A & M Engineering and
Environmental Services, Inc.
Consulting - Design - Construction - Remediation

RECEIVED
AUG 09 2024
LAND PROTECTION DIVISION
DEPT. OF ENVIRON. QLTY

August 9, 2024

Ms. Hillary Young, P.E.
Chief Engineer
Land Protection Division
Oklahoma Department of Environmental Quality
P. O. Box 1677
Oklahoma City, Oklahoma 73101-1677

RE: Permit Renewal Application
Mid-Way Environmental Services, Inc.
Class I Non-Hazardous Injection Well
Well ID: MES #1
Lincoln County, Oklahoma
Operating Permit No. IW-NH-41001-OP

Dear Ms. Young:

On behalf of, Mid-Way Environmental Services, Inc. (MES), A & M Engineering and Environmental Services, Inc. (A & M) is hereby submitting the signed permit renewal application with the permit renewal fees (attached).

If you have any questions on this matter, or if you require any additional information, please do not hesitate to call me 918-665-6575 or email me at OMohammad@aandmengineering.com.

Sincerely,
A & M Engineering and Environmental Services, Inc.

Orphius Mohammad, PhD., P.E.
Senior Environmental Engineer

cc: Tolga Ertugrul, P.E., President, MES

Enclosed:

Check for Permit Renewal Application, Check No. 9753
Soft copy of this submittal in a flash drive

OMB No. 2040-0042 Approval Expires 11/30/2014

United States Environmental Protection Agency

Underground Injection Control Permit Application

(Collected under the authority of the Safe Drinking Water Act. Sections 1421, 1422, 40 CFR 144)

I. EPA ID Number		T/A	C
U			

Read Attached Instructions Before Starting

For Official Use Only

Application approved mo day year	Date received mo day year	Permit Number	Well ID	FINDS Number
08/11/2014	08/11/2014	IW-NH-41001-0P	MES#1	

II. Owner Name and Address

Owner Name: Mid-Way Environmental Services, Inc.

Street Address: 120 N. 8th Avenue

Phone Number: (918) 968-2795

City: Stroud

State: OK

ZIP CODE: 74079

III. Operator Name and Address

Owner Name: Same

Street Address:

Phone Number:

City:

State:

ZIP CODE:

IV. Commercial Facility

- [x] Yes
- [ ] No

V. Ownership

- [x] Private
- [ ] Federal
- [ ] Other

VI. Legal Contact

- [x] Owner
- [ ] Operator

VII. SIC Codes

4953

VIII. Well Status *(Mark "x")*

- [x] A. Operating — Date Started mo day year: 03/06/2015
- [ ] B. Modification/Conversion
- [ ] C. Proposed

IX. Type of Permit Requested *(Mark "x" and specify if required)*

- [x] A. Individual
- [ ] B. Area

Number of Existing Wells	Number of Proposed Wells	Name(s) of field(s) or project(s)
One (1)	None	N/A

X. Class and Type of Well *(see reverse)*

A. Class(es) (enter code(s))	B. Type(s) (enter code(s))	C. If class is "other" or type is code 'x,' explain	D. Number of wells per type (if area permit)
1	I		

XI. Location of Well(s) or Approximate Center of Field or Project

Latitude Deg	Min	Sec	Longitude Deg	Min	Sec	Township and Range Sec	Twp	Range	1/4 Sec	Feet From	Line	Feet From	Line
N35	42	13	W96	47	14	9	14N	5E	SW	933	W	100	N

XII. Indian Lands (Mark 'x')

- [ ] Yes
- [x] No

XIII. Attachments

(Complete the following questions on a separate sheet(s) and number accordingly; see instructions)

For Classes I, II, III, (and other classes) complete and submit on a separate sheet(s) Attachments A--U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application.

XIV. Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

A. Name and Title *(Type or Print)*	B. Phone No. *(Area Code and No.)*
Tolga M. Ertugrul, P.E., President	(918) 665-6575
C. Signature	D. Date Signed
	08/09/2024

AFFIDAVIT

STATE OF OKLAHOMA)
) ss.
COUNTY OF TULSA)

I, TOLGA M. ERTUGRUL, of lawful age, being first duly sworn upon oath, states:

1. That he is President of Mid-Way Environmental Services, Inc. ("MES").

2. That I have read the foregoing Renewal Application for an Underground Injection Control Facility Permit (Permit No. IW-NH-41001-OP), that I am familiar with the matters set forth therein, and that the same are true to the best of my information and belief.

Tolga M. Ertugrul, President
Mid-Way Environmental Services, Inc.

Subscribed and sworn to before me this 9th day of August, 2024.

Candi Lynn Grammer
Notary Public
Commission Number 23007665

My Commission Expires:
06-06-27

(SEAL)

CANDI LYNN GRAMMER NOTARY PUBLIC Commission # 23007665 My Commission Expires 06-06-2027 STATE OF OKLAHOMA

MID-WAY ENVIRONMENTAL SERVICES, INC.

CLASS I NON-HAZARDOUS WASTE INJECTION WELL
MES #1
PERMIT NO. IW-NH-41001-OP

PERMIT RENEWAL APPLICATION DOCUMENTS

MID-WAY
ENVIRONMENTAL SERVICES, INC.

