NM1 - ___35_____

Vadose Zone Well Installation As-Built Document

Dec. 21, 2021

Vadose Zone Well Installation
As-Built Document

LEA LAND, LLC SURFACE WASTE MANAGEMENT FACILITY
PERMIT # NM1-35

LEA COUNTY, NEW MEXICO
VADOSE ZONE MONITORING WELLS
AS-BUILT DOCUMENT

Submitted To:

New Mexico Oil Conservation Division
Environmental Bureau
1220 South St Francis Dr.
Santa Fe, New Mexico 87505
505.476.3441

Prepared For:

Lea Land LLC
1300 West Main Street
Oklahoma City, OK, 73106
405.236.4257

Prepared By:

Clay Kilmer, LLC
3312 June St. NE
Albuquerque, NM 87111
505.235.4482

December 2021

CKLLC Project #: LLC-TO1-VZ WELLS

Clay Kilmer, LLC
Environmental Geoscience
Water Resources

December 21, 2021

Ms. Leigh Barr
Permitting Group Supervisor
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Lea Land LLC SWMF Permit NM1-35:
Vadose Well Installation Report:
Vadose Wells VZ-1,2,3 and 4

Dear Ms. Barr:

On behalf of our client, Lea Land LLC, Clay Kilmer, LLC is providing this Report summarizing design field activities related to the installation monitoring wells LLC VZ-1, LLC VZ-2, LLC VZ-3, and LLC VZ-4 at the Lea Land LLC Surface Waste Management Facility, in accordance with the 6/22/2020 NMOCD approval of facility modification, **Condition 6.B**. In addition to one hard copy (hand delivered), a copy has been placed in the "Facility Operating Record" on-site.

The monitoring wells were installed in accordance with the *"Lea Land LLC Vadose Zone Monitoring Well Installation Workplan"* (Clay Kilmer, LLC, 8/23/2021); which included NMOCD Notice of Intent to install wells (**Attachment 1**). Consistent with projected conditions, the wells were dry upon completion (11/04/2021), and were dry upon the initial monitoring event, conducted 11/29/2021.This Report has been reviewed and verified by a Qualified Groundwater Scientist; and the Certification Statement of Clay Kilmer, P.G., is provided as **Attachment 2**.

We appreciate NMOCD's ongoing review of permitting and environmental monitoring documents for the Lea Land LLC facility. Please contact us with your questions or comments.

Sincerely,

Clay Kilmer
Sr Hydrogeologist, P.G.

cc: Ms. Stephanie Grantham, President, Lea Land LLC
Mr. Mark Turnbough, PhD
Mr. I. Keith Gordon, P.E., IKG, LLC
Mr. Joe Ontiveros, Lea Land, LLC (Facility Operating Record)

Clay Kilmer LLC
3312 June Street, Northeast
Albuquerque, NM 87111
(505) 235-4482
claykilmer@gmail.com

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1.0 PROJECT SUMMARY

Lea Land LLC (the Facility) is an existing Surface Waste Management Facility (SWMF) providing oil field waste solids (OFWS) disposal services. The Facility is located approximately 27 miles northeast of Carlsbad, straddling US Highway 62-180 (Highway 62) in Lea County, NM. The Lea Land site is comprised of a 642-acre ± tract of land encompassing Section 32, Township 20 South, Range 32 East, Lea County, NM (**Figure 1**). Site access is currently provided on the south side of US Highway 62. The coordinates for the approximate center of the Lea Land site are Latitude 32°31'46.77" and Longitude -103°47'18.25".

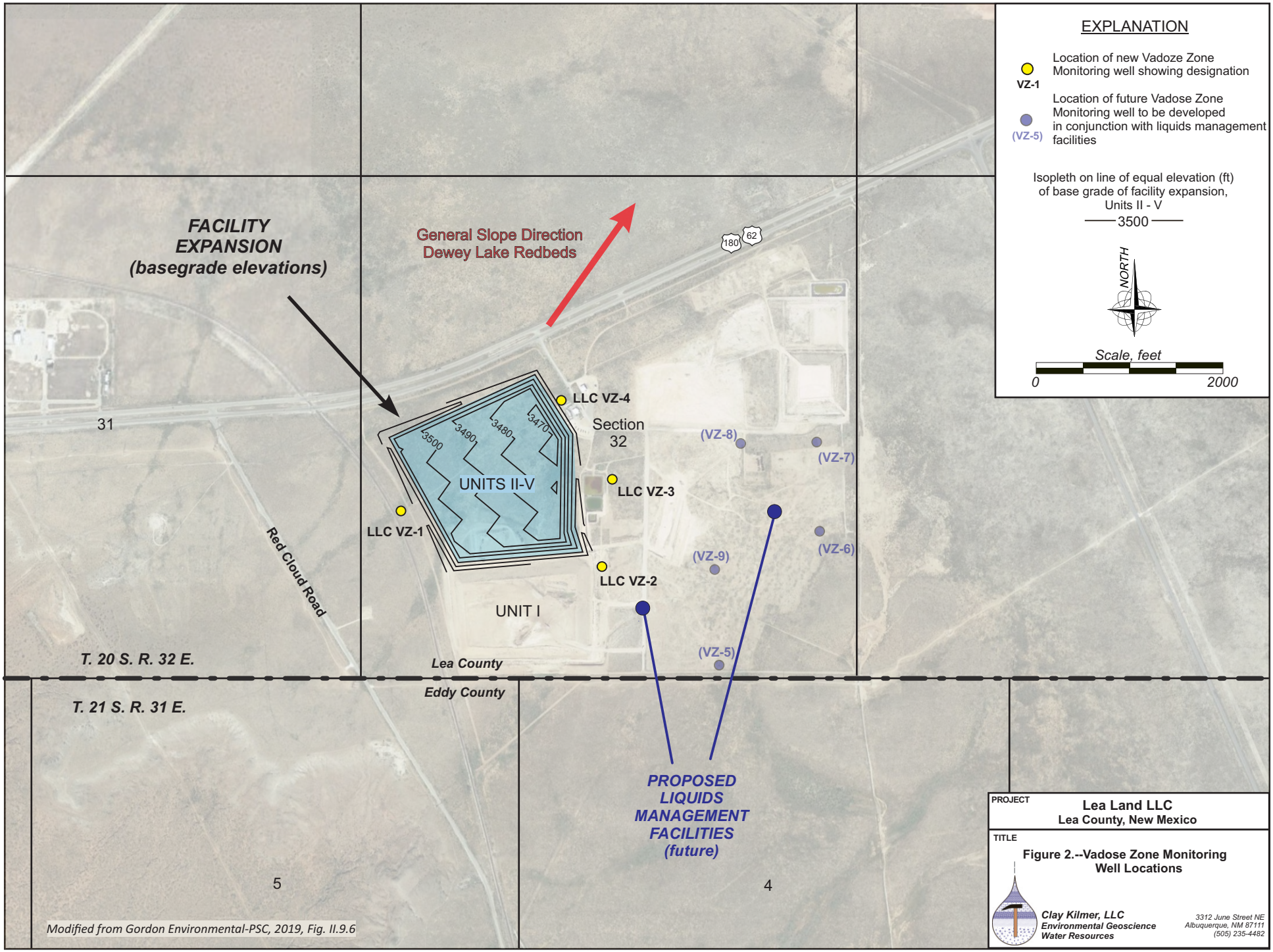
The Facility is owned and operated by Lea Land LLC and is subject to regulation under the New Mexico Oil and Gas Rules, specifically 19.15.9.711 and 19.15.36 NMAC, administered by the Oil Conservation Division (OCD) of the NM Energy, Minerals, and Natural Resources Department (NMEMNRD). The Facility permit was renewed and modified in 2020 to amend facility boundaries and waste geometry pursuant to an application for major permit modification, submitted July 30, 2019 and approved June 22, 2020.

Based upon the presence of shallow laterally extensive confining bedrock units beneath the site, the 2019 permit modification application included a request for approval of vadose zone monitoring alternative to groundwater monitoring required by **19.15.36.14.B NMAC**. The vadose zone monitoring plan included with the 2019 permit application was approved in the Facility Permit (**NM 1-35 Permit Condition 6.B**). The approved vadose zone monitoring plan included proposals for installation of 4 monitoring wells arrayed around existing and expansion waste management units, as well as for 5 additional monitoring wells arrayed around future liquid waste management facilities, shown in **Figure 2**.

PROJECT
Lea Land LLC
Lea County, New Mexico

TITLE
Figure 1.--Site Location Map

Clay Kilmer, LLC
Environmental Geoscience
Water Resources
3312 June Street NE
Albuquerque, NM 87111
(505) 235-4482


EXPLANATION
VZ-1
Location of new Vadoze Zone Monitoring well showing designation
(VZ-5)
Location of future Vadose Zone Monitoring well to be developed in conjunction with liquids management facilities
Isopleth on line of equal elevation (ft) of base grade of facility expansion, Units II - V
3500
NORTH
Scale, feet
0
2000
FACILITY EXPANSION (basegrade elevations)
General Slope Direction Dewey Lake Redbeds
180
62
LLC VZ-4
Section 32
31
3500
3490
3480
3470
UNITS II-V
LLC VZ-3
LLC VZ-1
LLC VZ-2
(VZ-8)
(VZ-7)
(VZ-6)
(VZ-9)
(VZ-5)
Red Cloud Road
UNIT I
T. 20 S. R. 32 E.
Lea County
Eddy County
T. 21 S. R. 31 E.
PROPOSED LIQUIDS MANAGEMENT FACILITIES (future)
5
4
Modified from Gordon Environmental-PSC, 2019, Fig. II.9.6
PROJECT
Lea Land LLC
Lea County, New Mexico
TITLE
Figure 2.--Vadose Zone Monitoring Well Locations
Clay Kilmer, LLC
Environmental Geoscience
Water Resources
3312 June Street NE
Albuquerque, NM 87111
(505) 235-4482

Monitoring wells LLC VZ-1, LLC VZ-2, LLC VZ-3 and LLC VZ-4 were installed in accordance with the Well Installation Workplan and Notice of Intent for Well Installation, submitted August 23, 2021. The wells were installed in compliance with the rules and regulations of the New Mexico Office of the State Engineer, **19.27.4 NMAC**.

Boring and well installation was performed by Talon LPE, Amarillo, TX, under the direct oversight of Clay Kilmer. Between November 2 and November 4, 2020, the following activities were completed:

- Borehole Advancement
- Monitoring Well Installation
- Surface Completion

2.0 MONITORING WELL INSTALLATION

2.1 Underground Utility Clearance

Prior to beginning well drilling and construction, a project ticket was filed with New Mexico 811 underground utility protection system. All entities operating utilities in the vicinity were contacted and provided locations of proposed wells. Responses were received from each utility operator, indicating that no infrastructure was close to any of the proposed well locations. Documentation of the NM-811 clearance is included as **Attachment 7**.

2.2 Borehole Advancement

Well drilling was performed using direct air rotary drilling to advance a 6-inch diameter drag bit to total depth in each hole. Depth-referenced air return cuttings samples were collected at 5-foot intervals. Samples were examined and logs detailing the texture, lithology, induration, sorting, moisture content and color of the penetrated sediments and rock were made. Each of the monitoring wells fully penetrated a surface veneer of alluvium and a complete section of the Santa Rosa Sandstone and reached total depth in the uppermost portion of the Dewey Lake Redbeds. Each well was completed to monitor moisture and vapor conditions at the interface of basal Santa Rosa Sandstone and the impermeable Dewey Lake Redbeds below.

Well LLC VZ-1 penetrated 10 feet of sandy loam and caliche before striking dense fine-grained pale greenish yellow sandstone of the Santa Rosa Sandstone. Approximately 56 feet of Santa Rosa Sandstone was penetrated before soft brown sandy siltstone of the Dewey Lake Redbeds was struck. Slightly moist and low plasticity siltstone was found at a depth of between 35 feet and the drilled depth of 40 feet. The well was completed at a total depth of 38 feet with screen interval set between 28 feet and 38 feet below land surface.

Well LLC VZ-2 penetrated 12 feet of sandy silty loam and caliche before striking dense, fine, silty, reddish brown dry interbedded sandstone and siltstone of the Santa Rosa Sandstone. Approximately 56 feet of Santa Rosa Sandstone was penetrated before soft brown sandy siltstone of the Dewey Lake Redbeds was struck. Slightly moist and low plasticity sandy siltstone was found in basal Santa Rosa Sandstone and upper Dewey Lake Redbeds between 65 feet and the drilled depth of 80 feet. The well was completed at a total depth of 75 feet with screen interval set between 65 feet and 75 feet below land surface.

Well LLC VZ-3 penetrated 24 feet of sandy loam and caliche before striking dense fine grained pale yellow silty sandstone of the Santa Rosa Sandstone. Approximately 21 feet of Santa Rosa Sandstone was penetrated before soft reddish orange sandy, dry siltstone of the Dewey Lake Redbeds was struck. The well was completed at a total depth of 58 feet with screen interval set between 48 feet and 58 feet below land surface.

Well LLC VZ-4 penetrated 24 feet of sandy loam and caliche before striking fine grained brown silty sandstone of the Santa Rosa Sandstone. Approximately 18 feet of Santa Rosa Sandstone was penetrated before soft reddish orange sandy, dry siltstone of the Dewey Lake Redbeds was struck. Slightly moist and low plasticity siltstone was found in upper Dewey Lake Redbeds Santa Rosa Sandstone and upper Dewey Lake Redbeds between 42 feet and the drilled depth of 50 feet. The well was completed at a total depth of 48 feet with screen interval set between 38 feet and 48 feet below land surface.

Lithologic logs and well completion details are presented on the Lea Land, LLC well logs, included as **Attachment 4**. Well Records and Logs with lithologic descriptions and well completion details were prepared on Form WR-20 by Talon LPE and submitted to the NMOSE in accordance with

well permit requirements. Copies of the Well Records for wells LLC VZ-1 thru LLC VZ-4 are included as **Attachment 5.**

2.3 Well Construction

Each of the monitoring wells was completed to monitor moisture and soil vapor conditions in basal Santa Rosa Sandstone and uppermost Dewey Lake Redbeds below. Each well was constructed with 2-inch flush-threaded, SCH 40 PVC blank casing, well screen, gravel pack, annular seals and above grade well vaults. Each well was screened with 10 lineal feet of 0.010-inch machine slotted pipe with a solid PVC bottom end cap and expanding upper plug cap. The blank casing interval in each well extends from the top of the screen to approximately 3 feet above ground surface. Well casings, screens, centralizers and annular fill materials were placed inside the drilled hole after drill bit and stems were removed. Gravel packs and bentonite chip seals were placed by gravity flow from land surface and verified with a weighted tag line to verify annular fill levels and ensure that no bridging occurred. Neat cement grout seals were placed with a tremie line, flooding the well annuli from tops of bentonite chip seals to approximately one foot below land surface.

Annular gravel packs consisting of 12/20 silica sand, were placed into the annular spaces opposite each well screen from total depth to approximately 2 feet above the top of the screened section in each well. Annular seals consisting of approximately 2 feet of 3/8" bentonite pellets were placed above the sand filter pack and hydrated using potable water. Each well annulus was flooded with neat cement grout sealant to approximately one foot. The remaining annular spaces were filled to the ground surface with concrete during surface completions. Each well was completed with a 4-inch aluminum square tube lockable well shroud and a 4 ft x 4 ft x 6-inch cement well pad with 4-inch traffic bollards arrayed around each well pad. Each well pad was equipped with a permanent monument and labeled with the well number. Photographs of surface completions and well construction materials are included as **Attachment 6**. **Figure 3** provides a general as-built construction schematic for wells LLC VZ-1 thru LLC VZ-4.

2.4 Well Locations, Completions and Stratigraphic Intercepts

Locations of monitoring wells LLC VZ-1 thru LLC VZ-4 were verified by handheld Global Positioning System (GPS) receiver, with a 2-meter accuracy. Land surface elevations of each well location were estimated using terrain data from USGS 7.5-minute quadrangle (Williams Sink, 1985). Well locations, summary completions and stratigraphic intercepts are summarized in **Table 1**.

