lindahli				Y	View
Tiger Beetle	Amblycheila picolominii					No Photo
Tiger Beetle	Cicindela circumptica johnsoni					No Photo
Tiger Beetle	Cicindela debilis					No Photo
Big Sand Tiger Beetle	Cicindela formosa rutilovirescens					View
Tiger Beetle	Cicindela hornii					No Photo
Tiger Beetle	Cicindela lemniscata					No Photo
Dainty Tiger Beetle	Cicindela lepida					No Photo
Tiger Beetle	Cicindela marutha					No Photo
Tiger Beetle	Cicindela nigrocoerula					No Photo
Tiger Beetle	Cicindela obsoleta obsoleta; santaclarae					No Photo
Tiger Beetle	Cicindela ocelleta					No Photo
Tiger Beetle	Cicindela scutellaris scutellaris					No Photo
Tiger Beetle	Cicindela tenuisignata					No Photo
Tiger Beetle	Cicindela togata					No Photo
Tiger Beetle	Tetracha carolina					No Photo
Stag Beetle	Pseudolucanus mazama					No Photo
Long-horned Beetle	Trachyderes mandibularis					No Photo
Sleepy Duskywing Skipper	Erynnis brizo					View
Funereal Duskywing Skipper	Erynnis funeralis					View
Common Sootywing Skipper	Pholisora catullus					View
Common Checkered Skipper	Pyrgus communis					View
Dotted Roadside Skipper	Amblyscirtes eos					No Photo
Nysa Roadside Skipper	Amblyscirtes nysa					No Photo
Sachem Skipper	Atalopedes campestris					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Orange Skipperling Skipper	Copaeodes aurantiacus					View
Uncas Skipper	Hesperia uncas uncas					No Photo
Fiery Skipper	Hylephila phlyeus					View
Pipevine Swallowtail Butterfly	Battus philenor					View
Black Swallowtail Butterfly	Papilio polyxenes asterius					View
Cabbage White Butterfly	Pieris rapae					View
Checkered White Butterfly	Pontia protodice					View
Orange Sulphur Butterfly	Colias eurytheme					View
Western Common Sulphur Butterfly	Colias philodice					View
Little Yellow Butterfly	Eurema lisa					View
Mexican Yellow Butterfly	Eurema mexicanum					No Photo
Sleepy Orange Butterfly	Eurema nicippe					View
Lyside Sulphur Butterfly	Kricogonia lyside					View
Dainty Sulphur Butterfly	Nathalis iole					View
Cloudless Sulphur Butterfly	Phoebis sennae					View
Southern Dogface Butterfly	Zerene cesonia					View
Frank's Common Hairstreak Butterfly	Strymon melinus					View
Arizona Blue Butterfly	Celastrina ladon cinerea					No Photo
Reakirt's Blue Butterfly	Hemiargus isola					View
Marine Blue Butterfly	Leptotes marina					View
Melissa Blue Butterfly	Plebejus melissa					View
Texas Blue Butterfly	Plebejus acmon					View
Western Pygmy Blue Butterfly	Brephidum exile					View
Southern Snout Butterfly	Libytheana bachmanii					No Photo
Buckeye Butterfly	Junonia coenia					View
Mourning Cloak Butterfly	Nymphalis antiopa					View
Red Admiral Butterfly	Vanessa atalanta					View
Painted Lady Butterfly	Vanessa cardui					View
American Lady Butterfly	Vanessa virginiensis					View
Variegated Fritillary Butterfly	Euptoieta claudia					View
Crocale Patch Butterfly	Chlosyne lacinia					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Painted Crescent Butterfly	Phyciodes pictus					View
Pearl Crescent Butterfly	Phyciodes tharos Type A					View
Fulvia Checkerspot Butterfly	Thessalia fulvia					View
Goatweed Butterfly	Anaea andria					No Photo
Striated Queen Butterfly	Danaus gilippus					View
Monarch Butterfly	Danaus plexippus		C			View
Gulf Fritillary Butterfly	Agraulis vanillae					View
Plateau Spreadwing	Lestes alacer					View
Paiute Dancer	Argia alberta					No Photo
Powdered Dancer	Argia moesta					View
Blue-ringed Dancer	Argia sedula					View
Double-striped Bluet	Enallagma basidens					No Photo
Boreal Bluet	Enallagma boreale					No Photo
Tule Bluet	Enallagma carunculatum					View
Familiar Bluet	Enallagma civile					View
Plains Forktail	Ischnura damula					View
Black-fronted Forktail	Ischnura denticollis					No Photo
Rambur's Forktail	Ischnura ramburii					View
Common Green Darner	Anax junius					View
Blue-eyed Darner	Rhionaeschna multicolor					View
Russet-tipped Clubtail	Stylurus plagiatus					No Photo
Red-tailed Pennant	Brachymesia furcata					No Photo
Four-spotted Pennant	Brachymesia gravida					No Photo
Western Pondhawk	Erythemis collocata					No Photo
Eastern Pondhawk	Erythemis simplicicollis					View
Comanche Skimmer	Libellula comanche					View
Widow skimmer	Libellula luctuosa					View
Twelve-spotted Skimmer	Libellula pulchella					View
Flame Skimmer	Libellula saturata					View
Roseate Skimmer	Orthemis ferruginea					View
Blue Dasher	Pachydiplax longipennis					View