PREPARED FOR:

MID-WAY ENVIRONMENTAL SERVICES, INC.
120 NORTH 8TH AVENUE
STROUD, OKLAHOMA 74079

LICENSED PROFESSIONAL ENGINEER
ORPHIUS I. MOHAMMAD
27775
OKLAHOMA
8/9/2024

AUGUST 9, 2024

PREPARED BY:

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
10010 EAST 16TH STREET
TULSA, OKLAHOMA 74128-4813
PHONE (918)-665-6575 & FAX (918)-665-6576
EMAIL: aandm@aandmengineering.com

CERTIFICATE OF AUTHORIZATION NUMBER 1326

A & M Engineering and
Environmental Services, Inc.
Consulting - Design - Construction - Remediation

MID-WAY
ENVIRONMENTAL SERVICES, INC.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BY:
Tolga Ertugrul, P.E., President, MES

_____(Signature)

8/9/2024 (Date)

MID-WAY ENVIRONMENTAL SERVICES, INC.
PERMIT RENEWAL APPLICATION
OPERATING Permit No. IW-NH-41001-OP
FOR MES #1

TABLE OF CONTENTS

FIGURES

(Figures established in a Section are included at the end of that particular Section)

FIGURE **PAGE**

APPENDICES

SECTION 1
GENERAL INFORMATION

This document has been prepared in accordance with Oklahoma Administrative Code (OAC) 252:652 to serve the Operating Permit (Permit No. IW-NH-41001-OP) Renewal Application for the Class I Non-Hazardous Injection Well named Mid-Way Environmental Services, Inc. #1 (MES #1) located in Lincoln County, Oklahoma.

1.1 OWNER AND OPERATOR

MES is the owner and intended operator of this Class I Non-Hazardous Injection Well and the associated commercial non-hazardous contaminated water and liquid waste processing and disposal facility. MES was incorporated in the State of Oklahoma in the year 2000 with offices at 120 North 8th Avenue in Stroud, Oklahoma.

1.2 FACILITY LOCATION AND SECURITY

The property on which the injection well is located consists of a 20-acre plot of land approximately ½ mile south of Highway 66 and 1 mile west of Davenport, Oklahoma. The site is legally described as a tract of land beginning at the Northwest corner of the Southwest Quarter (SW ¼) of Section Nine (9), Township Fourteen (14) North, Range Five (5) East of the Indian Meridian; thence East along the North line of said SW ¼ a distance of 933.5 feet; thence South and parallel to the West line of said SW ¼ a distance of 933.5 feet; thence West a distance of 933.5 feet to the West line of said SW ¼; thence North along the section line a distance of 933.5 feet to the point of beginning, containing 20 acres, more or less. The property is owned by Mid-Way Environmental Services, Inc.

The general location of the property is shown in Figure 1-1 and the location of the injection well is shown in Figure 1-2. The injection well is located 700 feet east of the western boundary and 113 feet south of the northern boundary of the previously described property. The injection well coordinates, as determined by GPS in the North Zone of the Oklahoma State Plane coordinate system, are N: 257,863.99 usft and E: 2,329,274.82 usft. The injection well ground elevation is

874.50 ft above mean sea level (MSL). The well is legally described as being located in the North Half (N ½) of the Northeast Quarter (NE ¼) of the Northwest Quarter (NW ¼) of the Southwest Quarter (SW ¼) of Section Nine (9), Township Fourteen (14) North, Range Five (5) East of the Indian Meridian, Lincoln County, Oklahoma.

Security for the injection well facility is provided by a security fence topped with standard barbed wire. The fence encloses the entire facility. There is one primary gated access point to the property that is of the same material and construction as the security fence. Primary access to the facility is from the west through the gated access point directly off of N3490 Rd. There is one other gate on the southeast corner of the fenced facility which will provide access to a facility monitoring well. This gate is utilized only by facility personnel. Both gates are monitored by site personnel during business hours and are kept closed and locked during non-business hours.

1.3 FACILITY DESCRIPTION

The facility consists of an administration building, laboratory, tank battery, lined wastewater storage basin, and permanent building structures to house liquid drum waste, solids processing and handling activities, injection pumps and miscellaneous ancillary equipment. Three separate waste unloading locations facilitate the unloading of non-hazardous liquid waste streams that may be required to be isolated due to incompatibility of the wastes. Designated waste unloading locations are equipped with concrete unloading pads to contain any accidental spillage during unloading.

Each liquid waste stream unloading area provides a settling tank or basin for gravity separation of suspended solids. A total of 20 various sized aboveground storage tanks (ASTs) and a lined wastewater storage basin are utilized in the handling and storage of all waste received at the facility. The liquid waste from the storage tanks/basin is pumped into two flow equalization tanks prior to disposal through the injection well. Solids are allowed to accumulate in the settling tanks as part of the operational procedure for protecting the injection well. As necessary, the accumulated solids are transferred to a clarifier where they will be further concentrated.

From the clarifier, sludge is pumped to the sludge holding tank and then to the filter press for dewatering. Liquids and filtrate are drained into the facility wastewater pump station and then pumped back into the settling tanks. Dewatered solid waste is profiled and disposed of at a permitted landfill facility.