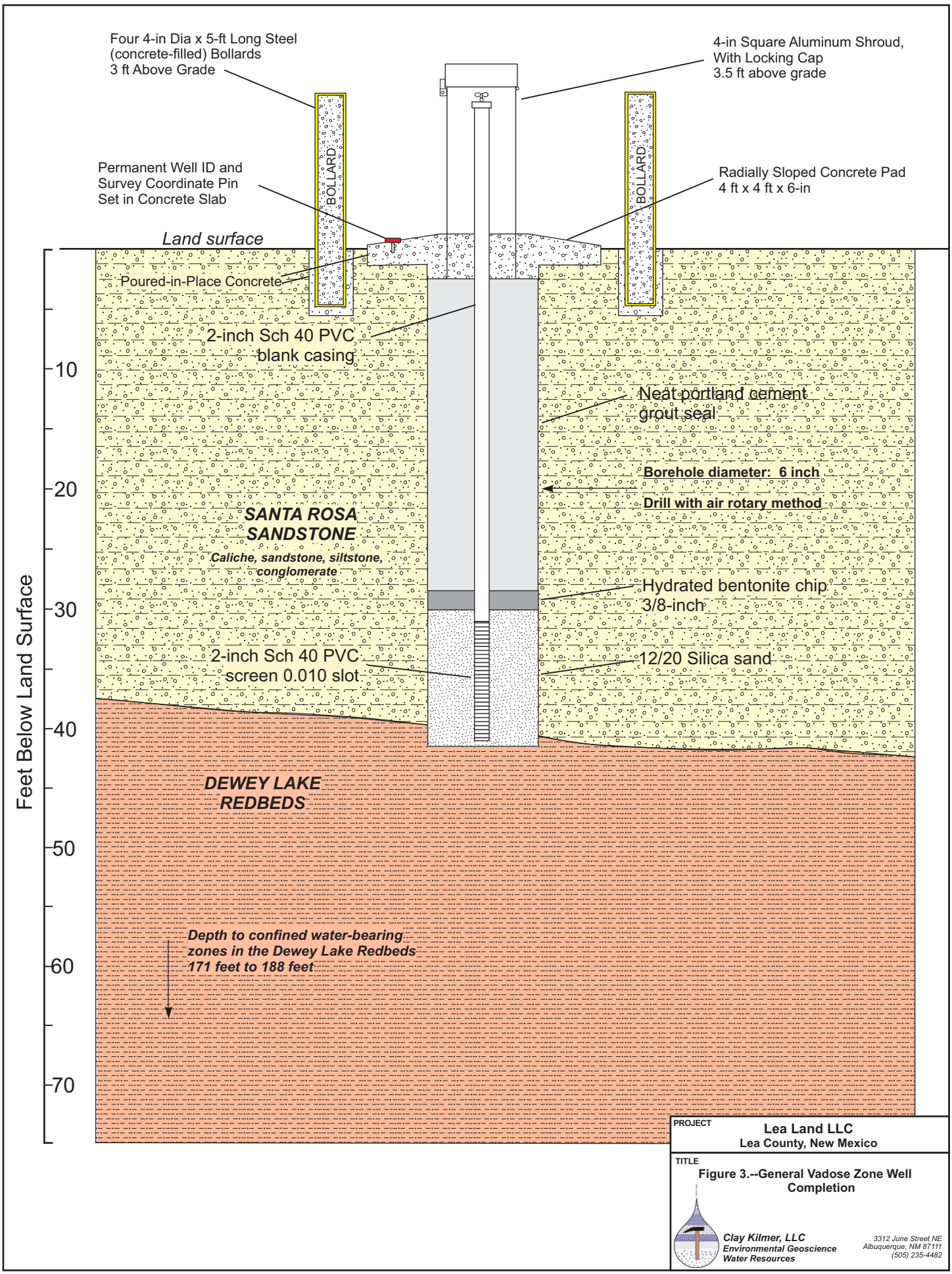
TABLE 1 – Monitoring Well Locations, Completions and Stratigraphic Intercepts

Well I.D.	NMOSE Permit No	Well Completion Date	Location[1]		Ground Level Elev. (fmsl)[2]	Top Casing Elev. (fmsl)	Well Casing Material	Well Diam. (in.)	Total Depth (fbgs)	Screen Interval (fbgs)	Depth Top Dewey Lake Redbeds (fbgs)	Elevation Top Dewey Lake Redbeds (fmsl)
			Northing	Easting								
LLC VZ-1	CP-1874 P1	11/3/2021	3599501	613144	3550	3553	Sch 40 PVC	2	38	28-38	29	3521
LLC VZ-2	CP-1872 P1	11/3/2021	3599328	613773	3539	3542	Sch 40 PVC	2	75	65-75	69	3470
LLC VZ-3	CP-1874 P2	11/3/2021	3599638	613802	3526	3529	Sch 40 PVC	2	58	48-58	45	3481
LLC VZ-4	CP-1874 P3	11/4/2021	3599882	613633	3519	3522	Sch 40 PVC	2	48	38-48	41	3478

Notes:

[1]Locations UTM Zone 13 S, WGS-84, meters

[2]Elevations estimated from USGS 7.5' topo
fmsl: feet above mean sea level
fbgs: feet below ground surface



PROJECT
Lea Land LLC
Lea County, New Mexico

TITLE
Figure 3.--General Vadose Zone Well Completion

Clay Kilmer, LLC
Environmental Geoscience
Water Resources
3312 June Street NE
Albuquerque, NM 87111
(505) 235-4482

3.0 BASELINE VADOSE ZONE WELL MONITORING

The vadose zone monitoring plan in the 2019 permit application included commitments for regular monitoring of the vadose zone monitoring network wells for presence of fluids and contaminant vapors. The Facility Permit Approval (**NM 1-35 Permit Condition 6.B**) included requirements for regular monitoring of the vadose zone wells for presence of liquids and gaseous hydrogen sulfide and methane.

The new vadose zone monitoring wells were sounded on November 29, 2021, approximately three weeks after completion, and each well was confirmed to be dry. Each vadose zone well was purged and vapor samples were collected and field screened using a calibrated MultiRae Mini gas monitor, testing for gaseous methane, hydrogen sulfide, volatile organic compounds (VOCs), carbon monoxide and oxygen. No methane, hydrogen sulfide, carbon monoxide, or VOCs was detected in vapor samples from any of the vadose zone wells. A copy of the report on the 11/29/21 and 11/30/21 vadose zone monitoring event is included as **Attachment 8**.

4.0 CONCLUSIONS

Results of boring and initial sounding of monitor wells LLC VZ-1 thru LLC VZ-4 indicate that dry conditions are present on the perching horizon at the interface of the Santa Rosa Sandstone and Dewey Lake Redbeds at the Facility. Stratigraphic evaluations confirmed that the perching horizon atop the Dewey Lake Redbeds dips easterly such that the monitoring well network provides one upgradient well and three downgradient wells from existing and future waste management cells.

Wells will be monitored in accordance with vadose zone monitoring specified in the NMOCD 6/22/2020 Permit Approval Conditions and commitments set forth in the 2019 permit modification application. In the event that fluids are noted in any of the wells at a future date, groundwater monitoring will proceed in each well with fluid, as appropriate

ATTACHMENT 1

NMED Well Installation Notice of Intent (08/05/2021)

NMOCD NOTICE OF INTENT

INSTALL AND/OR DECOMMISSION BOREHOLES, PIEZOMETERS OR GROUND WATER WELLS

Date: 08/05/2021

Owner/Operator Name: Lea Land, LLC

Mailing address: 1300 W. Main St, Oklahoma City, OK 73106

Phone: (505) 827-2855 Well or Boring(s) # LLC-VZ-1, LLC-VZ-2, LLC-VZ-3

Facility Name: Lea Land LLC Surface Waste Management Facility Permit No NM1-35

Consultant/Contractor Name: Clay Kilmer, LLC

Mailing Address: 3312 June Street NE, ABQ, NM 87111

Phone: (505) 235-4482

Qualified Ground Water Scientist Name (Print): Clay Kilmer

This Notice of Intent is to provide at least 30 days prior notification to the New Mexico Oil Conservation Division of the (X) installation and/or ( ) decommissioning of any boreholes, piezometers, or ground water monitoring wells per **Section 6.M of the Approval Conditions of Permit NM1-35, June 22, 2020**.

1. I certify that the (X) installation and/or ( ) decommissioning will comply with the Oil and Gas Rules and any other rules or regulations that might apply.
2. I certify that within 30 days of final completion of the installation that an installation report in accordance with **Section 6.N of the Approval Conditions of Permit NM1-35, June 22, 2020**, will be submitted to the OCD.
3. I certify that the facility monitoring plan will be revised as appropriate to include any changes (installation and/or decommissioning) in the approved facility monitoring plan and sent to the OCD for final approval and then be placed in the facility record.
4. I certify that I have notified the State Engineers Office of the above install/decommission and have obtained required permits for proposed actions.

Clay Kilmer

Certification Signature (Ground Water Scientist)

ATTACHMENT 2

Qualified Groundwater Scientist Certification

ATTACHMENT 2

QUALIFIED GROUNDWATER SCIENTIST CERTIFICATION

This is to certify that, to the best of my knowledge and belief, the attached Installation Report for Monitoring Wells LLC VZ-1, LLC VZ-2, LLC VZ-3 and LLC VZ-4 for the Lea Land LLC Surface Waste Management Facility, NMOCD # NM1-035 is accurate and complete; and that the monitoring devices have been installed in accordance with the Well Installation Workplan (02/11/2021). I am a Qualified Groundwater Scientist pursuant to 20.9.9 NMAC.

Clay Kilmer

Signature of Qualified Groundwater Scientist

Date: 11/26/2021

L. Clay Kilmer, P.G.
Senior Hydrogeologist
claykilmer@gmail.com
Clay Kilmer, LLC.
3312 June Street NE
Albuquerque, New Mexico 87111
505.235-4482

ATTACHMENT 3

NMOSE-Approved Well Permit (06/08/2021)

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 697046
File Nbr: CP 01872 POD1

Jun. 08, 2021

CLAY KILMER
CLAY KILMER LLC
3312 JUNE STREET NE
ALBUQUERQUE, NM 87111

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

JUAN HERNANDEZ
(575)622-6521

Enclosure

explore

File No. CP-1872 POD1

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	☐ Construction Site/Public Works Dewatering	☐ Other(Describe):
☒ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☐ Temporary Request - Requested Start Date: 05/15/2021 Requested End Date: 05/15/2041

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: Lea Land LLC	Name: Clay Kilmer
Contact or Agent: Stephanie Grantham check here if Agent ☐	Contact or Agent: check here if Agent ☒
Mailing Address: 1300 West Main Street	Mailing Address: 3312 June Street NE
City: Oklahoma City	City: Albuquerque
State: OK Zip Code: 73106	State: NM Zip Code: 87111
Phone: 405-236-4257 ☐ Home ☐ Cell Phone (Work):	Phone: 505-235-4482 ☐ Home ☒ Cell Phone (Work):
E-mail (optional):	E-mail (optional): claykilmer@gmail.com

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 11/17/16

File No.: CP-1872	Trn. No.: 697046	Receipt No.:
Trans Description (optional): POD 1		
Sub-Basin: CP	PCW/LOG Due Date: 6-8-22	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

■ UTM (NAD83) (Meters)
☐ Zone 12N
■ Zone 13N

☐ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
LLC-VZ-2 CP-1872 POD1	613764.08	3599329.05	T.20S.R.32E.S.32 NESESW

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ Yes ■ No **If yes, how many**_____

Other description relating well to common landmarks, streets, or other:
Monitor wells at the Lea Land LLC Oil and Gas Waste Management Facility, 28 miles east of Carlsbad NM

Well is on land owned by: Lea Land LLC

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ Yes ■ No
If yes, how many_____

Approximate depth of well (feet): 55 ft	Outside diameter of well casing (inches): 2
Driller Name: Talon LPE	Driller License Number: 1800

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Proposed monitoring well will be completed as Vadose Zone monitoring wells at the alluvium and bedrock contact. Depth will not exceed 100 feet.

FOR OSE INTERNAL USE Application for Permit, Form WR-07

File No.: CP-1872	Trn No.: 697046

OSE DIT JUN 1 2021 PM4:23

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory: ☐ Include a description of any proposed pump test, if applicable.	**Pollution Control and/or Recovery:** ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	**Construction De-Watering:** ☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	**Mine De-Watering:** ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ■ Include the reason for the monitoring well, and, ■ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Clay Kilmer (agent for Lea Land LLC)
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Clay Kilmer
Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 8th day of June 20 21, for the State Engineer,

John R. D'Antonio, Jr., P.E., State Engineer

By: _____
Signature Print

Title: Juan Hernandez, Water Resource Manager I
Print

FOR OSE INTERNAL USE Application for Permit, Form WR-07

File No.: CP-1872	Trn No.: 697046

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

17-1A Depth of the well shall not exceed the thickness of the valley fill.

17-4 No water shall be appropriated and beneficially used under this permit.

17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.

17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: CP 01872 POD1 File Number: CP 01872
Trn Number: 697046

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

17-Q The State Engineer retains jurisdiction over this permit.

17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

LOG The Point of Diversion CP 01872 POD1 must be completed and the Well Log filed on or before 06/08/2022.

IT IS THE PERMITTEES RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

SHOULD THE PERMITTEE CHANGE THE PURPOSE OF USE TO OTHER THAN MONITORING PURPOSES, AN APPLICATION SHALL BE ACQUIRED FROM THE OFFICE OF THE STATE ENGINEER.

Trn Desc: CP 01872 POD1 File Number: CP 01872
Trn Number: 697046

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 06/01/2021 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 8th day of Jun A.D., 2021

John R. D'Antonio, Jr., P.E., State Engineer

By: _____
JUAN HERNANDEZ

Trn Desc: CP 01872 POD1

File Number: CP 01872
Trn Number: 697046

Coordinates

UTM - NAD 83 (m) - Zone 13

Easting **613764.080**

Northing **3599329.050**

State Plane - NAD 83 (f) - Zone E

Easting **709211.721**

Northing **555325.353**

Degrees Minutes Seconds

Latitude **32 : 31 : 31.707667**

Longitude **-103 : 47 : 19.198174**

Location pulled from Coordinate Search

NEW MEXICO OFFICE
OF THE
STATE ENGINEER

N

1:4,514

ft
0 90 180 360

Office of the State Engineer
Interstate Stream Commission

Image Info
Source: Maxar
Date: 7/14/2020
Resolution (m):0.31
Accuracy (m): 5

Spatial Information
OSE Administrative Area: Lea
County: Lea
Groundwater Basin: Capitan
Abstract Area:CP

Sub-Basin: Upper Pecos-Black

Land Grant: Not in Land Grant
Restrictions:
NA

PLSS Description
NENESESW Qtr of Sec 32 of 020S 032E

Derived from CADNSDI- Qtr Sec locations are calculated and are only approximations