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Spot-winged Glider	Pantala hymenaea					View
Eastern Amberwing	Perithemis tenera					View
Common Whitetail	Plathemis lydia					View
Variegated meadowhawk	Sympetrum corruptum					View
Black Saddlebags	Tramea lacerata					View
Red Saddlebags	Tramea onusta					View
Jerusalem Cricket	Stenopelmatus mescaleroensis					No Photo
Lubber Grasshopper	Brachystola magna					View
Chihuahua Toad Hopper Grasshopper	Phrynotettix tsivavensis					No Photo
Green Fool Grasshopper	Acrolophitus hirtipes					No Photo
White Whiskers Grasshopper	Ageneotettix deorum					No Photo
Striped Slant-Faced Grasshopper	Amphitornus coloradus					No Photo
Elliott Grasshopper	Aulocara elliotti					No Photo
White Cross Grasshopper	Aulocara femoratum					No Photo
Black Males Grasshopper	Boopedon nubilum					View
Crenulated Grasshopper	Cordillacris crenulata					No Photo
Spotted Wing Grasshopper	Cordillacris occipitalis					No Photo
Velvet-Striped Grasshopper	Eritettix simplex					No Photo
Rufous Grasshopper	Heliaula rufa					No Photo
Pecos Clicker Grasshopper	Ligurotettix planum					No Photo
Mermiria Grasshopper	Mermiria bivittata					No Photo
Obscure Grasshopper	Opeia obscura					No Photo
Desert Toothpick Grasshopper	Paropomala pallida					No Photo
Wyoming Toothpick Grasshopper	Paropomala wyomingensis					No Photo
Four-Spotted Grasshopper	Phlibostroma quadrimaculatum					No Photo
Brown Spotted Range Grasshopper	Psoloessa delicatula					No Photo
Slant-Faced Grasshopper	Syrbula admirabilis					View
Speckled Rangeland Grasshopper	Arphia conspera					No Photo
Red-Winged Grasshopper	Arphia pseudonietana					No Photo
Hayden's Grasshopper	Derotmema haydeni					No Photo
Carolina Grasshopper	Dissosteira carolina					No Photo