1.4 GENERAL LOCATION DESCRIPTION

Figures 1-1 and 1-2 show the general location of the property and injection well with respect to Lincoln County and the surrounding communities. The injection well is located approximately ½ mile south of Highway 66, 1 mile west of Davenport, and 5.5 miles east of Chandler. A north-south trending graveled county road (N 3490 Rd) borders the full length of the western side of the property. Bordering properties to the north, east and south consist of grasslands. There are no schools, churches, hospitals or houses within ¼ mile of the site. There are two natural gas transmission pipelines located nearby. The first is located east of the property line trending in a north/south direction. The other is located across county road N 3490, west of the property boundary, trending in a northeast/southwest direction. The Burlington Northern Railroad, currently operated by Stillwater Central Railroad, traverses the area generally in an east to west direction and is located north of the property.

The property on which the injection well is located was previously used as grazing pasture. Several ponds are located within a ¼ mile of the property. One large pond is located to the west/southwest across county road N 3490; one is located on the property; and one is south of the property line. There are no known water wells, mines, or springs within a ¼ mile of the property.

1.5 TYPE OF DISPOSAL FACILITY

This Class I Non-Hazardous Injection Well facility is operated commercially and utilized for the disposal of non-hazardous contaminated water and liquid wastes from various industrial sources. The primary contaminants accepted by the facility will vary. However, all waste accepted are non-hazardous and contaminant levels are below regulatory hazard concentration levels. MES processes the contaminated water and liquid wastes to remove solids and then, through the

injection well, dispose the water and liquid wastes into the underlying Arbuckle Group and Granite Wash.

1.6 SITE CHARACTERISTICS

1.6.1 RELATIONSHIP OF SITE TO 100 – YEAR FLOODPLAIN

The 100-year floodplain for the general vicinity of the injection well site is at an estimated elevation of 820 feet above mean sea level (MSL). The 100-year floodplain in relation to the disposal facility is shown in Figure 1-3.

1.6.2 SEISMICITY OF THE AREA

The area of Lincoln County in which the injection well is located is part of the Cherokee Platform Geologic Province that extends from southeastern Kansas and southwestern Missouri into the northeastern part of Oklahoma.

The Wilzetta Fault, a major structural feature of Lincoln County, OK extends in a southwest/northeast direction and crosses southeastern Lincoln County. The Wilzetta Fault (often associated with the Seminole Uplift) is depicted in Figures 1-4. MES #1 is located approximately 6-7 miles west of this fault.

The Recent seismic activity data collected in Lincoln County by the Oklahoma Geological Survey is depicted in Figure 1-4 as well.

1.6.2.1 VERIFICATION OF WELL INTEGRITY

According to permit condition A11, A12 and A19, the well is tested as below:

(1) Every six (6) months by pressurizing the annulus to a minimum of one hundred twenty-five percent (125%) of the highest operating annulus pressure for a period of two (2) hours [40 CFR 1 46.1 3(b)(2)].

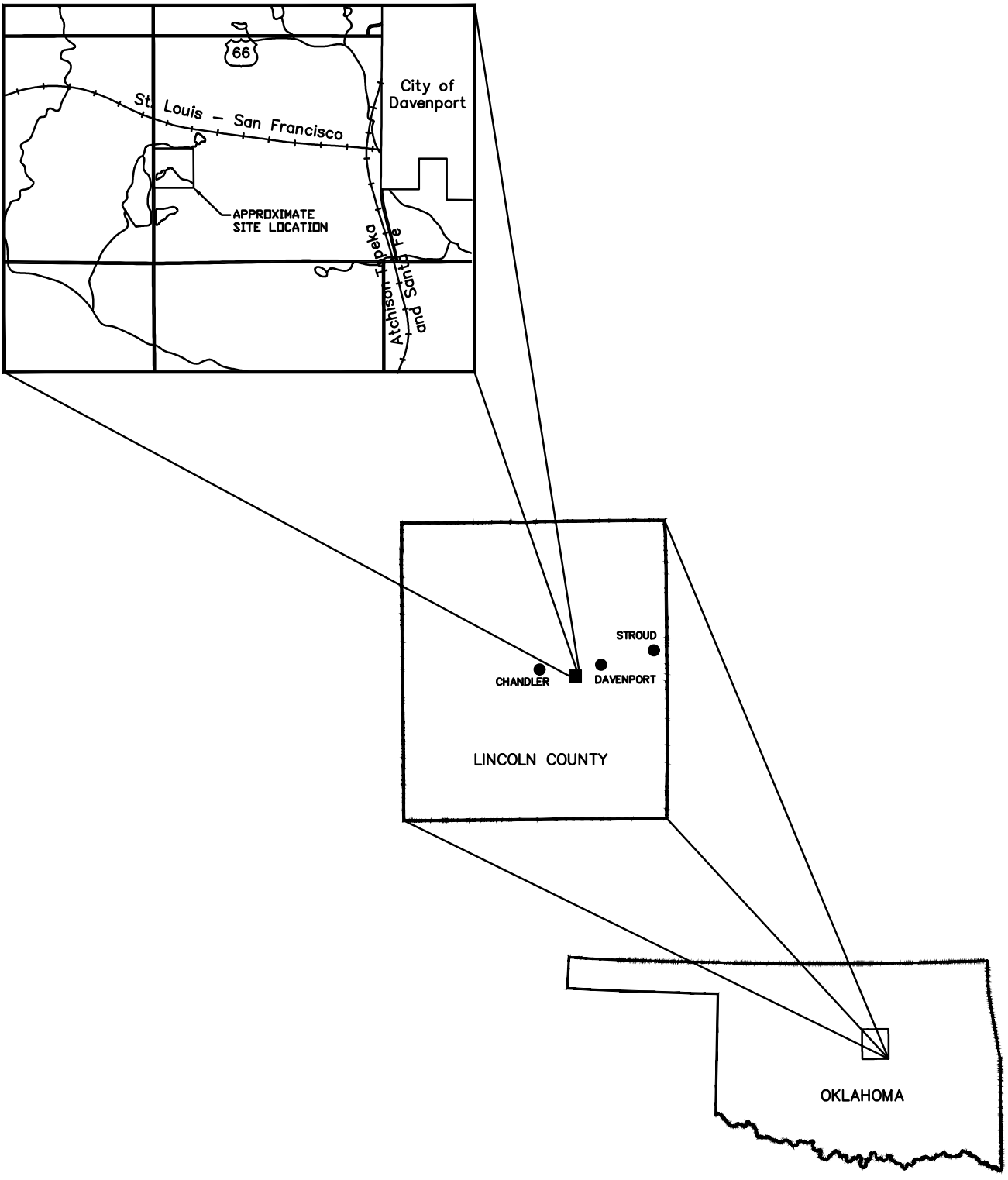
(2) Annual Fall-off test: annual monitoring of the pressure buildup in the injection zone, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve [40 CFR 146.13(d)].