Calculated PLSS

◆ Coord Search Location

OSE District Boundary

New Mexico State Trust Lands

Subsurface Estate

Surface Estate

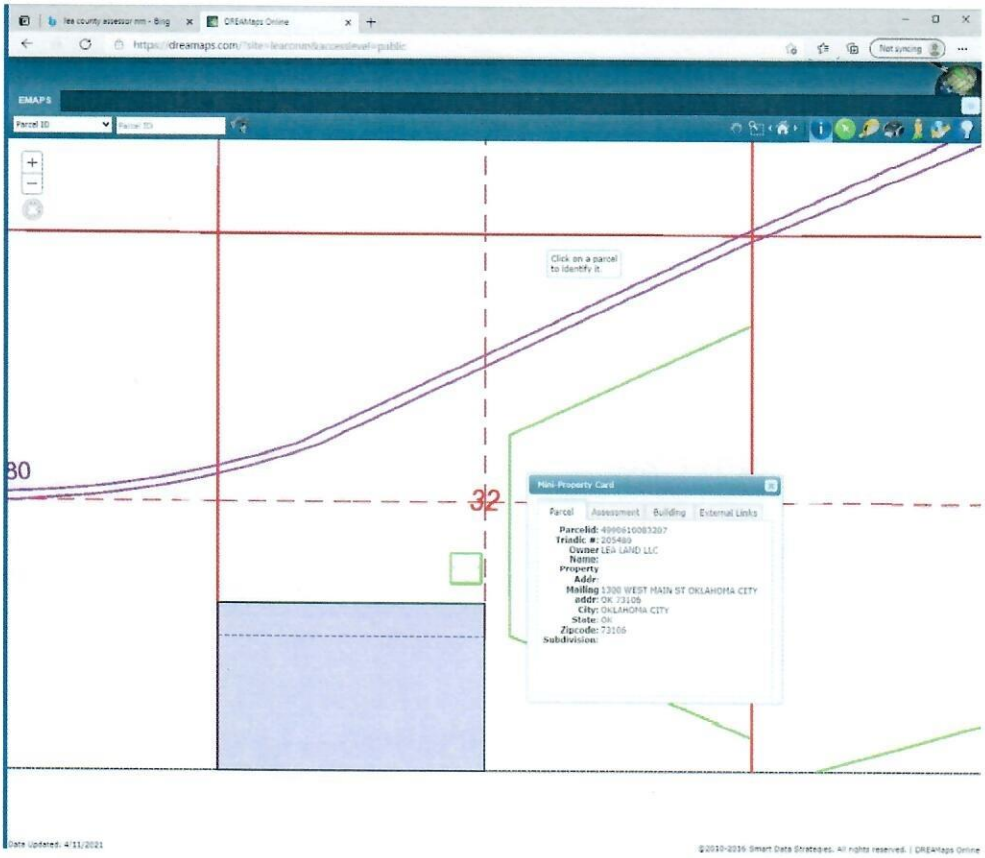
Both Estates

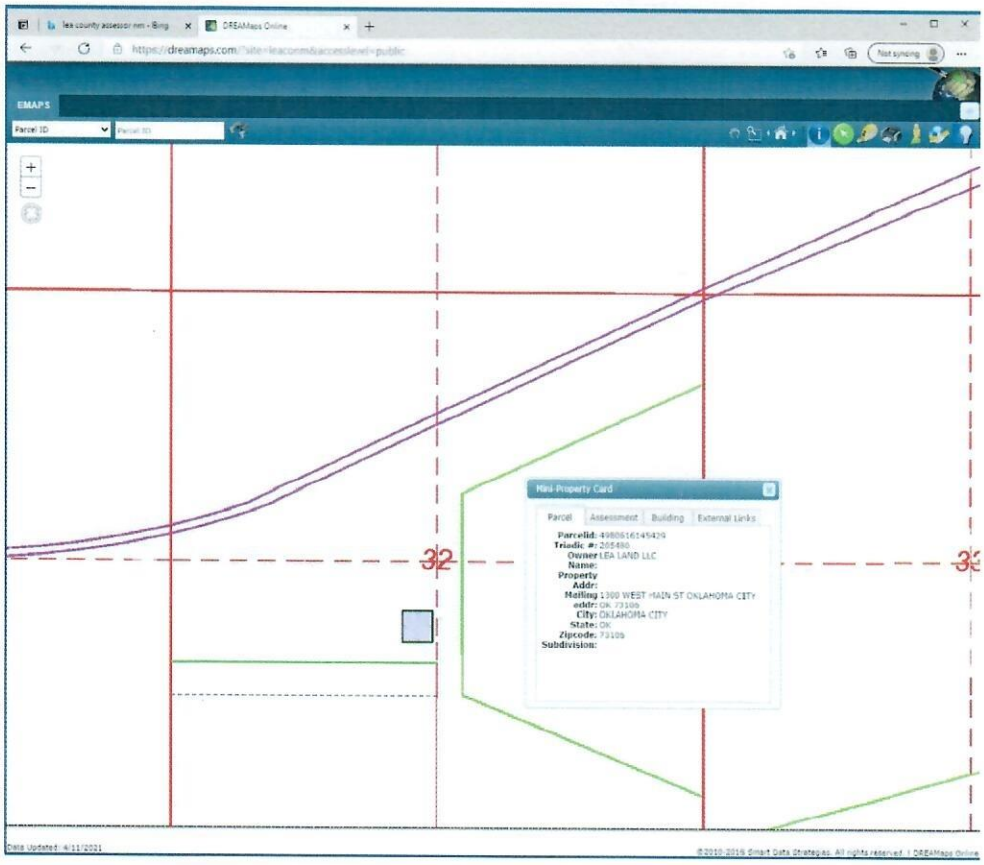
SiteBoundaries

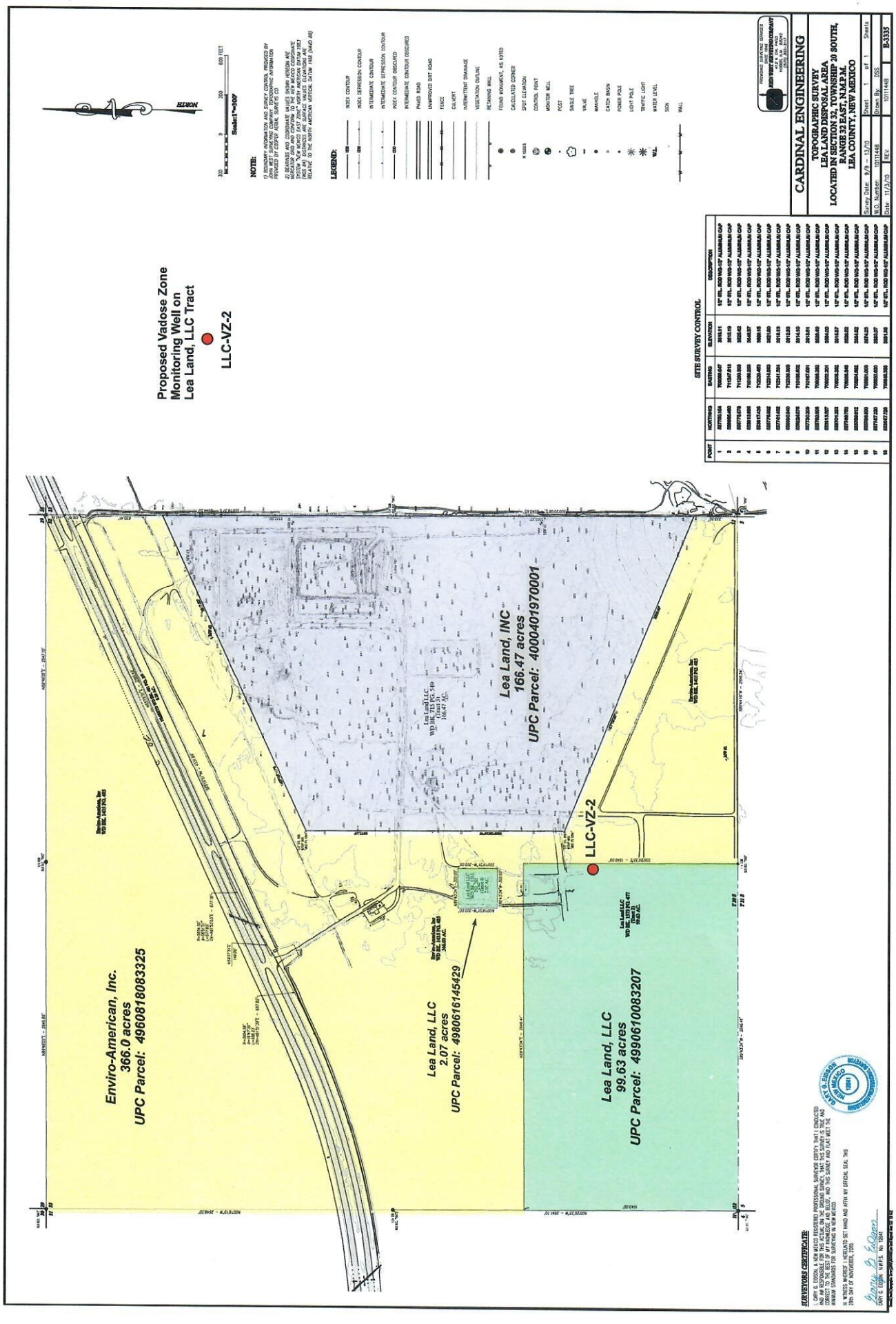
POD Information
Owner: LEA LAND INC
File Number: CP- 1872 POD1
POD Status: NoData
Permit Status: NoData
Permit Use: NoData
Purpose: MONITOR/LLC-VZ-2

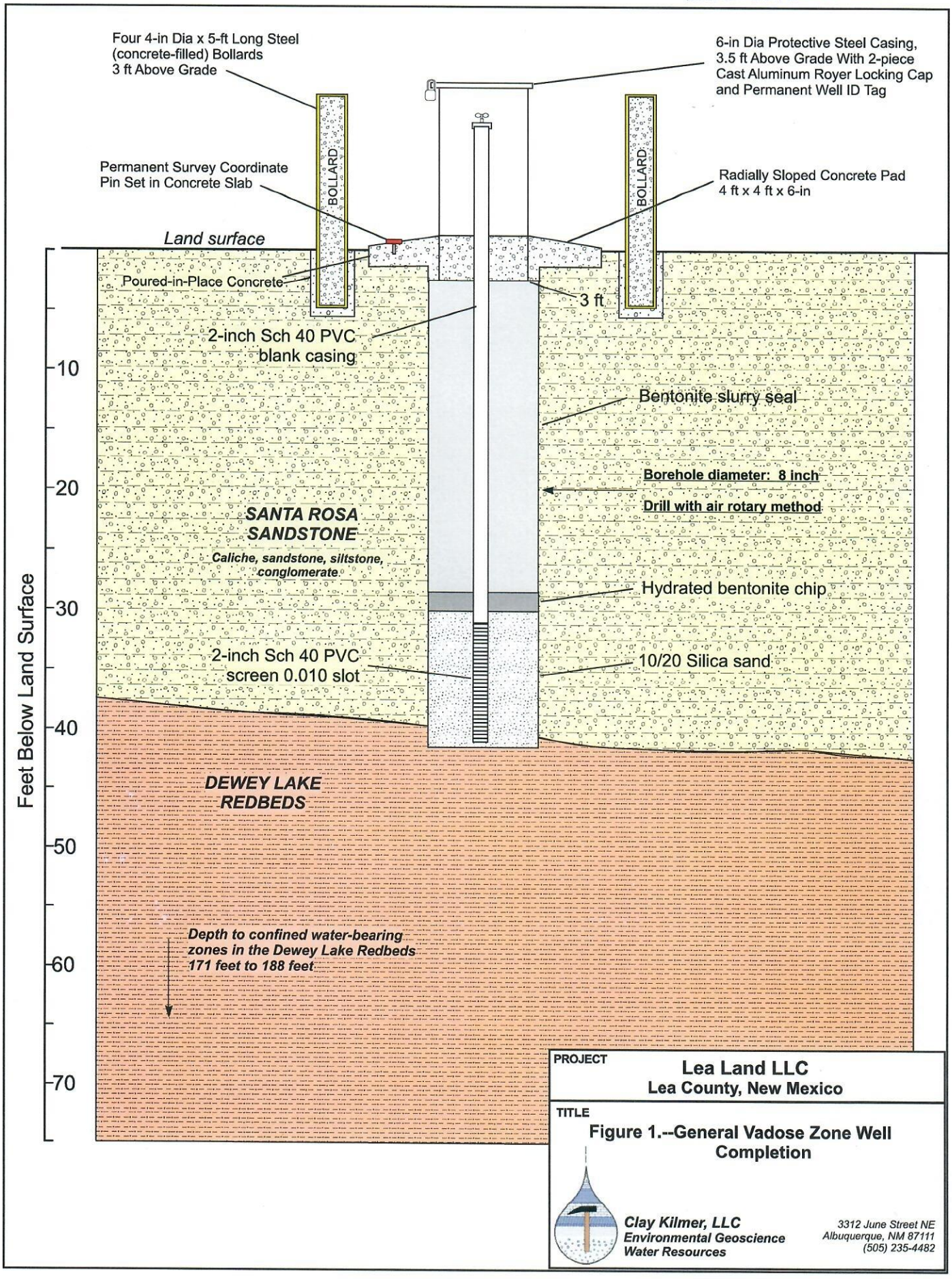
YM 6/8/202

Lea County Assessor maps of Lea Land, LLC tracts.









PROJECT

Lea Land LLC
Lea County, New Mexico

TITLE

Figure 1.--General Vadose Zone Well Completion

Clay Kilmer, LLC
Environmental Geoscience
Water Resources

3312 June Street NE
Albuquerque, NM 87111
(505) 235-4482

2

9

OSE DIT JUN 1 2021 PM4:24

56468

WARRANTY DEED

Know All Men by these Presents: That **Lea Land, Inc.**, grantor, in consideration of the sum of ten and no/100 dollars and other valuable consideration in hand paid, does hereby grant, bargain, sell and convey unto **Lea Land, LLC**, an Oklahoma Limited Liability Company, the following described real property and premises situated in Lea County, New Mexico, to-wit:

Section 32, Township 20 South, Range 32 East, N.M.P.M. in Lea County, New Mexico, 2 acres, more or less, in the Southwest Quarter Section beginning at a point 1840 feet North, 40 feet West of the South ¼ corner Glo B.C. "1916", thence, 300 feet west, thence 300 feet North, thence 300 feet East and 300 feet South, to the point of beginning, P.O.B., being the same land referred as Tract 4 in Book 1435, Page 486 in the deeds records of Lea County, NM.

together with all improvements thereon and appurtenances thereto belonging and warranty the title to same.

TO HAVE AND TO HOLD said described premises unto the said grantee, forever free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature, EXCEPT subject to outstanding oil, gas and other minerals and mineral rights of record, and also subject to easements of records, as well as visible easements, if any.

Signed and delivered this 27 day of May, 2008.

Lea Land, Inc.

By: _____
Robert G. Hall

Title: President

State of Oklahoma)
)ss:
County of Oklahoma)

Before me, the undersigned, a Notary Public in and for the County and State on this 27 day of May, 2008, personally appeared Robert G. Hall, to me known to be the identical person who subscribed his name and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth, and in the capacity therein stated. Given under my hand and seal the day and year last written above.

My Commission Expires: 3-17-2010

_____
Notary Public

BOOK 1583 PAGE 205

DSE DIT JUN 1 2021 PM4:24

56468

STATE OF NEW MEXICO
COUNTY OF LEA
FILED

JUN 2 2008

at 1:31 o'clock A M
and recorded in Book
Page
Melinda Hughes, Lea County Clerk
By Deputy

COUNTY CLERK SEAL NEW MEXICO LEA COUNTY

BOOK 1583 PAGE 206

2
1
D

DSE-DIT JUN 1 2021 PM4:24

53920

WARRANTY DEED

Know All Men by these Presents: That **Lea Land, Inc.**, grantor, in consideration of the sum of ten and no/100 dollars and other valuable consideration in hand paid, does hereby grant, bargain, sell and convey unto **Lea Land, LLC**, an Oklahoma Limited Liability Company, the following described real property and premises situated in Lea County, New Mexico, to-wit:

Section 32, Township 20 South, Range 32 East, N.M.P.M. in Lea County, New Mexico. 100 acres, more or less, in the Southwest Quarter Section Beginning at the Southwest Corner, Glo B.C. "1916", of Section 32, thence North 1640 feet, thence East 2646.41 feet, thence 1640 feet South to the ¼ corner, Glo B.C. "1916". Next, west 2646.41 feet, N89°43'34" East, to the Southwest corner, Glo B.C. "1916", being the same land referred as Tract 2 in Book 1435, Page 485 in the deeds records of Lea County, NM.

together with all improvements thereon and appurtenances thereto belonging and warranty the title to same.

TO HAVE AND TO HOLD said described premises unto the said grantee, forever free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature, EXCEPT subject to outstanding oil, gas and other minerals and mineral rights of record, and also subject to easements of records, as well as visible easements, if any.

Signed and delivered this 4th day of April, 2008.

23850

Lea Land, Inc.

By: _____
Robert G. Hall

Title: President

State of Oklahoma)
)ss:
County of Oklahoma)

Before me, the undersigned, a Notary Public in and for the County and State on this 4 day of April, 2008, personally appeared Robert G. Hall, to me known to be the identical person who subscribed his name and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth, and in the capacity therein stated. Given under my hand and seal the day and year last written above.