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
High Plains Grasshopper	Dissosteira longipennis					No Photo
Dusky Grasshopper	Encoptolophus costalis					No Photo
Grasshopper	Hadrotettix magnificus					No Photo
Three-Banded Range Grasshopper	Hadrotettix trifasciatus					No Photo
Blue Winged Grasshopper	Leprus wheeleri					No Photo
Pard Grasshopper	Metator pardalinus					No Photo
Mottled Sand Grasshopper	Spharagemon collare					No Photo
Grasshopper	Spharagemon cristatum					No Photo
Say's Grasshopper	Spharagemon equale					No Photo
Kiowa Range Grasshopper	Trachyrhachys kiowa					No Photo
Toothed Field Grasshopper	Trimerotropis agrestis					No Photo
Broad-Banded Grasshopper	Trimerotropis latifasciata					No Photo
Black-Winged Grasshopper	Trimerotropis melanoptera					No Photo
Pallid-Winged Grasshopper	Trimerotropis pallidipennis					View
Barren Land Grasshopper	Trimerotropis pristrinaria					No Photo
Great Crested Grasshopper	Tropidolophus formosus					View
Red Shanks Grasshopper	Xanthippus corallipes					No Photo
Lined Bird Grasshopper	Schistocerca alutacea lineata					No Photo
Green Bird Grasshopper	Schistocerca alutacea shoshone					No Photo
Gray Creosotebush Grasshopper	Clematodes larreae					No Photo
Fuzzy Olive-Green Grasshopper	Campylacantha olivacea					No Photo
Painted Grasshopper	Dactylotum bicolor					View
Grasshopper	Hesperotettix speciosus					No Photo
Green Streak Grasshopper	Hesperotettix viridis					No Photo
Narrow-Winged Spur-Throat Grasshopper	Melanoplus angustipennis					No Photo
Arizona Spur-Throat Grasshopper	Melanoplus arizonae					No Photo
Bowditch's Spur-Throat Grasshopper	Melanoplus bowditchi					No Photo
Differential Grasshopper	Melanoplus differentialis					No Photo
Yellow Spur-Throat Grasshopper	Melanoplus flavidus					No Photo
Grasshopper	Melanoplus foedus					No Photo

All Species
Lea

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Gladston's Spur-Throat Grasshopper	Melanoplus gladstoni					No Photo
Glaucous-Legged Grasshopper	Melanoplus glaucipes					No Photo
Grasshopper	Melanoplus lakinus					No Photo
Flabellate Grasshopper	Melanoplus occidentalis					No Photo
Packard's Grasshopper	Melanoplus packardi					No Photo
Regal Spur-Throat Grasshopper	Melanoplus regalis					No Photo
Lesser Migratory Grasshopper	Melanoplus sanguinipes					No Photo
Platte Range Grasshopper	Mestobregna plattei					No Photo
Southern Black Widow	Latrodectus mactans					View
Spider	Neoscona crucifera					No Photo
Brown Recluse Spider	Loxosceles reclusa					View

Operating and Maintenance Plan

Closure Plan

Operating and Maintenance Plan

MERCHANT SOUTH CONTAINMENT PIT

1. Overview

The attached plan details the operational requirements regarding the Merchant South Containment Pit. In addition, the required reporting, and inspections as well as the appropriate actions/notifications are listed.

2. Purpose

The attached plan implements the operational requirement as outlined by NMOCD under 19.15.34 NMAC. The application of this plan will ensure the reuse water containment pit is operated in a manner that minimizes any risk to health, safety, and the environment.

3. Operational Requirements

Below are the operational requirements that must be always adhered to. Deviation from these requirements is prohibited.

- Inlet flow
  - Recycling facility effluent stream water must meet all water quality norms before water is introduced into the containment pit. These norms are to include no detected oil in the stream.
  - Inlet water may only be introduced into the containment pit via the diffuser manifold to not cause any stress or damage to the liner system.
  - A minimum of 3ft of freeboard will be always maintained in the reuse water containment pit.

- Effluent Flow
  - Effluent water may only exit the reuse water containment via the permanent discharge header system; no external hoses or pipes may be placed into the pit at any time
  - Effluent water may only be transferred to Centennial completion operations

- Volume Reporting
  - All influent and effluent volumes are to be logged daily. These volumes are to be tracked via inbound and outbound mag meters and tracked via paper and SCADA systems

- Site Inspection
  - The pit and surrounding area are to be inspected daily while water is contained within the pit. These inspections are to include all inlet/outlet piping, berms, exposed liner, surrounding grounds, and fencing.
- Leak Detection Testing
  - Leak detection testing shall be conducted daily. Testing shall include starting the leak detection sump pump to determine if any is fluid has collected in the collection sump. The sump pump shall be run for a minimum of 5 minutes to allow for inlet flow. If any flow is detected the proper notification to the Hobbs NMOCD will occur and drainage will commence

4. Reporting, Monitoring, and Inspection Plan

- List of Weekly Reporting and Inspections to be completed:
  - Influent and Effluent Volume Reporting
  - Visually inspect the Facility and Containment Pit
  - Leak Detection test to ensure the integrity of the primary liner has not deteriorated
- List of Monthly Reporting and Inspections to be completed:
  - Monthly volume report via Form C-148
  - Leak Detection test
  - Visual inspection of the Facility and Containment Pit

5. Notifications

- In the event of a leak detection denoting a compromised liner below the water level, notice shall be provided to be the Hobbs division office of the NMCOD within 48 hours of detection.
- Once the water level has been pumped below the damaged area, a liner professional will be dispatched to assess and make the necessary repairs.
- Provide the NMOCD a second report detailing the inspection, root cause and/or repairs.