(3) Mechanical Integrity: Complete a demonstration of mechanical integrity pursuant to 40 CFR 146.8 at least once every five years during the life of the well [40 CFR 146.13 (b)(3)],

A copy of the 2023 Annual Fall-off test is attached in Appendix A, and a copy of the most recent 2022 mechanical integrity test is attached in Appendix B

1.6.3 GROUNDWATER AQUIFER AND RECHARGE AREAS

The site of the injection well is not located in a groundwater recharge or aquifer area. Figures 1-5 show the injection well location on the aquifer and recharge area map published by the Oklahoma Geological Survey.



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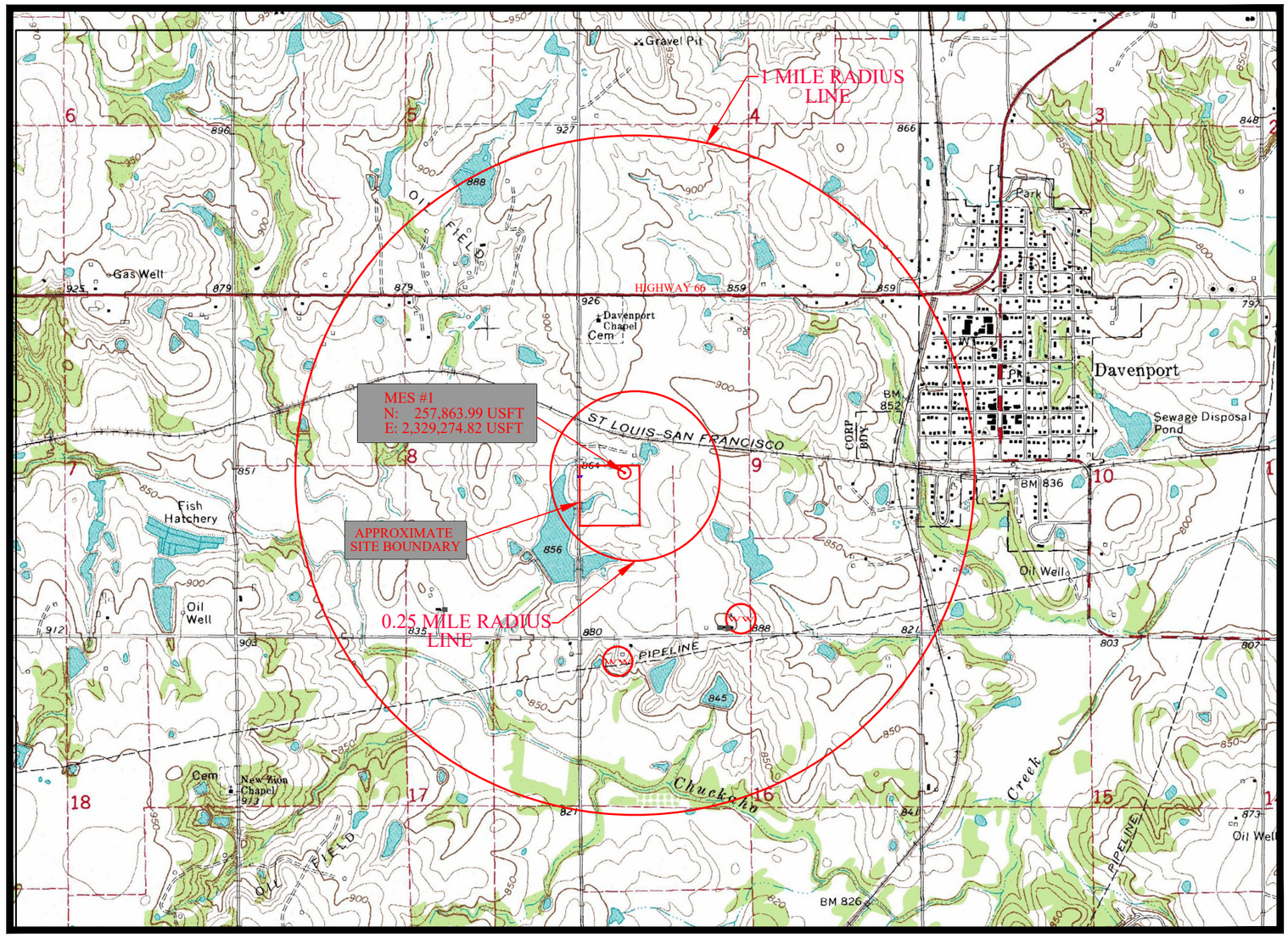
MID-WAY ENVIRONMENTAL SERVICES, INC.
PROPERTY AND DEEP-DISPOSAL WELL SITE