NOTARY PUBLIC STATE OF OKLAHOMA KINGFISHER COUNTY

My Commission Expires: 3-17-2010

_____
Notary Public

BOOK 1573 PAGE 477

53920

STATE OF NEW MEXICO
COUNTY OF LEA
FILED

APR 07 2008

at 8:58 o'clock A M
and recorded in Book
Page
Melinda Hughes, Lea County Clerk
By Deputy

COUNTY CLERK SEAL LEA COUNTY, NEW MEXICO

BOOK 1573 PAGE 478

Clay Kilmer, LLC
Environmental Geoscience
Water Resources

May 24, 2021

Mr. Andy Morley
Supervisor, District 2
New Mexico Office of the State Engineer
1900 West 2nd Street
Roswell, NM 88201-1712

RE: APPLICATION FOR ENVIRONMENTAL MONITORING WELLS, LEA LAND LLC FACILITY

Dear Mr. Morley:

Thank you very much for your effort to evaluate the enclosed application to install a shallow vadose zone monitoring well at the Lea Land LLC. Surface Waste Management Facility, located in western Lea County. I am transmitting three original copies of completed NMOSE form WR-07 and supporting documents for permitting the monitoring well at the facility, which comes under the regulatory purview of the New Mexico Oil Conservation Division (NMOCD). The proposed well is being installed to comply with a facility operations and monitoring plan which includes commitments for vadose zone monitoring well placement, completion and monitoring. The monitoring well will be completed to monitor shallow subsurface perching horizons at the interface of the Santa Rosa Sandstone and the Dewey Lake Redbeds below. Attached are a facility map showing the facility property, location of the proposed monitoring well, and a well design schematic showing proposed well construction. Also attached are a copy of the Warranty Deed and Lea County property plat map showing the property owned by Lea Land LLC., as well as a letter from Ms. Stephanie Grantham, President of Lea Land LLC, appointing me as the Lea Land LLC's agent to acquire NMOSE permits for the new well.

I appreciate your effort to process this application. If you have any questions or comments, please do not hesitate to contact me. Thanks again for your help with this.

Sincerely,

Clay Kilmer, P.G.
Senior Hydrogeologist

Attachments: Completed NMOSE Form WR-07; Application for permit to drill wells with no water right
Lea Land LLC facility map, general well completion schematic
Lea County Assessor and plat maps and Warranty Deed showing ownership of land tract
Letter of Authorized Agent Appointment
Check for $5 to the NMOSE

cc: Stephanie Grantham, Lea Land LLC
Keith Gordon, IKG, LLC

Clay Kilmer LLC
3312 June Street, Northeast
Albuquerque, NM 87111
(505) 235-4482
claykilmer@gmail.com

LEA LAND, LLC
1300 West Main Street
Oklahoma City, OK 73106
405-236-4257
lealandllc@gmail.com

May 12, 2021

Mr. Andy Morley
Supervisor, District 2
New Mexico Office of the State Engineer
1900 West 2nd Street
Roswell, NM 88201-1712

RE: LEA LAND LLC. WASTE MANAGEMENT FACILITY – DESIGNATION OF AUTHORIZED AGENT

Dear Mr. Morley:

Please consider this transmittal to be Lea Land LLC's authorization appointing Mr. Clay Kilmer, P.G. as Lea Land LLC's agent empowered to act on Lea Land LLC's behalf to file an "Application for Permit to Drill a Well With No Consumptive Use of Water" (Form WR-07). We anticipate that Mr. Kilmer will submit an application to the New Mexico Office of the State Engineer (NMOSE) for permits to drill three vadose zone monitoring wells at the Lea Land LLCs, surface waste management facility which is owned by Lea Land LLC. and is located on a Lea County property identified as UPC Parcel 4990610083207.

Thank you for your consideration in this matter. If you have any questions or comments, please contact me at 405-236-4257, or Mr. Kilmer at (505) 235-4482.

Sincerely,

Stephanie Grantham

Stephanie Grantham
Manager

OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2 - 43425 DATE: 6/1/21 FILE NO.: L

TOTAL: 5.00 RECEIVED: Five dlls DOLLARS CHECK NO.: 103 CASH: _____

PAYOR: Clay Kilmer LLC ADDRESS: 3312 June NE CITY: Albq STATE: NM

ZIP: 87111 RECEIVED BY: C.K-G

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; and **yellow** copy for Water Rights. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of your daily deposit.

A. Ground Water Filing Fees

___ 1.	Change of Ownership of Water Right	$ 2.00
___ 2.	Application to Appropriate or Supplement Domestic 72-12-1 Well	$ 125.00
___ 3.	Application to Repair or Deepen 72-12-1 Well	$ 75.00
___ 4.	Application for Replacement 72-12-1 Well	$ 75.00
___ 5.	Application to Change Purpose of Use 72-12-1 Well	$ 75.00
___ 6.	Application for Stock Well/Temp. Use	$ 5.00
___ 7.	Application to Appropriate Irrigation, Municipal, or Commercial Use	$ 25.00
___ 8.	Declaration of Water Right	$ 1.00
___ 9.	Application for Additional Point of Diversion Non 72-12-1 Per Well	$ 25.00
___ 10.	Application to Change Place or Purpose of Use Non 72-12-1 Well	$ 25.00
___ 11.	Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water	$ 50.00
___ 12.	Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water	$ 50.00
___ 13.	Application to Change Point of Diversion of Non 72-12-1 Well	$ 25.00
___ 14.	Application to Repair or Deepen Non 72-12-1 Well	$ 5.00
31 15.	Application for Test, Expl. Observ. Well	$ 5.00
___ 16.	Application for Extension of Time	$ 25.00
___ 17.	Proof of Application to Beneficial Use	$ 25.00
___ 18.	Notice of Intent to Appropriate	$ 25.00

B. Surface Water Filing Fees

___ 1.	Change of Ownership of a Water Right	$ 5.00
___ 2.	Declaration of Water Right	$ 10.00
___ 3.	Amended Declaration	$ 25.00
___ 4.	Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water	$ 200.00
___ 5.	Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water	$ 200.00
___ 6.	Application to Change Point of Diversion	$ 100.00
___ 7.	Application to Change Place and/or Purpose of Use	$ 100.00
___ 8.	Application to Appropriate	$ 25.00
___ 9.	Notice of Intent to Appropriate	$ 25.00
___ 10.	Application for Extension of Time	$ 50.00
___ 11.	Supplemental Well to a Surface Right	$ 100.00
___ 12.	Return Flow Credit	$ 100.00
___ 13.	Proof of Completion of Works	$ 25.00
___ 14.	Proof of Application of Water to Beneficial Use	$ 25.00
___ 15.	Water Development Plan	$ 100.00
___ 16.	Declaration of Livestock Water Impoundment	$ 10.00
___ 17.	Application for Livestock Water Impoundment	$ 10.00

All fees are non-refundable.

C. Well Driller Fees

___ 1.	Application for Well Driller's License	$ 50.00
___ 2.	Application for Renewal of Well Driller's License	$ 50.00
___ 3.	Application to Amend Well Driller's License	$ 50.00

D. Reproduction of Documents

___ @ 0.25¢ $_____

___ Map(s) @ $3.00 $_____

E. Certification $_____

F. Other $_____

G. Comments:

For: Lea Land LLC

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 698732
File Nbr: CP 01874

Jun. 25, 2021

CLAY KILMER
ENVIRO-AMERICAN, INC
3312 JUNE ST NE
ALBUQUERQUE, NM 87111

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Claudia Guillen
(575)622-6521

Enclosure

explore

File No. CP-1874

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐	Pollution Control And/Or Recovery	☐	Ground Source Heat Pump	
☐ Exploratory Well (Pump test)	☐	Construction Site/Public Works Dewatering	☐	Other(Describe):	
☒ Monitoring Well	☐	Mine Dewatering			

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☐ Temporary Request - Requested Start Date: 5/15/2021 Requested End Date: 5/15/2041

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: Enviro-American, Inc.	Name: Clay Kilmer
Contact or Agent: Stephanie Grantham — check here if Agent ☐	Contact or Agent: — check here if Agent ☒
Mailing Address: 1300 West Main Street	Mailing Address: 3312 June Street NE
City: Oklahoma City	City: Albuquerque
State: OK Zip Code: 73106	State: NM Zip Code: 87111
Phone: 405-236-4257 ☐ Home ☐ Cell Phone (Work):	Phone: 505-235-4482 ☐ Home ☒ Cell Phone (Work):
E-mail (optional):	E-mail (optional): claykilmer@gmail.com

FOR OSE INTERNAL USE — Application for Permit, Form WR-07, Rev 11/17/16

File No.: CP-1874	Trn. No.: 698732	Receipt No.: 243424
Trans Description (optional): MON		
Sub-Basin: CP	PCW/LOG Due Date: 6/25/2022	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☒ UTM (NAD83) (Meters)
☐ Zone 12N
☒ Zone 13N

☐ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
LLC-VZ-1 CP-1874 POD1	613114.09	3599502.46	T.20S.R.32E.S.32 SWNWSW
LLC-VZ-3 CP-1874 POD2	613805.00	3599637.00	T.20S.R.32E.S.32 NWNWSE
LLC-VZ-4 CP-1874 POD3	613644.00	3599887.00	T.20S.R.32E.S.32 SWSENW

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ **Yes** ☒ **No** **If yes, how many** _____

Other description relating well to common landmarks, streets, or other:
Monitor wells on Enviro-American Inc. property, 28 miles east of Carlsbad NM

Well is on land owned by: Lea Land LLC

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ **Yes** ☒ **No**
If yes, how many _____

Approximate depth of well (feet): 55 ft	Outside diameter of well casing (inches): 2
Driller Name: Talon LPE	Driller License Number: 1800

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Proposed monitoring wells will be completed as Vadose Zone monitoring wells at the alluvium and bedrock contact. Depths will not exceed 100 feet.

FOR OSE INTERNAL USE — Application for Permit, Form WR-07

File No.: CP-1874 Trn No.: 698732

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application.

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
☐ Include a description of any proposed pump test, if applicable.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ■ Include the reason for the monitoring well, and, ■ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Clay Kilmer (agent for Enviro-American, Inc.)
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Clay Kilmer
Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 25th day of June 20 21, for the State Engineer.

John R. D'Antonio Jr., P.E., State Engineer

By: Juan Hernandez
Signature Print

Title: Water Resources Manager I
Print

GREAT SEAL OF THE STATE OF NEW MEXICO · 1912 ·

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: CP-1874 Trn No.: 698732

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

17-1A Depth of the well shall not exceed the thickness of the valley fill.

17-4 No water shall be appropriated and beneficially used under this permit.

17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.

17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: CP 01874 POD1-3

File Number: CP 01874
Trn Number: 698732

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

17-Q The State Engineer retains jurisdiction over this permit.

17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

LOG The Point of Diversion CP 01874 POD1 must be completed and the Well Log filed on or before 06/25/2021.

LOG The Point of Diversion CP 01874 POD2 must be completed and the Well Log filed on or before 06/25/2021.

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG The Point of Diversion CP 01874 POD3 must be completed and the Well Log filed on or before 06/25/2021.

IT IS THE PERMITTEES RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd:	Date Rcvd. Corrected:
Formal Application Rcvd: 06/01/2021	Pub. of Notice Ordered:
Date Returned - Correction:	Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 25 day of Jun A.D., 2021

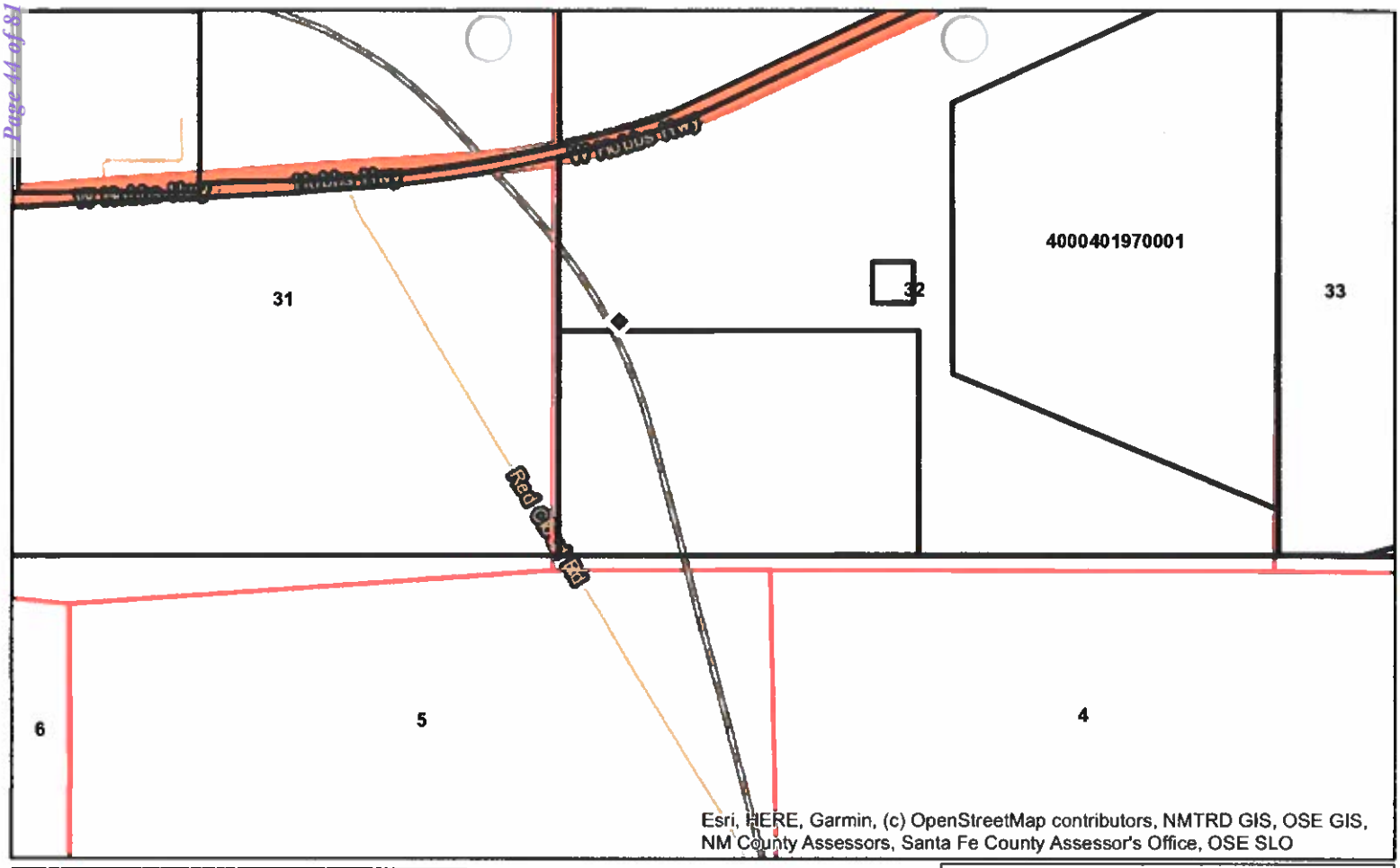
John R. D Antonio, Jr., P.E., State Engineer

By: JUAN HERNANDEZ

GREAT SEAL OF THE STATE OF NEW MEXICO 1912

Trn Desc: CP 01874 POD1-3

File Number: CP 01874
Trn Number: 698732



Coordinates

UTM - NAD 83 (m) - Zone 13

Easting 613114.194

Northing 3599502.236

State Plane - NAD 83 (f) - Zone E

Easting 707082.761

Northing 555906.984

Degrees Minutes Seconds

Latitude 32 : 31 : 37.570000

Longitude -103 : 47 : 44.030000

Location pulled from Coordinate Search

NEW MEXICO OFFICE OF THE STATE ENGINEER

1:18,056

mi

0 0.05 0.1 0.2

N

GUILLEN 6/25/2021

Spatial Information

County: Lea

Groundwater Basin: Capitan

Abstract Area:CP

Land Grant:
Not in Land Grant

Restrictions:

NA

PLSS Description

NESWNWSW Qtr of Sec 32 of 020S 032E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Parcel Information

UPC/DocNum:

Parcel Owner: ENVIRO-AMERICAN INC

Address:null null null null null 33106-5224

Legal: UPC 4960818083325: Township 20 S Range 32 E Section 32 363.29 AC LOC NE4 ALL OF SEC 32 *LESS TR BEG S33D35'43E 2453.59' FROM NW COR SEC 32, TH NE ALONG CURVE TO LEFT (RA