District 1
1625 N. French Drive
Hobbs, New Mexico 88240
OFFICE: (575) 241-7063

6. Associated Forms

- List of Associated forms for Operating and Maintenance Plan
  - Form C-148

Water Containment Closure Plan

MERCHANT SOUTH CONTAINMENT PIT

1. Overview

The attached plan details the requirements regarding the closure of the Merchant South Containment Pit. In addition, the required sampling and reporting obligations are detailed.

2. Purpose

The attached plan implements the closure requirement as outlined by NMOCD under 19.15.34.14 NMAC. The application of this plan will ensure the reuse water containment pit is closed and reclamation is completed in a manner that minimizes any risk to health, safety, and the environment.

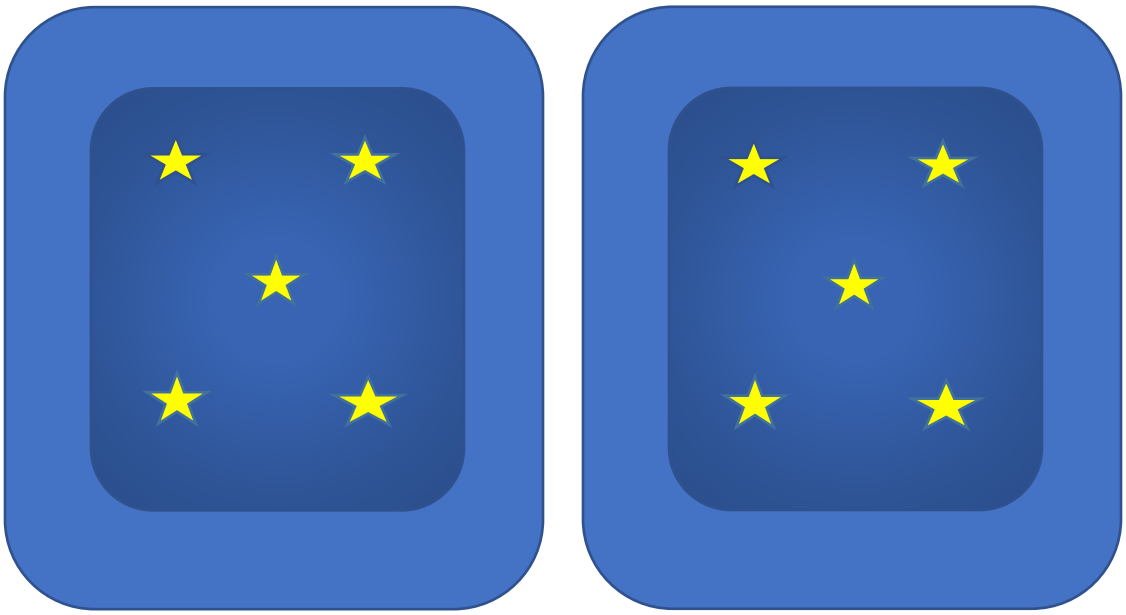
3. Closure Requirements

- Containment Pit Drainage
  - All reuse water remaining in the containment pit shall be removed from the impoundment within 60 days of operations cessation. The removed fluids will then be transferred to a division-approved disposal facility. Records of all removal, transfer, and disposal activities shall be retained for inclusion in the final closure report submittal.

- Liner Material Removal and Disposal
  - Removal of the liner shall be conducted in a manner that minimizes any risk of soil disturbance to the surface within and surrounding the containment. The removed liner material will then be transferred to and disposed of at a division-approved disposal facility. Records of all removal, transfer, and disposal activities shall be retained for inclusion in the final closure report submittal.