SCALE:	DATE:	FIGURE NO.
NOT TO SCALE	8/7/2024	FIGURE 1-1
APPROVED BY:	DRAWN BY:	PROJECT NO.
OM	ALB	1706-046



N

LEGEND

- WATER WELL
- INJECTION WELL
- SURFACE WATER BODIES

SCALE 1:24 000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

PATH: C:\Midway\
FILE: 1-2 TOPO.dwg
DATE: Aug 08, 2024 - 8:38AM

GENERAL NOTES

REFERENCE: USGS 1974, DAVENPORT QUADRANGLE, OKLAHOMA–LINCOLN CO. 7.5–MINUTE SERIES MAP

REVISIONS

NO.	DESCRIPTION	BY	CHECKED	DATE	NO.	DESCRIPTION	BY	CHECKED	DATE

A & M Engineering and Environmental Services, Inc.
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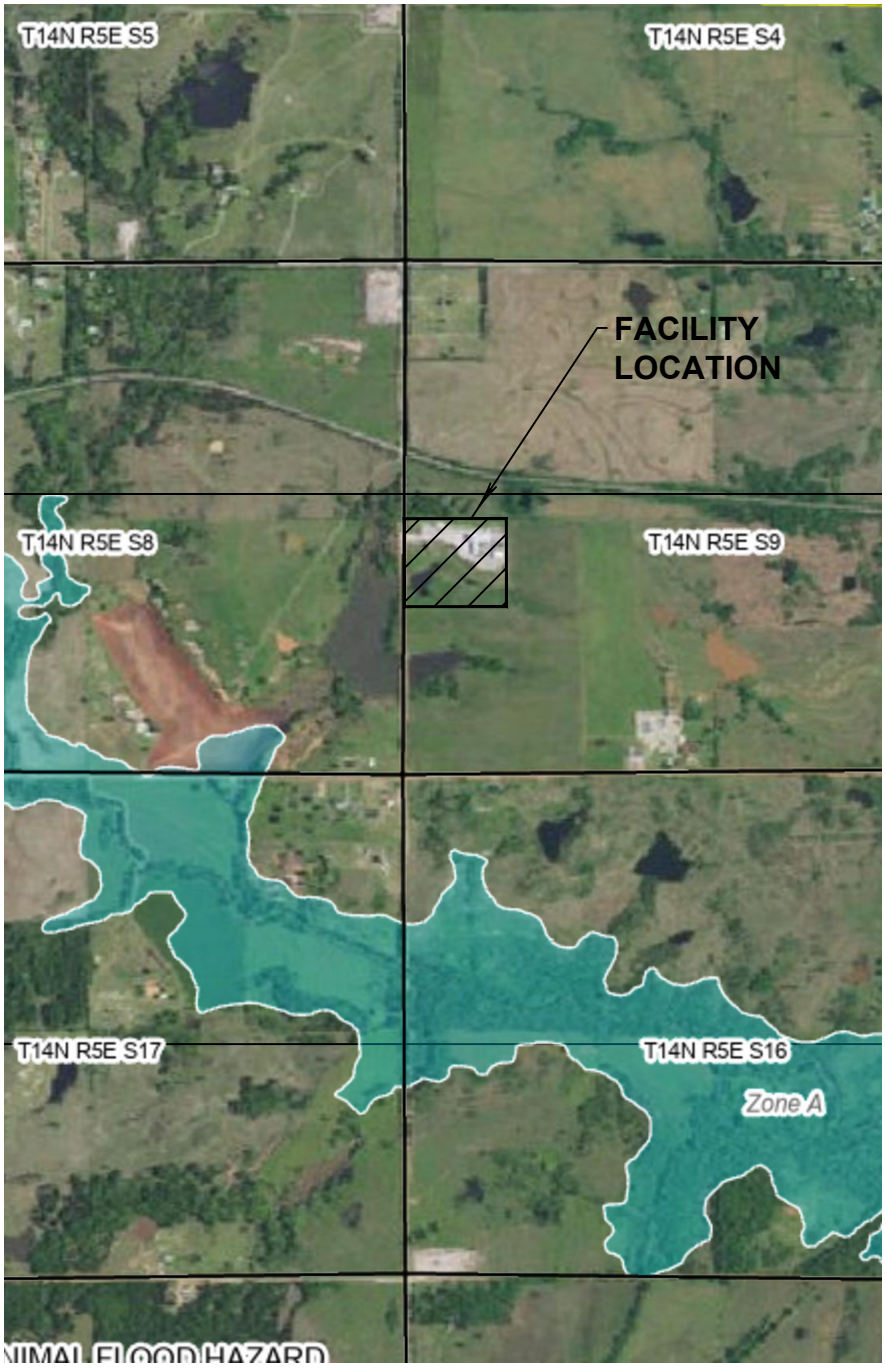
TOPOGRAPHIC LOCATION MAP