POD Information

Owner: ENVIRO-AMERICAN INC

File Number: CP-1874 POD1

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

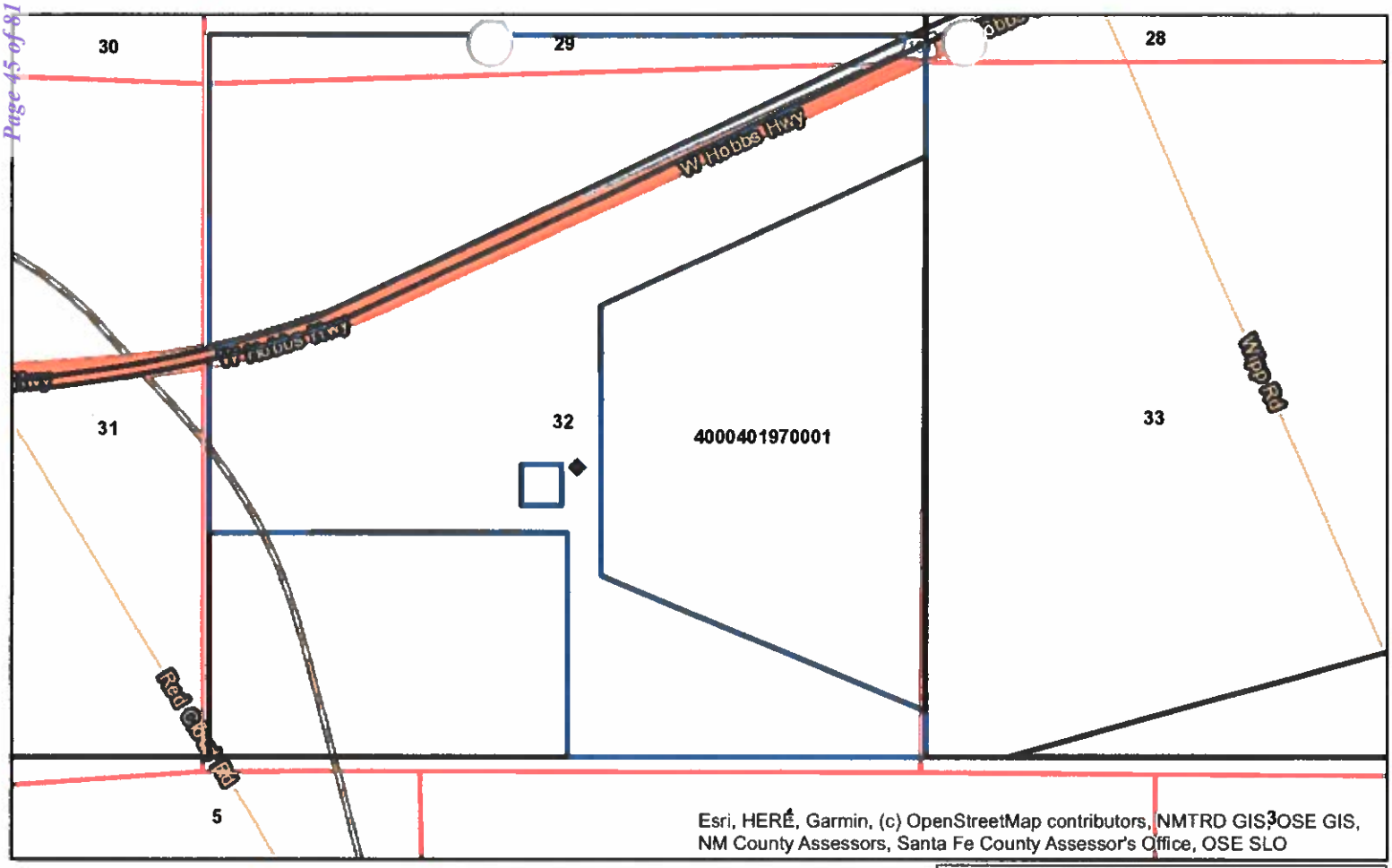
Purpose: MON

◆ Coord Search Location

☐ Chaves County Parcels 2020

☐ Lea County Parcels 2020

☐ Sections



Coordinates

UTM - NAD 83 (m) - Zone 13

Easting 613805.149

Northing 3599636.963

State Plane - NAD 83 (f) - Zone E

Easting 709352.804

Northing 556334.886

Degrees Minutes Seconds

Latitude 32 : 31 : 41.690000

Longitude -103 : 47 : 17.490000

Location pulled from Coordinate Search

NEW MEXICO OFFICE OF THE STATE ENGINEER

1:18,056

mi

0 0.05 0.1 0.2

N

GUILLEN 6/25/2021

Spatial Information

County: Lea

Groundwater Basin: Capitan

Abstract Area: CP

Land Grant:
Not in Land Grant

Restrictions:
NA

PLSS Description

SWNWNWSE Qtr of Sec 32 of 020S 032E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Parcel Information

UPC/DocNum:

Parcel Owner: ENVIRO-AMERICAN INC

Address: null null null null null 33106-5224

Legal: UPC 4960818083325: Township 20 S Range 32 E Section 32 363.29 AC LOC NE4 ALL OF SEC 32 *LESS TR BEG S33D35'43E 2453.59' FROM NW COR SEC 32, TH NE ALONG CURVE TO LEFT (RA

POD Information

Owner: ENVIRO-AMERICAN INC

File Number: CP-1874 POD2

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

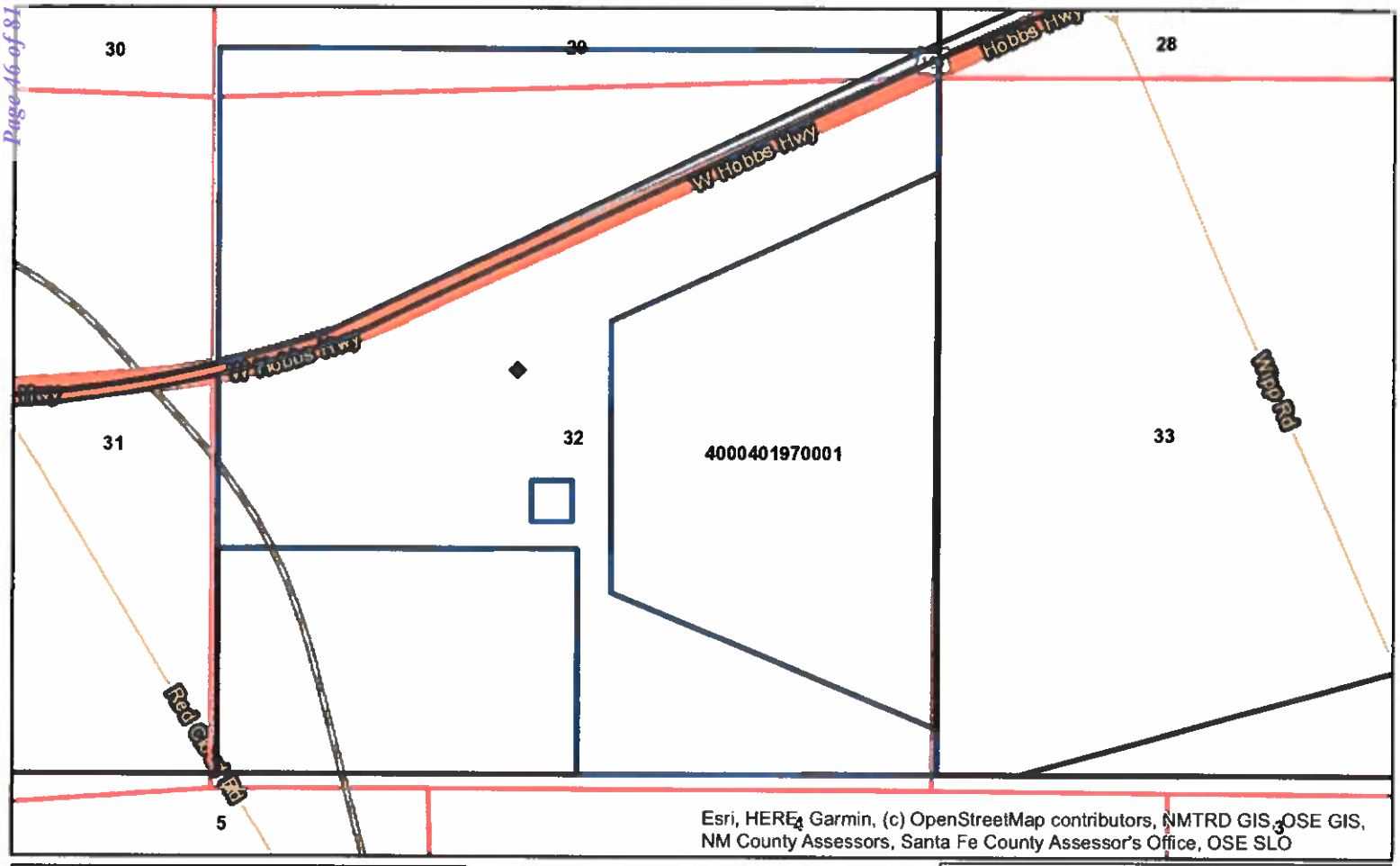
Purpose: MON

◆ Coord Search Location

Chaves County Parcels 2020

Lea County Parcels 2020

Sections



Coordinates

UTM - NAD 83 (m) - Zone 13

Easting 613644.194

Northing 3599886.762

State Plane - NAD 83 (f) - Zone E

Easting 708829.784

Northing 557157.872

Degrees Minutes Seconds

Latitude 32 : 31 : 49.860000

Longitude -103 : 47 : 23.550000

Location pulled from Coordinate Search

NEW MEXICO OFFICE OF THE STATE ENGINEER

1:18,056

mi

0 0.05 0.1 0.2

N

GUILLEN 6/25/2021

Office of the State Engineer

Interstate Stream Commission

Spatial Information

County: Lea

Groundwater Basin: Capitan

Abstract Area:CP

Land Grant:
Not in Land Grant

Restrictions:

NA

PLSS Description

SWSESENW Qtr of Sec 32 of 020S 032E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Parcel Information

UPC/DocNum:

Parcel Owner: ENVIRO-AMERICAN INC

Address:null null null null null 33106-5224

Legal: UPC 4960818083325: Township 20 S Range 32 E Section 32 363.29 AC LOC NE4 ALL OF SEC 32 *LESS TR BEG S33D35'43E 2453.59' FROM NW COR SEC 32, TH NE ALONG CURVE TO LEFT (RA