- Soil Sampling
  - Soil sampling shall be conducted at the locations depicted in the below schematic, Sampling Point Diagram, by a qualified third-party contractor and analyzed at NELAC certified laboratory.
  - If any contaminant concentration is higher than the parameters listed in Table 1 in 19.15.34.14 NMAC, notice shall be provided to the Hobbs NMOCD office before proceeding with closure.
  - If all sample concentrations are less than or equal to the parameters listed in Table 1 in 19.15.34.14 NMAC, then closure can proceed, backfilling with non-waste containing, uncontaminated, earthen material

- Sampling Diagram



- Site Reclamation and Re-vegetation
  - Following closure, reclamation of the containment's location can commence and ensure that it is returned to a safe and stable location that blends with the surrounding undisturbed area. Topsoil and subsoils shall be replaced to original positions and contoured to achieve erosion-free long-term stability and preservation of surface water flow patterns.
  - The disturbed area shall then be reseeded in the first favorable growing season following the closure of the containment. The surface area shall be restored to the condition that existed prior to the construction of the containment
  - Reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed and a uniform vegetative cover has been established that reflects a life form ratio of +/- 50% of pre-disturbance levels and a total percent plant cover of at least 70% of pre-disturbance levels, excluding noxious weeds.

4. Closure and Reclamation Report Submittal / Notice

- Closure Report
  - Within 60 days of closure completion, Centennial shall submit a closure report on form C-147 to the NMOCD Hobbs office, including required attachments, to document all closure activities including sampling results and the details of any backfilling, capping, or covering.
  - The closure report shall certify that all information in the report and attachments is correct, and that Centennial has complied with all applicable closure requirements and conditions specified in the division rules or directives

- Reclamation Notice
  - Centennial shall notify the NMOCD Hobbs office when all reclamation and re-vegetation are complete

5. Notifications

In the event of any deviance from this closure plan or exceeding of a sampling constituent, notice shall be provided to the NMOCD Hobbs office.

District 1
1625 N. French Drive
Hobbs, New Mexico 88240
OFFICE: (575) 241-7063

6. Associated Forms

- List of Associated forms for containment pit closure
  - Form C-147 Long

Venegas, Victoria, EMNRD

From: Venegas, Victoria, EMNRD
Sent: Monday, May 9, 2022 11:07 AM
To: JD.McGuire@cdevinc.com; Galan Kelley
Subject: 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321]
Attachments: C-147. 1RF-486 - MERCHANT SOUTH CONTAINMENT 05.06.2022.pdf

1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321]

Mr. McGuire,
NMOCD has reviewed the recycling containment permit application and related documents, submitted by [372165] CENTENNIAL RESOURCE PRODUCTION, LLC on April 20, 2022, for 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] in Unit Letter P, Section 26, Township 22S, Range 34E, Lea County, New Mexico.

[372165] CENTENNIAL RESOURCE PRODUCTION, LLC requested variances from 19.15.34 NMAC for 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321]. The following variances have been approved:

- The variance from 19.15.34.13.E NMAC for the installation of a Mega Bird X audible bird deterrence system, is approved.
- The variance from 19.15.34.13.D NMAC, for the installation of a 6-foot galvanized chain link fence with 3 strands of barbed wire on the top of the chain-link fencing, is approved.
- The variance to 19.15.34.12 A (4) NMAC for the installation on the containments of a 40-mil HDPE for the secondary liner, in lieu of a 30-mil LLDPE string-reinforced, is approved.

The form C-147 and related documents for 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] is approved with the following conditions of approval:

- The purpose of this permit is for oil and gas activities regulated under the NMAC 19.15.34.3 STATUTORY AUTHORITY: 19.15.34 NMAC is adopted pursuant to the Oil and Gas Act, Paragraph (15) of Section 70-2-12(B) NMSA 1978, which authorizes the division to regulate the disposition of water produced or used in connection with the drilling for or producing of oil and gas or both and Paragraph (21) of Section 70-2-12(B) NMSA 1978 which authorizes the regulation of the disposition of nondomestic wastes from the exploration, development, production or storage of crude oil or natural gas.
- [372165] CENTENNIAL RESOURCE PRODUCTION, LLC shall construct, operate, maintain, close, and reclaim 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] consisting of two (2) earthen impoundments of 455,577.54 BBLS of capacity each (volume at 3 feet of freeboard), in compliance with 19.15.34 NMAC.
- 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] is bonded per 19.15.34.15.(A)(2) NMAC. Water reuse and recycling from 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] is limited to wells owned or operated by [372165] CENTENNIAL RESOURCE PRODUCTION, LLC.