MID-WAY ENVIRONMENTAL SERVICES, INC.
DAVENPORT, OKLAHOMA

DRAWN:	CHECKED BY:	MATERIALS BY:	ENGINEER:	APPROVED BY:	SCALE:	PROJECT NUMBER:	DRAWING NUMBER:	REV.:
ALB	OM		OM		GRAPHIC	1706-046	FIGURE 1-2	
DATE: 8/7/2024	DATE: 8/7/2024	DATE:	DATE: 8/7/2024	DATE:				



FLOOD HAZARD INFORMATION

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

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

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

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

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

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

N

1 inch = 2,000 feet 1:24,000

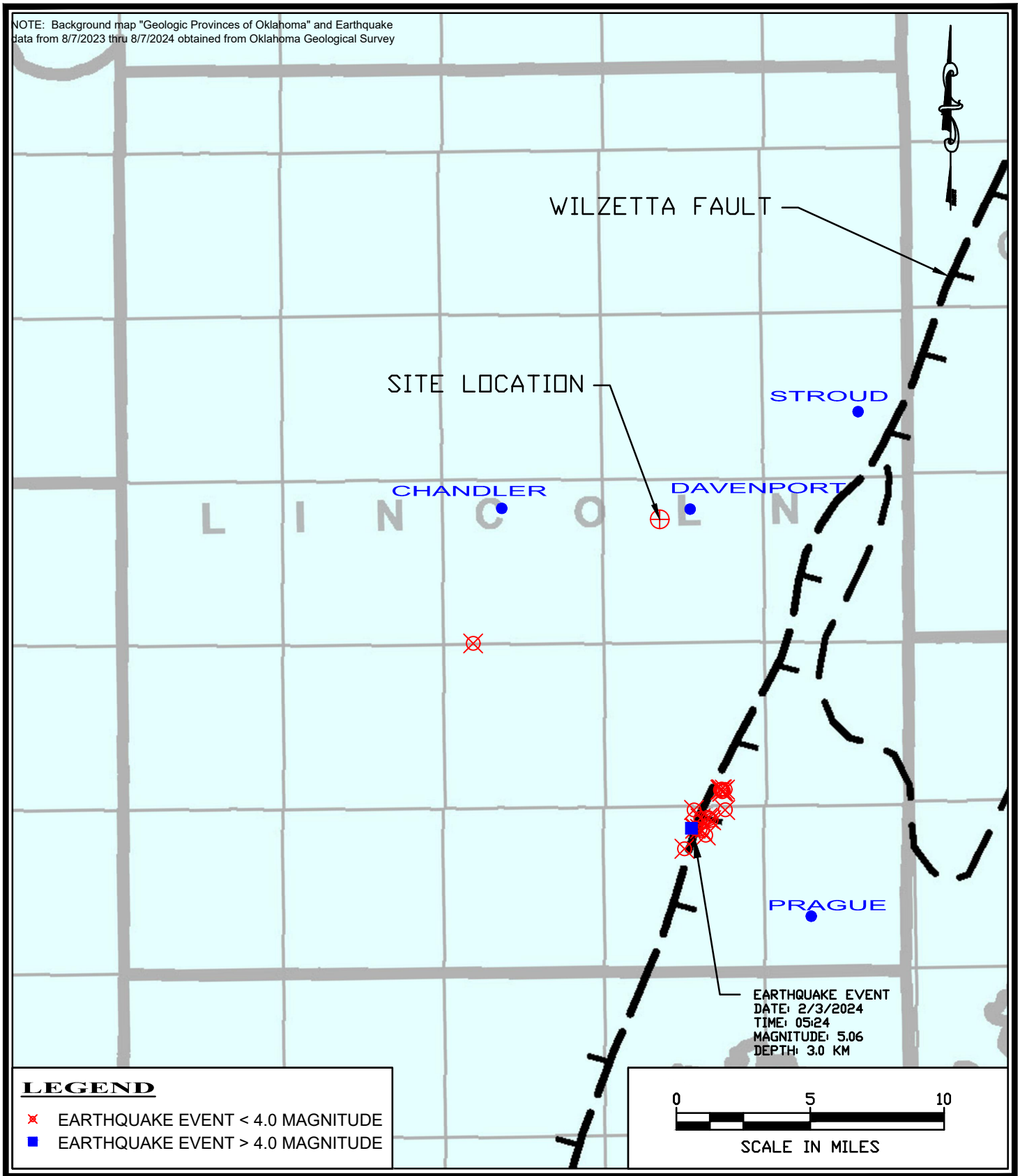
0 1,000 2,000 4,000 6,000 8,000 Feet

0 210 420 840 1,260 1,680 Meters

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

MID-WAY ENVIRONMENTAL SERVICES, INC.
FLOOD MAP

SCALE:	DATE:	FIGURE NO.
GRAPHIC	8/7/2024	FIGURE 1-3
APPROVED BY:	DRAWN BY:	PROJECT NO.
OM	ALB	1706-046



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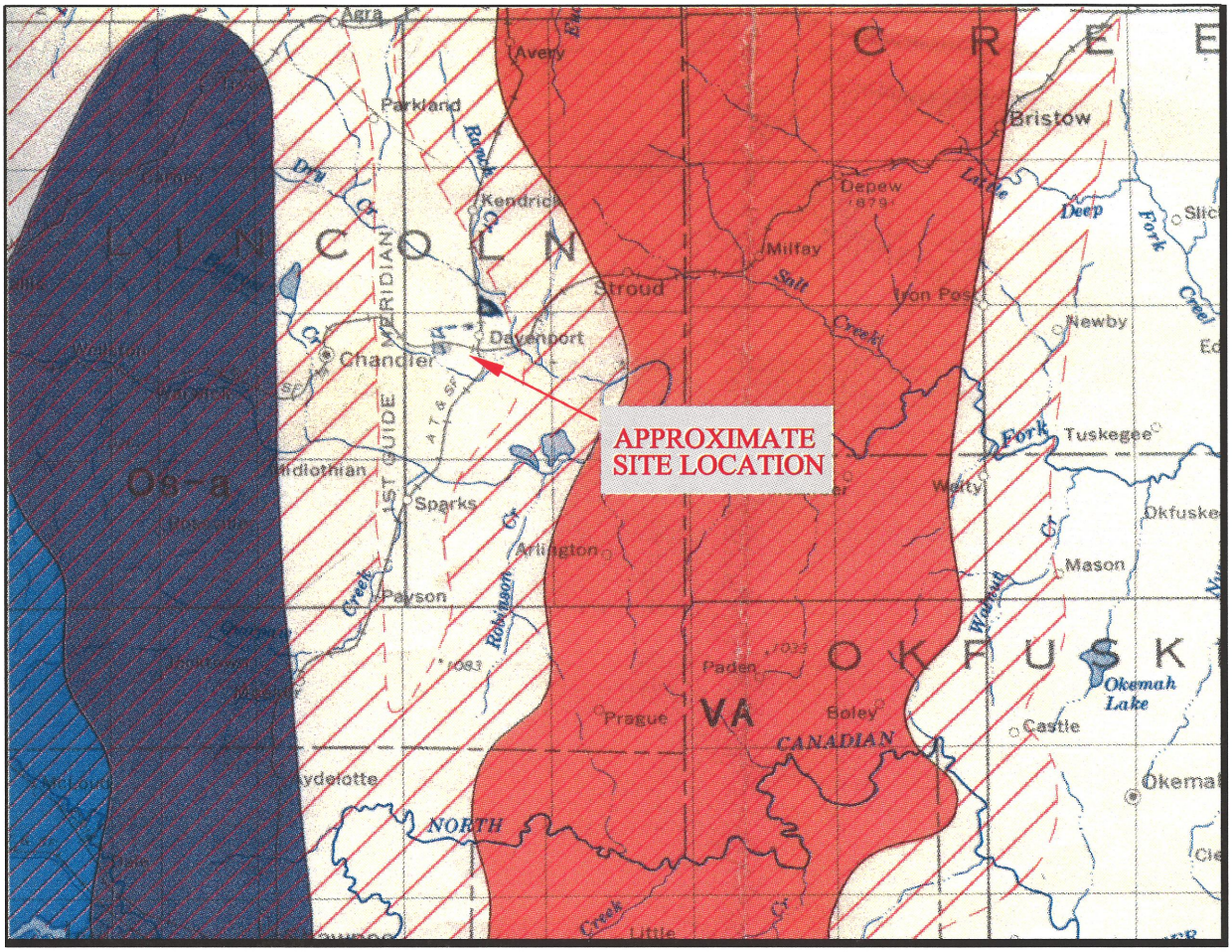
RECENT EARTHQUAKES (8/7/2023 - 8/7/2024)
LINCOLN COUNTY, OKLAHOMA
MID-WAY ENVIRONMENTAL SERVICES, INC.

SCALE:	DATE:	FIGURE NO.
AS SHOWN	8/7/2024	FIGURE 1-4
APPROVED BY:	DRAWN BY:	PROJECT NO.
OM	ALB	1706-046



PRINCIPLE GROUND-WATER RESOURCES