POD Information

Owner: ENVIRO-AMERICAN INC

File Number: CP-1874 POD3

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

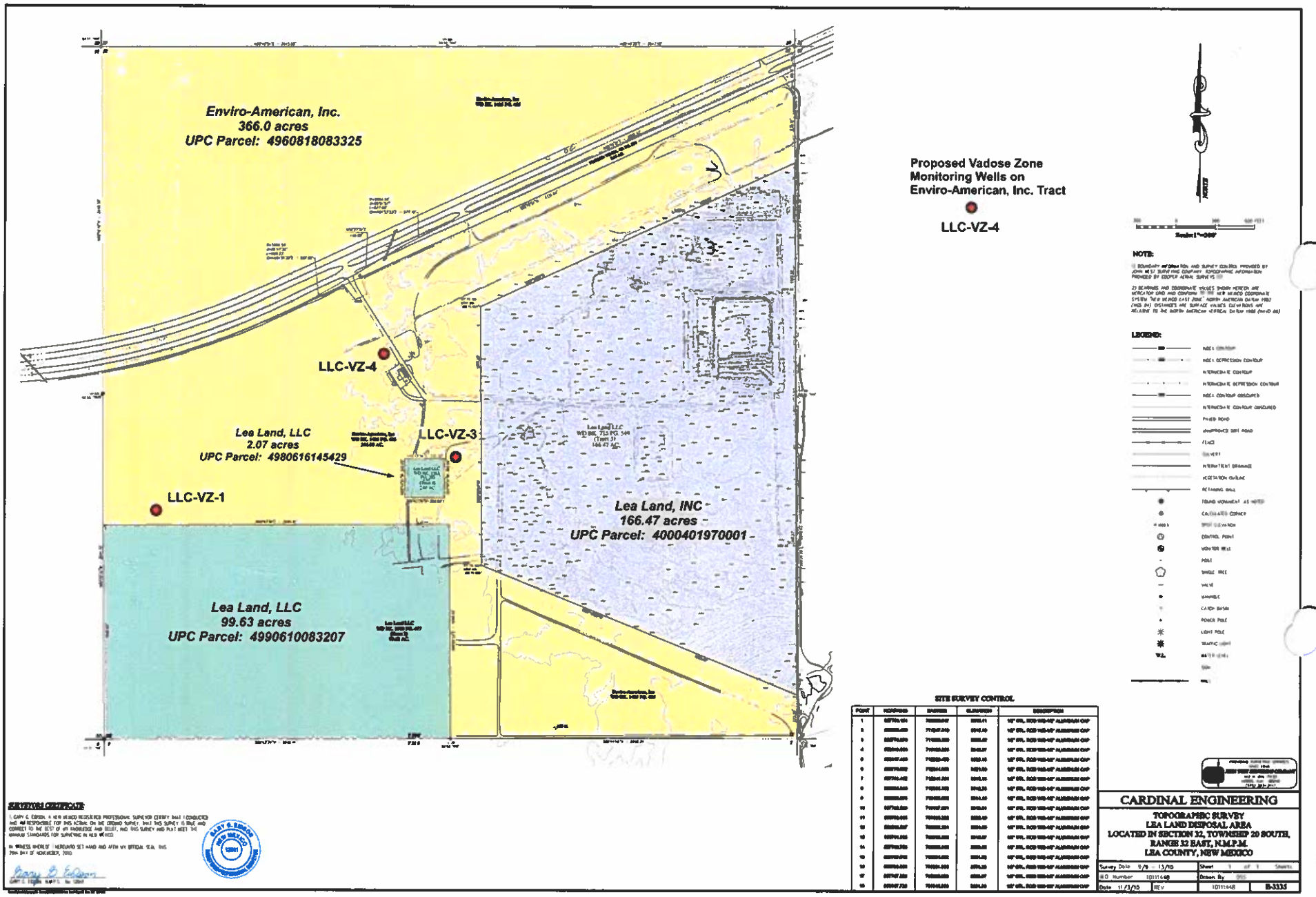
Purpose: MON

◆ Coord Search Location

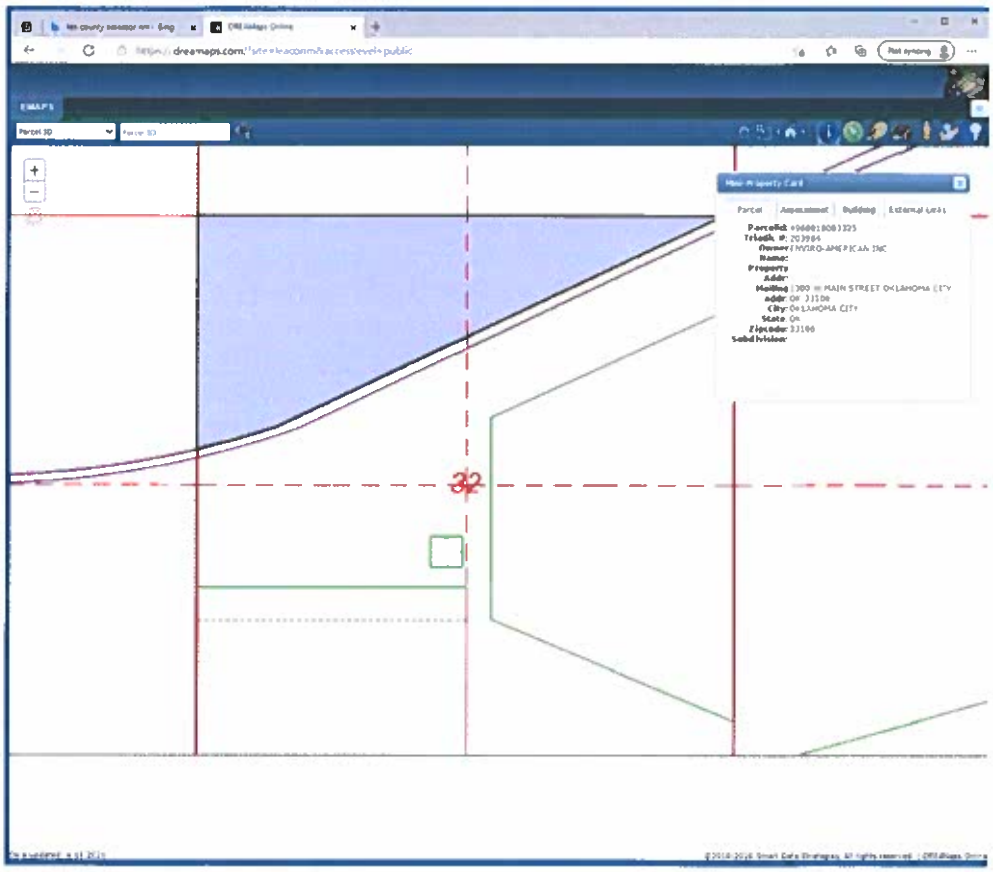
Chaves County Parcels 2020

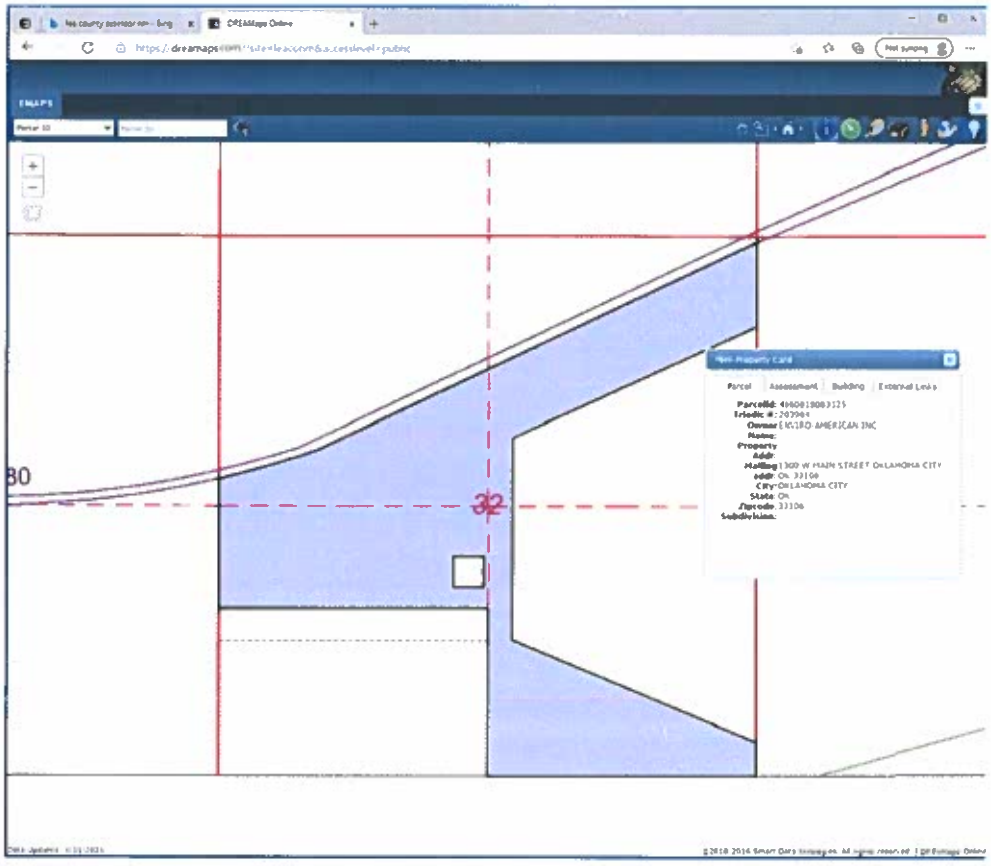
Lea County Parcels 2020

Sections


Enviro-American, Inc.
366.0 acres
UPC Parcel: 4960818083325
LLC-VZ-4
Lea Land, LLC
2.07 acres
UPC Parcel: 4980616145429
LLC-VZ-3
LLC-VZ-1
Lea Land, INC
166.47 acres
UPC Parcel: 4000401970001
Lea Land, LLC
99.63 acres
UPC Parcel: 4990610083207
Proposed Vadose Zone
Monitoring Wells on
Enviro-American, Inc. Tract
LLC-VZ-4
NOTE:
LEGEND:
SITE SURVEY CONTROL
SURVEYOR CERTIFICATE:
CARDINAL ENGINEERING
TOPOGRAPHIC SURVEY
LEA LAND DISPOSAL AREA
LOCATED IN SECTION 32, TOWNSHIP 20 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, NEW MEXICO

Lea County Assessor maps of Enviro-American tracts north and south of US-62





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1Y.
(3)

20069

WARRANTY DEED

Know All Men by these Presents: That **Lea Land, Inc.**, grantor, in consideration of the sum of ten and no/100 dollars and other valuable consideration in hand paid, does hereby grant, bargain, sell and convey unto **Enviro-American, Inc.** an Oklahoma Corporation, the following described real property and premises situate in Lea County, New Mexico, to-wit:

TRACT 1

FOR SURFACE TITLE ONLY:
All of Section 32, Township 20 South, Range 32 East, N.M.P.M., Lea County, New Mexico, LESS AND EXCEPT a certain tract or parcel of land lying and being situate in the Northwest Quarter and the Northeast Quarter of Section 32, Township 20 South, Range 32 East, N.M.P.M., Lea County, New Mexico, being more particularly described as follows:
Beginning at a point where the southerly right of way line of NMP F-022-2(9), County of Lea, State of New Mexico, intersects the southerly right of way line of NMP F-022-2(15), County of Lea, State of New Mexico, and point on curve, said point bears 833°35'43"E, a distance of 2453.59 feet from the northwesterly corner of Section 32; thence northeasterly along the said southerly right of way line of NMP F-022-2(9) on a 0.987° curve (radius = 5804.58 feet) through an arc of 6°47'36" to the left a distance of 688.23 feet to a point of tangent; thence N58°27'51"E, a distance of 149.00 feet to a point of curve; thence northeasterly on a 1.013° curve (radius = 5654.58 feet) through an arc of 6°52' to the right a distance of 677.59 feet to a point of tangent; thence N65°19'51"E a distance of 2866.42 feet to a point on the easterly line of the property of the Grantor (Warranty Deed dated ----, filed 12-6-82, in Book 401, Page 350, Deed Records, Lea County, New Mexico, executed by Barber Oil, Inc., Kenneth W. Hayes and Loretta B. Hayes, husband and wife and W. R. Williamson, Jr. and Mary M. Williamson, husband and wife to State Highway Department of New Mexico) and point on the easterly line of said Section 32, said point bears S0°19'16"E, a distance of 147.07 feet from the northeasterly corner of said Section 32; thence S0°19'16"E, along the said easterly line of the property of the Grantor (Warranty Deed dated ----, filed 12-6-82, in Book 401, Page 350, Deed Records, Lea County, New Mexico, executed by Barber Oil, Inc., Kenneth W. Hayes and Loretta B. Hayes, husband and wife and W. R. Williamson, Jr. and Mary M. Williamson, husband and wife to State Highway Department of New Mexico) a distance of 109.76 feet to a point on the said southerly right of way line of NMP F-022-2(15); thence S65°19'51"W, along the said southerly right of way line of NMP F-022-2(15) a distance of 4328.93 feet to the point and place of beginning.

LESS AND EXCEPT and reserving unto the grantor the following tracts which are a part of **TRACT 1**, as well as a right of ingress and egress to each, which shall be a covenant running with the land:

TRACT 2
Section 32, Township 20 South, Range 32 East, N.M.P.M. in Lea County, New Mexico.
100 acres, more or less, in the Southwest Quarter Section Beginning at the Southwest Corner, Glo B.C. "1916", of Section 32, thence North 1640 feet, thence East 2646.41 feet, thence 1640 feet South to the 1/4 corner, Glo B.C. "1916". Next, west 2646.41 feet, N89°43'34" East, to the Southwest corner, Glo B.C. "1916".

TRACT 3
A tract of land located in Section 32, Township 20 South, Range 32 East, N.M.P.M., Lea County, New Mexico, more particularly described as follows:
Beginning at a point being the East Quarter corner of said Section 32, thence S00°03'00" E along the east section line, 2307.65 feet to a point 333.33 feet north of the southeast section corner. Thence N67°32'54"W, 2600.00 feet; thence N00°03'00"W, 1977.00 feet; thence N65°34'08" E, 2637.81 feet to a point on the east section line; thence S00°02'00"E, 1753.35 feet to the point of beginning. Said tract contains 166.4812 acres, more or less.

TRACT 4
Section 32, Township 20 South, Range 32 East, N.M.P.M., Lea County, New Mexico.
2 acres, more or less, in the Southwest Quarter Section, beginning at a point 1840 feet North, 40 feet West of the South 1/4 corner Glo B.C. "1916", thence, 300 feet west, thence 300 feet North, thence 300 feet East, and 300 feet South, to the point of the beginning, P.O.B.

together with all improvements thereon and appurtenances thereto belonging and warranty the title to same.

TO HAVE AND TO HOLD said described premises unto the said grantee, forever free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature, EXCEPT subject to outstanding oil, gas and other minerals and mineral rights of record, and also subject to easements of records, as well as visible easements, if any.

Signed and delivered this 10th day of February, 2006.

Lea Land, Inc.

By: Robert A. Hall

Title: President

State of Oklahoma)
County of Oklahoma)ss:
)

Before me, the undersigned, a Notary Public in and for the County and State on this 10th day of February, 2006, personally appeared Robert A. Hall, to me known to be the identical person who subscribed his name and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth, and in the capacity therein stated. Given under my hand and seal the day and year last written above.

ALICE G. HURST
NOTARY PUBLIC
STATE OF OKLAHOMA
OKLAHOMA COUNTY

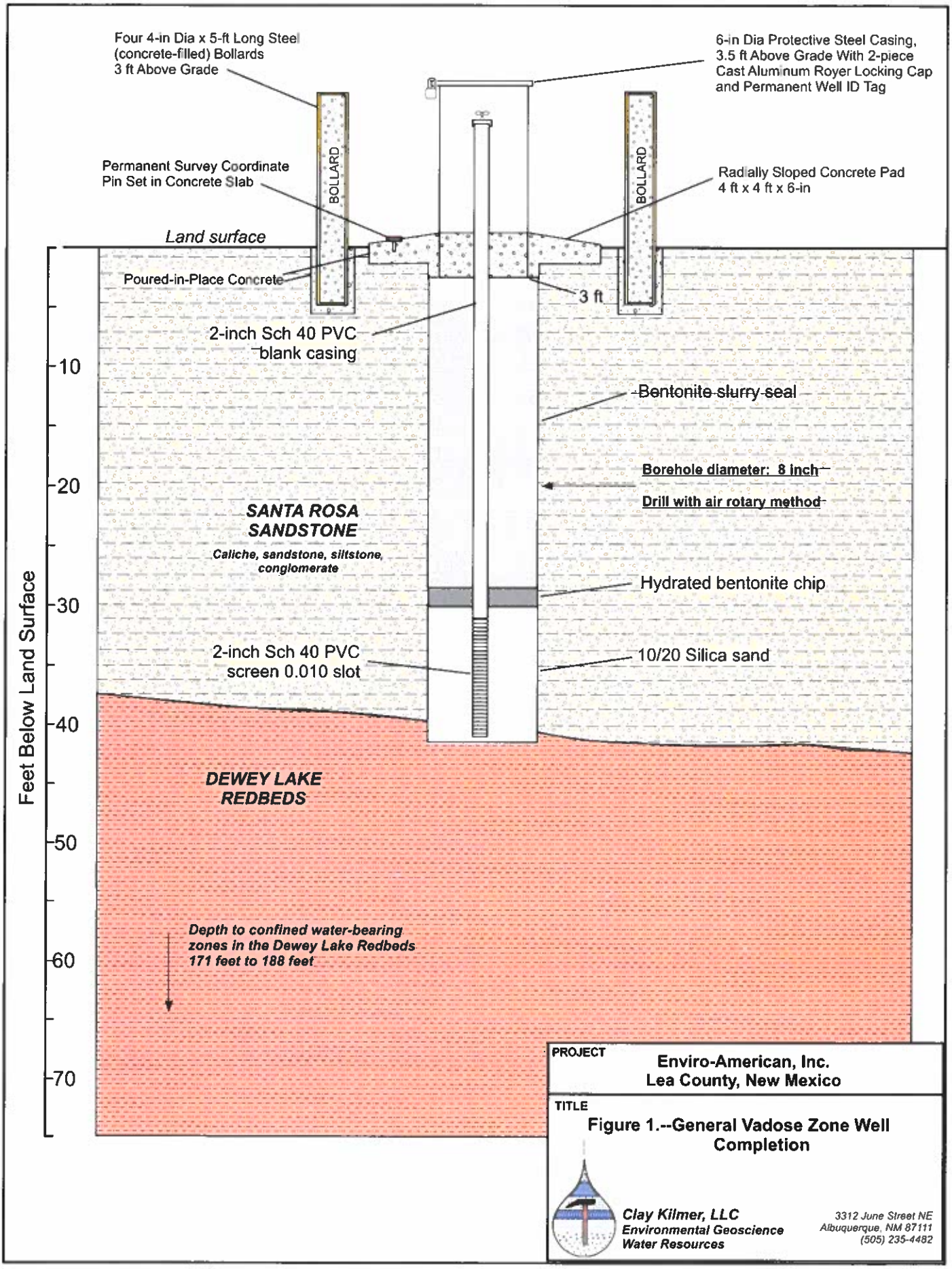
Alice G. Hurst
Notary Public

My commission expires: 3/17/2006

20069

STATE OF NEW MEXICO
COUNTY OF LEA
FILED

APR 03 2006
at 11:30 o'clock A M
and recorded in Book
Page
Melinda Hughes, Lea County Clerk
By Deputy



Clay Kilmer, LLC
Environmental Geoscience
Water Resources

May 24, 2021

Mr. Andy Morley
Supervisor, District 2
New Mexico Office of the State Engineer
1900 West 2nd Street
Roswell, NM 88201-1712

RE: APPLICATION FOR ENVIRONMENTAL MONITORING WELLS, ENVIRO-AMERICAN, INC.

Dear Mr. Morley:

Thank you very much for your effort to evaluate the enclosed application to install three shallow vadose zone monitoring wells on Enviro-American property, located in western Lea County. I am transmitting three original copies of completed NMOSE form WR-07 and supporting documents for permitting the monitoring wells at the property. The monitoring wells will be completed to monitor shallow subsurface perching horizons at the interface of the Santa Rosa Sandstone and the Dewey Lake Redbeds below. Attached are a map showing the property, locations of the proposed monitoring wells, and a well design schematic showing proposed well construction. Also attached is a copy of the Lea County property plat map showing the landfill is on property owned Enviro-American Inc. and a letter from Ms. Stephanie Grantham, President of Enviro-American, Inc., appointing me as Enviro-American Inc's agent to acquire NMOSE permits for the new wells.

I appreciate your effort to process this application. If you have any questions or comments, please do not hesitate to contact me. Thanks again for your help with this.

Sincerely,

Clay Kilmer

Clay Kilmer, P.G.
Senior Hydrogeologist

Attachments: Completed NMOSE Form WR-07; Application for permit to drill wells with no water right
Enviro-American property map, general well completion schematic
Lea County Assessor and plat maps and Warranty Deed showing ownership of land tract
Letter of Authorized Agent Appointment
Check for $15 to the NMOSE

cc: Stephanie Grantham, President, Enviro-American, Inc.
Keith Gordon, IKG, LLC

Clay Kilmer LLC
3312 June Street, Northeast
Albuquerque, NM 87111
(505) 235-4482
claykilmer@gmail.com

ENVIRO-AMERICAN, INC.
1300 West Main Street
Oklahoma City, OK 73106
405-236-4257
lealandllc@gmail.com

May 12, 2021

Mr. Andy Morley
Supervisor, District 2
New Mexico Office of the State Engineer
1900 West 2nd Street
Roswell, NM 88201-1712

RE: ENVIRO-AMERICAN INC. – DESIGNATION OF AUTHORIZED AGENT

Dear Mr. Morley:

Please consider this transmittal to be Enviro-American Inc's authorization appointing Mr. Clay Kilmer, P.G. as Enviro-American Inc's agent empowered to act on Enviro-American Inc's behalf to file an "Application for Permit to Drill a Well With No Consumptive Use of Water" (Form WR-07). We anticipate that Mr. Kilmer will submit an application to the New Mexico Office of the State Engineer (NMOSE) for permits to drill three vadose zone monitoring wells at Enviro-American Inc's property located in Lea County and identified as UPC Parcel 4960818083325.