- 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] is approved for five years of operation from the date of the permit application. 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] permit expires on April 20, 2027. If [372165] CENTENNIAL RESOURCE PRODUCTION, LLC wishes to extend operations past five years, an annual permit extension request must be submitted using an OCD form C-147 through OCD Online by March 20, 2027.

- [372165] CENTENNIAL RESOURCE PRODUCTION, LLC shall notify NMOCD when construction of 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] commences.

- [372165] CENTENNIAL RESOURCE PRODUCTION, LLC shall notify NMOCD when recycling operations commence and cease at 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321].

- A minimum of 3-feet freeboard must be maintained at 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] at all times during operations.

- If less than 20% of the total fluid capacity is utilized every six months, beginning from the first withdrawal, operation of the facility is considered ceased and notification of cessation of operations should be sent electronically to OCD Online. An extension request to extend the cessation of operation, not to exceed six months, may be submitted using a C-147 form through OCD Online.

- [372165] CENTENNIAL RESOURCE PRODUCTION, LLC shall submit monthly reports of recycling and reuse of produced water, drilling fluids, and liquid oil field waste on OCD form C-148 through OCD Online even if there is zero activity. The new Form C-148 can be found at:
https://www.emnrd.nm.gov/ocd/wp-content/uploads/sites/6/Revised-C-148-Form-January-2022.pdf

- [372165] CENTENNIAL RESOURCE PRODUCTION, LLC shall comply with 19.15.29 NMAC Releases in the event of any release of produced water or other oil field wastes at 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321].

- The re-vegetation and reclamation obligations imposed by federal, state trust land or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of any operator subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.

- [372165] CENTENNIAL RESOURCE PRODUCTION, LLC shall notify the division via OCD Online when reclamation and re-vegetation are complete.

Please reference number 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] in all future communications.
Regards,

Victoria Venegas ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
(575) 909-0269 | Victoria.Venegas@state.nm.us
http://www.emnrd.state.nm.us/OCD/

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-147
Revised April 3, 2017

Recycling Facility and/or Recycling Containment

Type of Facility: [X] Recycling Facility [X] Recycling Containment*

Type of action: [X] Permit [X] Registration
[ ] Modification [ ] Extension
[ ] Closure [ ] Other (explain) _____

*** At the time C-147 is submitted to the division for a Recycling Containment, a copy shall be provided to the surface owner.**

Be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Centennial Resource Development, Inc. (For multiple operators attach page with information) OGRID #: 372165
Address: 500 W. Illinois Avenue, Suite 500, Midland, TX 79701
Facility or well name (include API# if associated with a well): Merchant South Containment and Recycle Facility
OCD Permit Number: 1RF-486 - FACILITY [fVV2212647321] (For new facilities the permit number will be assigned by the district office)
U/L or Qtr/Qtr SE / SE Section 26 Township 22S Range 34E County: Lea County
Surface Owner: [ ] Federal [ ] State [X] Private [ ] Tribal Trust or Indian Allotment

2.
[X] **Recycling Facility:**
Location of recycling facility (if applicable): Latitude 32.357921° Longitude -103.433087° NAD83
Proposed Use: [ ] Drilling* [X] Completion* [ ] Production* [ ] Plugging *
The re-use of produced water may NOT be used until fresh water zones are cased and cemented
[ ] Other, ***requires permit for other uses. Describe use, process, testing, volume of produced water and ensure there will be no adverse impact on groundwater or surface water.***
[X] Fluid Storage
[X] Above ground tanks [X] Recycling containment [ ] Activity permitted under 19.15.17 NMAC explain type _____
[ ] Activity permitted under 19.15.36 NMAC explain type: _____ [ ] Other explain _____
[ ] For multiple or additional recycling containments, attach design and location information of each containment
[ ] **Closure Report (required within 60 days of closure completion):** [ ] Recycling Facility Closure Completion Date: _____