AND RECHARGE AREAS IN OKLAHOMA
KENNETH JOHNSON
OKLAHOMA GEOLOGICAL SURVEY
1983

EXPLANATION

RECHARGE AREAS

Patterns of red lines on the map show known or potential recharge areas for the various bedrock aquifers.

Recharge Areas. This pattern shows areas that are known to be part of the recharge area for a bedrock aquifer: includes outcrops of the aquifer and of overlying porous and permeable rocks hydraulically connected with the aquifer.

Potential Recharge Areas. This pattern shows areas that may be part of the recharge area for a bedrock aquifer: includes areas where confining strata may contain pathways for downward movement of water to the aquifer, and safety zones (generally extending 4 miles beyond the known limits of the aquifer) that may overlie unknown extensions of the aquifer or rocks hydraulically connected with the aquifer.

NORTH

Scale 1:500 000

10 0 10 20 30 40 Miles

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MID-WAY ENVIRONMENTAL SERVICES, INC.
GROUNDWATER RECHARGE AND AQUIFER MAP

SCALE:	DATE:	FIGURE NO.
GRAPHIC	8/7/2024	FIGURE 1-5
APPROVED BY:	DRAWN BY:	PROJECT NO.
OM	ALB	1706-046

SECTION 2
FACILITY CLOSURE AND INJECTION WELL
PLUGGING AND ABANDONMENT PLAN

The facility closure will precede the plugging and abandonment of the injection well.