Thank you for your consideration in this matter. If you have any questions or comments, please contact me at 405-236-4257, or Mr. Kilmer at (505) 235-4482.

Sincerely,

Stephanie Grantham

Stephanie Grantham
President

ATTACHMENT 4

Clay Kilmer, LLC. Well Logs

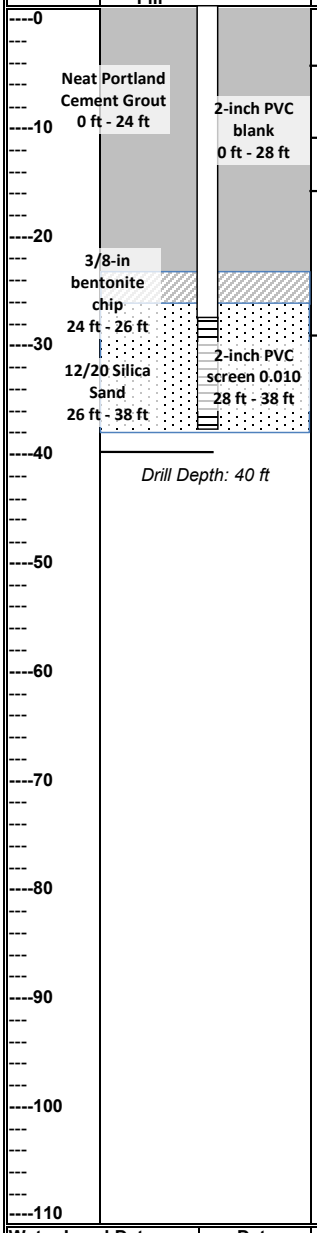
Sheet 1 of 1

Clay Kilmer, LLC
Environmental Geoscience
Water Resources

MONITORING WELL LOG

Vadose Zone Monitoring Well: LLC VZ-1: CP-1874 POD 1

Site Name:	LEA LAND LLC SOLID WASTE MGMT FACILITY	**Drilling Contractor:**	Talon/LPE
Well Location:	UTM Zone 13 S WGS-84, meters	**Drilling Method:**	Direct Dry Air Rotary
Northing:	3599501	**Sampling Method:**	Grab, 5 ft interval
Easting:	613144	**Drilled Depth (ft):**	40
L.S. Elevation (ft):	3552	**Cased Depth (ft):**	38
Drill Start Date:	11/2/2021	**Drilled Hole Diameter (inches)**	8
Compleiton Date:	11/3/2021	**Casing ID (inches):**	2
Log by:	Clay Kilmer		
Project Number:			



Depth (ft) Below Land Surface	Lithologic Descriptions Drill notes, moisture content, water-bearing properties, etc.	USCS SYMBOL	WELL COMPLETION REMARKS
0	Soil, sandy loam 80% sand, 20% silt, pale yellow 7.5Y 8/3, nonplastic, dry	SP	
	Caliche, sandy, lt grey, 7.5Y 8/1, nonplastic, dry		
	Top of Santa Rosa Sandstone		
	Sandstone, dense, fine, pale greenish yellow, 2.5Y 8/3, nonplastic, dry	Bedrock	
	Sandstone, soft, medium, pale greenish yellow, 2.5Y 8/3, nonplastic, dry		
	Top of Dewey Lake Redbeds		
	Siltstone, sandy, soft, brown, 5YR 5/8, slightly moist, low plasticity		

Water Level Data:	Date	Depth to Water (ft)	Rig Type and Remarks:
▽	11/3/2021	Dry on completion	ReichDrill 650-WII
			Top PVC Casing Elev (measuring Point)
			Top Locking Shroud Elev
			Survey Pin Elevation
			Land Surface Elevation

Sheet 1 of 1

Clay Kilmer, LLC
Environmental Geoscience
Water Resources

MONITORING WELL LOG

Vadose Zone Monitoring Well: LLC VZ-2: CP-1872 POD 1

Site Name:	LEA LAND LLC SOLID WASTE MGMT FACILITY	**Drilling Contractor:**	Talon/LPE
Well Location:	UTM Zone 13 S WGS-84	**Drilling Method:**	Direct Dry Air Rotary
Northing:	3599328	**Sampling Method:**	Grab, 5 ft interval
Easting:	613773	**Drilled Depth (ft):**	80
L.S. Elevation (ft):	3546	**Cased Depth (ft):**	75
Drill Start Date:	11/3/2021	**Drilled Hole Diameter (inches)**	8
Compleiton Date:	11/3/2021	**Casing ID (inches):**	2
Log by:	Clay Kilmer		
Project Number:			

Depth (ft) Below Land Surface	WELL Completion Details (depths, ft below gl) Annular Fill / Casing	Lithologic Descriptions Drill notes, moisture content, water-bearing properties, etc.	USCS SYMBOL	WELL COMPLETION REMARKS
0		Soil, sandy silty loam, pale grey-yellow 2.5 YR 8/4, nonplastic, dry	SP	
		Caliche, sandy, pale yellow, 2.5 YR 8/3, nonplastic, dry		
10	2-inch PVC blank 0 ft - 65 ft			
		Top of Santa Rosa Sandstone	Bedrock	
20	Neat Portland Cement Grout 0 ft - 61 ft	Sandstone, fine-medium, silty, hard, red-brown 5YR 5/4, nonplastic, dry		
		Sandstone, interbedded siltstone, red-brown 5 YR 5/4, nonplastic, dry		
30				
		Siltstone, sandy, brown, 5 YR 5/8, nonplastic, dry		
40		Sandstone, silty, interbedded siltstone, red-brown 5 YR 8/3, nonplastic, dry		
		Sandstone, silty, interbedded siltstone, dull orange 5 YR 6/3, nonplastic, dry		
50				
60	3/8-in bentonite chip 61 ft - 63 ft	Sandstone, silty, dull orange 5 YR 6/3, nonplastic, slightly moist		
		Sandstone, silty, brown 5 YR 5/8, nonplastic, low plasticity, slightly moist		
		Top of Dewey Lake Redbeds		
70	12/20 Silica Sand 63 ft - 75 ft; 2-inch PVC screen 0.010 65 ft - 75 ft	Siltstone, sandy, dull brown, 5 YR 5/6, nonplastic, slightly moist		
	fill			
80	*Drill Depth: 80 ft*			
90				
100				
110				

Water Level Data:	Date	Depth to Water (ft)	Rig Type and Remarks:
▽	11/3/2021	Dry on completion	ReichDrill 650-WII
			Top PVC Casing Elev (measuring Point)
			Top Locking Shroud Elev
			Survey Pin Elevation
			Land Surface Elevation

Sheet 1 of 1

Clay Kilmer, LLC
Environmental Geoscience
Water Resources

MONITORING WELL LOG

Vadose Zone Monitoring Well: LLC VZ-3: CP-1874 POD 2

Site Name:	LEA LAND LLC SOLID WASTE MGMT FACILITY	**Drilling Contractor:**	Talon/LPE
Well Location:	UTM Zone 13 S WGS-84	**Drilling Method:**	Direct Dry Air Rotary
Northing:	3599638	**Sampling Method:**	Grab, 5 ft interval
Easting:	613802	**Drilled Depth (ft):**	60
L.S. Elevation (ft):	3534	**Cased Depth (ft):**	58
Drill Start Date:	11/3/2021	**Drilled Hole Diameter (inches)**	8
Compleiton Date:	11/3/2021	**Casing ID (inches):**	2
Log by:	Clay Kilmer		
Project Number:			

Depth (ft) Below Land Surface	WELL Completion Details (depths, ft below gl)	Lithologic Descriptions Drill notes, moisture content, water-bearing properties, etc.	USCS SYMBOL	WELL COMPLETION REMARKS
0	Annular Fill: Neat Portland Cement Grout 0 ft - 44 ft; 3/8-in bentonite chip 44 ft - 46 ft; 12/20 Silica Sand 46 ft - 58 ft. Casing: 2-inch PVC blank 0 ft - 48 ft; 2-inch PVC screen 0.010 48 ft - 58 ft. Drill Depth: 60 ft	Soil, sandy loam 80% sand, 20% silt, pale yellow 7.5Y 8/3, nonplastic, dry		
10		Caliche, sandy, pale yellow, 2.5 YR 8/3, nonplastic, dry	SP	
20		Sand, silty, caliche, pale yellow, 2.5 YR 8/3, nonplastic, dry ***Top of Santa Rosa Sandstone***		
30		Sandstone, silty, hard, pale yellow 2.5 YR 8/3, nonplastic, dry	Bedrock	
		Sandstone, silty, hard with caliche, pale yellow, 2.5 YR 8/3, nonplastic, dry		
40		Sandstone, silty, bright orange. 7.5 YR 6/6, nonplastic, dry		
		Sandstone, silty, bright orange. 7.5 YR 6/6, nonplastic, slightly moist ***Top of Dewey Lake Redbeds***		
50		Siltstone, sandy, reddish orange, 5 YR 4/6, nonplastic, dry		
60				
70				
80				
90				
100				
110				

Water Level Data:	Date	Depth to Water (ft)	Rig Type and Remarks:
▽	11/3/2021	Dry on completion	ReichDrill 650-WII
			Top PVC Casing Elev (measuring Point)
			Top Locking Shroud Elev
			Survey Pin Elevation
			Land Surface Elevation

Sheet 1 of 1

Clay Kilmer, LLC
Environmental Geoscience
Water Resources

MONITORING WELL LOG

Vadose Zone Monitoring Well: LLC VZ-4: CP-1874 POD3

Site Name:	LEA LAND LLC SOLID WASTE MGMT FACILITY	**Drilling Contractor:**	Talon/LPE
Well Location:	UTM Zone 13 S WGS-84	**Drilling Method:**	Direct Dry Air Rotary
Northing:	3599882	**Sampling Method:**	Grab, 5 ft interval
Easting:	613633	**Drilled Depth (ft):**	50
L.S. Elevation (ft):	3526	**Cased Depth (ft):**	48
Drill Start Date:	11/4/2021	**Drilled Hole Diameter (inches)**	8
Compleiton Date:	11/4/2021	**Casing ID (inches):**	2
Log by:	Clay Kilmer		
Project Number:			

Depth (ft) Below Land Surface	WELL Completion Details (depths, ft below gl) Annular Fill / Casing	Lithologic Descriptions Drill notes, moisture content, water-bearing properties, etc.	USCS SYMBOL	WELL COMPLETION REMARKS
0		Soil, sandy loam caliche, dull orange, 5YR 6/3, nonplastic, slihtly moist		
	2-inch PVC blank 0 ft - 38 ft	Sand, silty, med-fine, caliche, lt grey 2.5 YR 8/2, nonplastic, slightly moist		
10	Neat Portland Cement Grout 0 ft - 34 ft	Sand, fine-med, silty, orange, 7.5 YR 6/8, nonplastic, slightly moist	SP	
		Sand, caliche, light olive, nonplastic, slightly moist		
20		***Top of Santa Rosa Sandstone*** Sandstone, silty, caliche, lt grey, 5 Y 8/1, nonplastic, dry	Bedrock	
30	3/8-in bentonite chip 34 ft - 36 ft	Sandstone, silty, brown 7.5 YR 5/8, nonplastic, slightly moist		
40	2-inch PVC screen 0.010 38 ft - 48 ft; 10/20 Silica Sand 36 ft - 48 ft	***Top of Dewey Lake Redbeds*** Siltstone, brown, 7.5 YR 5/8, low plasticity, slightly moist		
		Siltstone, brown, 7.5 YR 5/8, low plasticity, dry		
50	*Drill Depth: 50 ft*			
60				
70				
80				
90				
100				
110				

Water Level Data:	Date	Depth to Water (ft)	Rig Type and Remarks:
▽	11/4/2021	Dry on completion	ReichDrill 650-WII
			Top PVC Casing Elev (measuring Point)
			Top Locking Shroud Elev
			Survey Pin Elevation
			Land Surface Elevation

ATTACHMENT 5

NMOSE Well Records & Lithologic Logs

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-1874 POD 1	LLC VZ-1	

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Enviro American, Inc.	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
1300 W Main Street	Oklahoma City	OK	73106

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	31	37.5	N
	LONGITUDE	103	47	42.86	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

Vadose zone monitoring well at Lea Land LLC SWM Facility, south of NM Highway 62/180, T.20S. R 32E. S. 32 NESESW

2. DRILLING & CASING INFORMATION

LICENSE NO	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
NM-1800	Jarod Michalsky	Talon/LPE

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/2/2021	11/3/2021	38	40	Dry Vadose Zone Well

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY: dry air to total depth

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	28	6	Sch 40 PVC FJ monitor well casing	flush joint threaded	2	Sch 40	blank
28	38	6	Sch 40 PVC FJ monitor well screen	flush joint threaded	2	Sch 40	0.010

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	24	6	Neat Portland cement grout	4.4	tremmie flood
24	26	6	3/8-inch bentonite chip annular seal	0.4	surface pour - tagline
26	38	6	12/20 grade silica sand	2.2	surface pour - tagline

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.	
LOCATION		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	5	5	Soil, sandy loam 80% sand, 20% silt, pale yellow 7.5Y 8/3, nonplastic, dry	Y ✓ N	
5	10	5	Caliche, sandy, lt grey, 7.5Y 8/1, nonplastic, dry	Y ✓ N	
10			TOP OF SANTA ROSA SANDSTONE	Y ✓ N	
10	15	5	Sandstone, dense, fine, pale greenish yellow, 2.5Y 8/3, nonplastic, dry	Y ✓ N	
15	30	15	Sandstone, soft, medium, pale brown, 2.5Y 8/3, nonplastic, dry	Y ✓ N	
30			TOP OF DEWEY LAKE REDBEDS	Y ✓ N	
30	40	10	Siltstone, sandy, soft, brown, 5YR 5/8, slightly moist, low plasticity	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: Dry

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: Dry Vadose Zone Monitoring Well

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

Tom Evans

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.

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	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-1872 POD 1	LLC VZ-2	

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Lea Land, LLC	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
1300 W Main Street	Oklahoma City	OK	73106

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	31	31.65	N
	LONGITUDE	103	47	18.82	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

Vadose zone monitoring well at Lea Land LLC SWM Facility, south of NM Highway 62/180, T.20S. R 32E. S. 32 NESESW

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
NM-1800	Jarod Michalsky	Talon/LPE

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/3/2021	11/3/2021	75	80	Dry Vadose Zone Well

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY: dry air to total depth

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY: rotary with 6 inch drag bit

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	65	6	Sch 40 PVC FJ monitor well casing	flush joint threaded	2	Sch 40	blank
65	75	6	Sch 40 PVC FJ monitor well screen	flush joint threaded	2	Sch 40	0.010

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	61	6	Neat Portland cement grout	10.7	tremmie flood
61	63	6	3/8-inch bentonite chip annular seal	0.4	surface pour - tagline
63	75	6	12/20 grade silica sand	2.2	surface pour - tagline

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.	
LOCATION		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	3	3	Soil, sandy silty loam, pale grey-yellow 2.5 YR 8/4, nonplastic, dry	Y ✔ N	
3	15	12	Caliche, sandy, pale yellow, 2.5 YR 8/3, nonplastic, dry	Y ✔ N	
15			TOP OF SANTA ROSA SANDSTONE	Y ✔ N	
15	20	5	Sandstone, fine-medium, silty, hard, red-brown 5YR 5/4, nonplastic, dry	Y ✔ N	
20	35	10	Sandstone, interbedded siltstone, red-brown 5 YR 5/4, nonplastic, dry	Y ✔ N	
35	40	5	Siltstone, sandy, brown, 5 YR 5/8, nonplastic, dry	Y ✔ N	
40	45	5	Sandstone, silty, interbedded siltstone, red-brown 5 YR 8/3, nonplastic, dry	Y ✔ N	
45	60	15	Sandstone, silty, interbedded siltstone, dull orange 5 YR 6/3, nonplastic, dry	Y ✔ N	
60	65	5	Sandstone, silty, dull orange 5 YR 6/3, nonplastic, slightly moist	Y ✔ N	
65	70	5	Sandstone, silty, brown 5 YR 5/8, nonplastic, low plasticity, slightly moist	Y ✔ N	
70			TOP OF DEWEY LAKE REDBEDS	Y ✔ N	
70	10	10	Siltstone, sandy, dull brown, 5 YR 5/6, nonplastic, slightly moist	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: Dry

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: Dry Vadose Zone Monitoring Well

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

Tom Evans

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.