3.
[X] **Recycling Containment:**
[ ] Annual Extension after initial 5 years (attach summary of monthly leak detection inspections for previous year)
Center of Recycling Containment (if applicable): Latitude 32.358205° Longitude -103.434360° NAD83
[ ] For multiple or additional recycling containments, attach design and location information of each containment
[X] Lined [X] Liner type: Thickness 60 Primary / 40 Secondary mil [ ] LLDPE [X] HDPE [ ] PVC [ ] Other _____
[ ] String-Reinforced
Liner Seams: [X] Welded [ ] Factory [ ] Other _____ Volume: 552,599 bbl Dimensions: L 408' x W 478' x D 25'
Two containments with common wall - volume & dimensions above is each
Total containment capacity for both 1,045,199 (L = 816' x W = 478' x D = 25')
[ ] Recycling Containment Closure Completion Date: _____

4.
Bonding:

☒ Covered under bonding pursuant to 19.15.8 NMAC per 19.15.34.15(A)(2) NMAC **(These containments are limited to only the wells owned or operated by the owners of the containment.)**

☐ Bonding in accordance with 19.15.34.15(A)(1). Amount of bond $_____ **(work on these facilities cannot commence until bonding amounts are approved)**

☐ Attach closure cost estimate and documentation on how the closure cost was calculated.

5.
Fencing:

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☒ Alternate. Please specify 6-foot tall chain link fence w/ 3-strand barbwire on 45 degree toppers

6.
Signs:

☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

7.
Variances:

Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.

Check the below box only if a variance is requested:

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.

If a Variance is requested, it must be approved prior to implementation.

8.
Siting Criteria for Recycling Containment

Instructions: The applicant must provide attachments that demonstrate compliance for each siting criteria below as part of the application. Potential examples of the siting attachment source material are provided below under each criteria.

General siting

Ground water is less than 50 feet below the bottom of the Recycling Containment. NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; written approval obtained from the municipality	☐ Yes ☒ No ☐ NA
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Minerals Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; topographic map	☐ Yes ☒ No
Within a 100-year floodplain. FEMA map	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; aerial photo; satellite image	☐ Yes ☒ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; topographic map; visual inspection (certification) of the proposed site	☐ Yes ☒ No

9.
Recycling Facility and/or Containment Checklist:
Instructions: Each of the following items must be attached to the application. Indicate, by a check mark in the box, that the documents are attached.

- [X] Design Plan - based upon the appropriate requirements.
- [X] Operating and Maintenance Plan - based upon the appropriate requirements.
- [X] Closure Plan - based upon the appropriate requirements.
- [X] Site Specific Groundwater Data -
- [X] Siting Criteria Compliance Demonstrations –
- [X] **Certify that notice of the C-147 (only) has been sent to the surface owner(s)**

10.
Operator Application Certification:
I hereby certify that the information and attachments submitted with this application are true, accurate and complete to the best of my knowledge and belief.

Name (Print): JD McGuire Title: Water Resource Manager

Signature: Date: 4/18/2022

e-mail address: JD.McGuire@cdevinc.com Telephone: 432-315-0136

11.
OCD Representative Signature: Victoria Venegas **Approval Date:** 05/06/2022

Title: Environmental Specialist **OCD Permit Number:** **1RF-486 - FACILITY [fVV2212647321]**

- [X] OCD Conditions
- [X] Additional OCD Conditions on Attachment

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 100320

CONDITIONS

Operator: CENTENNIAL RESOURCE PRODUCTION, LLC 1001 17th Street, Suite 1800 Denver, CO 80202	OGRID: 372165
	Action Number: 100320
	Action Type: [C-147] Water Recycle Long (C-147L)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	NMOCD has reviewed and approved the recycling containment permit application and related documents, submitted by [372165] CENTENNIAL RESOURCE PRODUCTION, LLC on April 20, 2022, for 1RF-486 - MERCHANT SOUTH CONTAINMENT AND RECYCLE FACILITY ID [fVV2212647321] in Unit Letter P, Section 26, Township 22S, Range 34E, Lea County, New Mexico	5/9/2022