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	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-1874 POD 2	LLC VZ-3	

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Lea Land, LLC	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
1300 W Main Street	Oklahoma City	OK	73106

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	31	41.71	N
	LONGITUDE	103	47	17.58	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

Vadose zone monitoring well at Lea Land LLC SWM Facility, south of NM Highway 62/180, T.20S. R 32E. S. 32 NWNWSE

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
NM-1800	Jarod Michalsky	Talon/LPE

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/3/2021	11/3/2021	58	60	Dry Vadose Zone Well

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY: dry air to total depth

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY: rotary with 6 inch drag bit

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	48	6	Sch 40 PVC FJ monitor well casing	flush joint threaded	2	Sch 40	blank
48	58	6	Sch 40 PVC FJ monitor well screen	flush joint threaded	2	Sch 40	0.010

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	44	6	Neat Portland cement grout	7.7	tremmie flood
44	46	6	3/8-inch bentonite chip annular seal	0.4	surface pour - tagline
46	58	6	12/20 grade silica sand	2.2	surface pour - tagline

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.	
LOCATION		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	5	5	Soil, sandy loam 80% sand, 20% silt, pale yellow 7.5Y 8/3, nonplastic, dry	Y ✔ N	
5	20	15	Caliche, sandy, pale yellow, 2.5 YR 8/3, nonplastic, dry	Y ✔ N	
20	25	5	Sand, silty, caliche, pale yellow, 2.5 YR 8/3, nonplastic, dry	Y ✔ N	
25			TOP OF SANTA ROSA SANDSTONE	Y ✔ N	
25	30	5	Sandstone, silty, hard, pale yellow 2.5 YR 8/3, nonplastic, dry	Y ✔ N	
30	35	5	Sandstone, silty, hard with caliche, pale yellow, 2.5 YR 8/3, nonplastic, dry	Y ✔ N	
35	40	5	Sandstone, silty, bright orange. 7.5 YR 6/6, nonplastic, dry	Y ✔ N	
40	45	5	Sandstone, silty, bright orange. 7.5 YR 6/6, nonplastic, slightly moist	Y ✔ N	
45			TOP OF DEWEY LAKE REDBEDS	Y ✔ N	
45	60		Siltstone, sandy, reddish orange, 5 YR 4/6, nonplastic, dry	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: Dry

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: Dry Vadose Zone Monitoring Well

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

Tom Evans

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.

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	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-1874 POD 3	LLC VZ-4	

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Lea Land, LLC	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
1300 W Main Street	Oklahoma City	OK	73106

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	31	49.69	N
	LONGITUDE	103	47	23.95	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

Vadose zone monitoring well at Lea Land LLC SWM Facility, south of NM Highway 62/180, T.20S. R 32E. S. 32 SWSENW

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
NM-1800	Jarod Michalsky	Talon/LPE

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/4/2021	11/4/2021	48	50	Dry Vadose Zone Well

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY: dry air to total depth

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY: rotary with 6 inch drag bit

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	38	6	Sch 40 PVC FJ monitor well casing	flush joint threaded	2	Sch 40	blank
38	48	6	Sch 40 PVC FJ monitor well screen	flush joint threaded	2	Sch 40	0.010

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	34	6	Neat Portland cement grout	4.4	tremmie flood
34	36	6	3/8-inch bentonite chip annular seal	0.4	surface pour - tagline
36	48	6	12/20 grade silica sand	2.2	surface pour - tagline

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.
LOCATION	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	3	3	Soil, sandy loam caliche, dull orange, 5YR 6/3, nonplastic, slithtly moist	Y ✔ N	
3	10	7	Sand, silty, med-fine, caliche, lt grey 2.5 YR 8/2, nonplastic, slightly moist	Y ✔ N	
10	17	7	Sand, fine-med, silty, orange, 7.5 YR 6/8, nonplastic, slightly moist	Y ✔ N	
17	25	8	Sand, caliche, light olive, nonplastic, slightly moist	Y ✔ N	
25			TOP OF SANTA ROSA SANDSTONE	Y N	
25	30	5	Sandstone, silty, caliche, lt grey, 5 Y 8/1, nonplastic, dry	Y ✔ N	
30	40	10	Sandstone, silty, brown 7.5 YR 5/8, nonplastic, slightly moist	Y ✔ N	
40			TOP OF DEWEY LAKD REDBEDS	Y N	
40	45	5	Siltstone, brown, 7.5 YR 5/8, low plasticity, slightly moist	Y ✔ N	
45	50	5	Siltstone, brown, 7.5 YR 5/8, low plasticity, dry	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: Dry

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: Dry Vadose pomne Monitorng Well

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

Tom Evans

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.

SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE

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

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

ATTACHMENT 6

Well Installation Photographs

ATTACHMENT 6 – Installation Photographs

Well LLC VZ-1 Surface completion.

Well LLC VZ-1 Monument detail.

Well LLC VZ-2 Surface completion.

Well LLC VZ-2 Monument detail.

ATTACHMENT 6 – Installation Photographs

Well LLC VZ-3 Surface completion.

Well LLC VZ-3 Monument detail.

Well LLC VZ-4 Surface completion.

Well LLC VZ-4 Monument detail.

ATTACHMENT 6 – Installation Photographs

2-inch Sch-40 PVC FJ well screen, 0.010 slot.

2-inch Sch-40 well bottom cap.

2-inch “j-plug” top well sealing cap.

ATTACHMENT 6 – Installation Photographs

Portland neat cement annular grout seal installed above bentonite chip.

ReichDrill 650-WII air rotary drill rig for well installations.

ATTACHMENT 7

New Mexico 811 Underground Utility
Clearance Documentation

claykilmer@gmail.com

From: eticket@nm811.org
Sent: Thursday, October 28, 2021 2:01 PM
To: Taylor Petty
Subject: NM811 Ticket Confirmation: 21OC280530

NM811 LOCATE REQUEST

TICKET NUMBER:	21OC280530	Update of:	
Ticket Type:	Standard Locate	For Code:	AUTOEMAIL
Creation Date:	10/28/21 14:00	Seq Num:	1

Excavator Information

Company:	Talon LPE	Main Contact Phone:	(806) 467-0607
Address:	912 N Bivins St.	Secondary Phone:	
City, St, Zip:	Amarillo, TX 79107	Main Contact Email:	tpetty@talonlpe.com
Company Phone:	(806) 467-0607	Alternate Contact:	
Company Fax:		Alternate Contact Phone:	
Main Contact:	Taylor Petty	Alternate Contact Email:	tpetty@talonlpe.com

Work Information

State:	NM	Work To Begin:	11/01/21 AT 14:00
County:	LEA	Expire Date:	11/23/21 AT 14:00
Place:	RURAL LEA		
Address:	ANTELOPE RIDGE RD		
Intersection:	DELAWARE BASIN RD		
Work Type:	Bore-Auger - Holes	Working For:	Clay Kilmer, LLC
Pre-marked:	No	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

From the intersection of Delaware Basin Road and Antelope Road, head South on Antelope Road for appx 4,740ft - site located on West side of road at 32.313757, -103.474430

Spotting Instructions

Jobsite 32.313757, -103.474430

Remarks

Please mark all lines within 50ft radius of 32.313757, -103.474430

TRSQ: [W8T23SR34ES09SE] [W8T23SR34ES09SW]

Utilities Notified:

Code	Name	Manually Added

claykilmer@gmail.com

From: eticket@nm811.org
Sent: Thursday, October 28, 2021 2:07 PM
To: Taylor Petty
Subject: NM811 Ticket Confirmation: 21OC280539

NM811 LOCATE REQUEST

TICKET NUMBER:	21OC280539	Update of:	
Ticket Type:	Standard Locate	For Code:	AUTOEMAIL
Creation Date:	10/28/21 14:06	Seq Num:	2

Excavator Information

Company:	Talon LPE	Main Contact Phone:	(806) 467-0607
Address:	912 N Bivins St.	Secondary Phone:	
City, St, Zip:	Amarillo, TX 79107	Main Contact Email:	tpetty@talonlpe.com
Company Phone:	(806) 467-0607	Alternate Contact:	
Company Fax:		Alternate Contact Phone:	
Main Contact:	Taylor Petty	Alternate Contact Email:	tpetty@talonlpe.com

Work Information

State:	NM	Work To Begin:	11/01/21 AT 14:15
County:	LEA	Expire Date:	11/23/21 AT 14:15
Place:	RURAL LEA		
Address:	ANTELOPE RIDGE RD		
Intersection:	DELAWARE BASIN RD		
Work Type:	Bore-Auger - Holes	Working For:	Clay Kilmer, LLC
Pre-marked:	No	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

From the intersection of Delaware Basin Road and Antelope Road, head South on Antelope Road for appx 4,345ft - site located on East side of road at 32.314169, -103.471479

Spotting Instructions

Site located at 32.314169, -103.471479 Pleas mark all lines within 50ft radius of 32.314169, -103.471479

Remarks

TRSQ: [W8T23SR34ES09SE]

Utilities Notified:

Code	Name	Manually Added
SALTC	SCM CRUDE, LLC	False

claykilmer@gmail.com

From: eticket@nm811.org
Sent: Thursday, October 28, 2021 2:09 PM
To: Taylor Petty
Subject: NM811 Ticket Confirmation: 21OC280544

NM811 LOCATE REQUEST

TICKET NUMBER:	21OC280544	Update of:	
Ticket Type:	Standard Locate	For Code:	AUTOEMAIL
Creation Date:	10/28/21 14:08	Seq Num:	3

Excavator Information

Company:	Talon LPE	Main Contact Phone:	(806) 467-0607
Address:	912 N Bivins St.	Secondary Phone:	
City, St, Zip:	Amarillo, TX 79107	Main Contact Email:	tpetty@talonlpe.com
Company Phone:	(806) 467-0607	Alternate Contact:	
Company Fax:		Alternate Contact Phone:	
Main Contact:	Taylor Petty	Alternate Contact Email:	tpetty@talonlpe.com

Work Information

State:	NM	Work To Begin:	11/01/21 AT 14:15
County:	LEA	Expire Date:	11/23/21 AT 14:15
Place:	RURAL LEA		
Address:	Antelope Road		
Intersection:	Delaware Basin Road		
Work Type:	Bore-Auger - Holes	Working For:	Clay Kilmer, LLC
Pre-marked:	No	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

From the intersection of Delaware Basin Road and Antelope Road, head South on Antelope Road for appx 4,165ft - site located on East side of road at 32.314986, -103.472355

Spotting Instructions

Site located at 32.314986, -103.472355

Remarks

Please locate all lines within 50ft radius of 32.314986, -103.472355

TRSQ: [W8T23SR34ES09SE]

Utilities Notified:

Code	Name	Manually Added

claykilmer@gmail.com

From: eticket@nm811.org
Sent: Thursday, October 28, 2021 2:18 PM
To: Taylor Petty
Subject: NM811 Ticket Confirmation: 21OC280549

NM811 LOCATE REQUEST

TICKET NUMBER:	21OC280549	Update of:	
Ticket Type:	Standard Locate	For Code:	AUTOEMAIL
Creation Date:	10/28/21 14:17	Seq Num:	4

Excavator Information

Company:	Talon LPE	Main Contact Phone:	(806) 467-0607
Address:	912 N Bivins St.	Secondary Phone:	
City, St, Zip:	Amarillo, TX 79107	Main Contact Email:	tpetty@talonlpe.com
Company Phone:	(806) 467-0607	Alternate Contact:	
Company Fax:		Alternate Contact Phone:	
Main Contact:	Taylor Petty	Alternate Contact Email:	tpetty@talonlpe.com

Work Information

State:	NM	Work To Begin:	11/01/21 AT 14:30
County:	LEA	Expire Date:	11/23/21 AT 14:30
Place:	RURAL LEA		
Address:	Bore-Auger - Holes		
Intersection:	*		
Work Type:	Bore-Auger - Holes	Working For:	Clay Kilmer, LLC
Pre-marked:	No	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

From the intersection of Delaware Basin Road and Antelope Road, head South on Antelope Road for appx 4,750ft - site located on East side of road at 32.313147, -103.471919

Spotting Instructions

Site located at 32.313147, -103.471919

Remarks

Please mark all lines within 50ft radius of 32.313147, -103.471919

TRSQ: [W8T23SR34ES09SE]

Utilities Notified:

Code	Name	Manually Added

ATTACHMENT 8

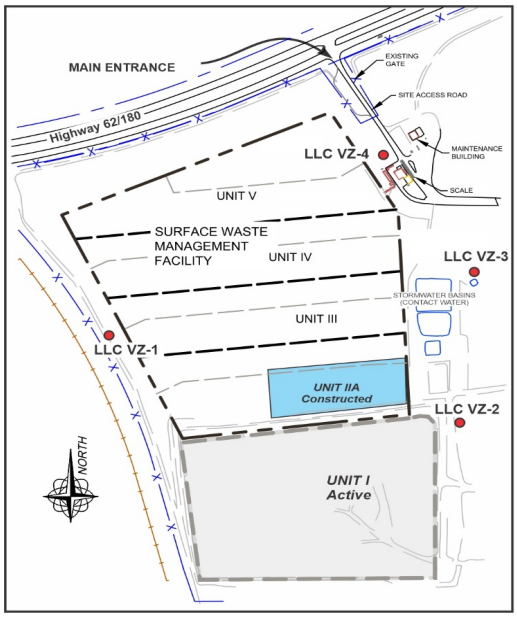
Baseline Vadose Zone Monitoring Report
Nov. 29-30, 2021

ATTACHMENT - 8
Vadose Zone Well Monitoring Log

Lea Land LLC
Surface Waste Management Facility
Lea County, New Mexico

Date: 11/29/21 - 11/30/21

Monitored by: Clay Kilma



Weather Information

Date, Amount Last Precip:	None	inches
Current Temp:	71	°F
Current Wind Speed:	12 - 15	mph
Current Wind Direction:	SW	
Current Barometric Pressure:	30.10	in. Hg
Barometric Pressure Trend:	Steady	

Gas Detection Equipment

Monitoring Equipment Used:	MultiRae Mini
Date and Time Last Calibrated:	11/30/2021

Vadose Zone Well Vapor Data

Vadose Zone Well Designation	Date	Time	Screen Interval Depth Below Top Casing (feet)	CH_4 Concentration (% LEL)	H_2S (ppm)	O_2 (%)	CO (%)
LLC VZ-1	11/30/2021	9:15	27.75 - 37.75	0.0	0.0	20.3	0.0
LLC VZ-2	11/30/2021	9:45	68.38 - 78.38	0.0	0.0	19.3	0.0
LLC VZ-3	11/30/2021	10:15	50.57 - 60.57	0.0	0.0	20.2	0.0
LLC VZ-4	11/30/2021	10:30	40.58 - 50.58	0.0	0.0	18.8	0.0
supplemental data							

Vadose Zone Well Fluid Measurements

Vadose Zone Well Designation	Date	Time	Well Diameter (inch)	Total Well Depth Below Top of Casing (feet)	Fluid Level Below Top of Casing (ft)	Comments
LLC VZ-1	11/29/2021	15:30	2	37.75	Dry	
LLC VZ-2	11/29/2021	15:45	2	78.38	Dry	
LLC VZ-3	11/29/2021	16:00	2	60.57	Dry	
LLC VZ-4	11/29/2021	16:15	2	50.58	Dry	
supplemental data						

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 141584

CONDITIONS

Operator:	OGRID:
LEA LAND, LLC 1300 W Main St Oklahoma City, OK 73106	195376
	Action Number: 141584
	Action Type: [C-137] Non-Fee SWMF Submittal (SWMF NON-FEE SUBMITTAL)

CONDITIONS

Created By	Condition	Condition Date
bjones	None	9/8/2022