2.1 FACILITY CLOSURE PLAN

The surface facility closure will start within 90 days after accepting the last shipment of waste or upon DEQ approval. The following procedures will be followed in the closure of surface facilities:

1. Inform the DEQ of intent to initiate closure activities.
2. Inspect and evaluate all surface facilities and structures for waste content.
3. Dispose all existing waste liquids properly in the injection well.
4. Start rinsing of each facility or structure previously containing waste. Collect rinsate and dispose in the injection well.
5. After cleaning and/or rinsing each structure or facility, collect either rinse water or swab sample for analysis to verify cleaning. The analytical parameters will be selected based on the content of the structure or facility. If any analytical parameter exceeds the acceptable limit, the associated structure or facility will be re-cleaned and re-sampled until it is verified clean.
6. After a clean verification, each structure or facility will be demolished, recycled or transported off-site.
7. After all surface facilities and structures are cleaned, soil sampling will be conducted on-site in order to determine any impact from pervious operations. Any areas of with soil impact will be delineated, remediated, and documented.
8. Ground water at the site will be sampled and analyzed to verify no impact from previous operations. In the event of impact, a ground water assessment will be conducted and, if required, corrective action will be implemented.
9. All of the activities listed above will be recorded, documented, and reported to the DEQ. A final closure report and certification will be prepared and submitted to the DEQ.

2.2 INJECTION WELL PLUGGING AND ABANDONMENT

The plugging and abandonment of the injection well will start after the closure of surface facilities is completed. An updated Plugging and Abandonment Plan will be prepared and submitted to DEQ for approval at least 180 days prior to cessation of operations or plugging and abandonment of the injection well. The updated plan shall include the requirements of OAC 252:656-5-1(5)(C). DEQ will be notified at least 180 days in advance of the injection well plugging and abandonment. The closure procedures listed below will be followed:

1. Notify DEQ of intended date of closure and plugging.
2. Inject all waste rinsate and contaminated runoff water into the well before ceasing operations.
3. Conduct pressure test of the annulus to assure integrity of casing, tubing and packer. This test shall be conducted for at least 2 hours.
4. Conduct an Oxygen Activation Log or Cement Bond Log to assure that there are no upflow conditions in the well and to verify cement integrity.
5. If there is any problem with the 8-5/8" casing or cement behind it, develop and execute a DEQ approved plan to conduct the necessary remedial actions to restore the casing and/or cement behind it to prevent contamination of underground sources of drinking water at the site.
6. Flush the entire system with fresh water and inject the rinsate into the well.
7. Disconnect pumps and piping.
8. Mobilize a workover rig and brief the crew on the closure and safety procedures.
9. If there is pressure at the wellhead, pump heavy brine or heavy mud to prevent wellhead pressure and fluid flow at the wellhead.
10. Dismantle the wellhead and remove the tubing and packer. Decontaminate and salvage. Decontamination waters should be contained, tested and properly disposed of at a permitted facility.
11. Run tubing and set cement plugs from total depth to the surface in stages.

12. Cut off the casing approximately 5 feet below ground level and weld a steel identifying plate to the top of the casing. The plate will be permanently inscribed with the well permit number and plugging date.
13. Clean-up well location; properly dispose of excess mud, cement and other materials.
14. Re-contour and vegetate the wellhead area to restore the area and prevent erosion.
15. Within 30 days after completion of the well plugging, file plugging records (triplicate) with the DEQ and Oklahoma Corporation Commission.
16. Prepare a report describing all closure activities and submit to the DEQ within 30 days after plugging the well.

SECTION 3

FINANCIAL ASSURANCE PLAN

MES has already submitted a financial guarantee bond of $70,000 for the plugging and abandonment of MES #1. This was approved by the DEQ for the closure of the injection well, during the construction permitting. A separate closure cost estimate for surface facilities was developed and updated annually and is provided in this Section.

3.1 COST ESTIMATE FOR SURFACE FACILITIES CLOSURE

The cost estimate for the surface facilities closure was determined by the item estimated cost supplied by the DEQ Solid Waste Division Closure Cost Estimate Worksheet or when items were not listed on the worksheet, three bids for an item were collected and the average of the three was used. Detailed bid request were developed to ensure the most accurate cost estimates were received. The surface facility at the MES site includes storage tanks (23), settling tanks (3), impoundment (1), process equipment and pumps, and buildings.

The following assumptions are made in the preparation of this closure cost estimate for surface facilities:

1. At the time of closure all tanks will be full.
2. All of the contents in the tanks will be hauled and disposed of off-site.
3. All tanks, process equipment, and buildings will be washed, triple rinsed and the generated rinsate will be hauled and disposed of off-site.

The above stated assumptions were utilized to establish the worst-case scenario for the closure of the facility. The facility's planned total storage capacity is 702,200 gallons. The rinsate volume is estimated to be 97,800 gallons. The total volume of non-hazardous liquid hauling and disposal will be 800,000 gallons.

2024 Worksheet for Calculating Closure and Post-Closure Cost Estimates

Table H.1 - Site Data

Facility Name: Mid-Way Environmental Services, Inc. NHIW Processing Facility

Permit Number: ODEQ Permit Number 3541017

Description	Quantity	Units
Total Permitted Area	20.00	acres
Active Portion	8.00	acres
Composite Lined	0.00	acres
Soil Lined	0.00	acres
Area of Largest Cell/Phase Requiring Final Cap		
Composite Lined	0.00	acres
Soil Lined	0.00	acres
Perimeter Fencing	2,608.00	Linear Feet
Groundwater Monitoring Wells	578.00	VLF
Methane Gas Probes	0.00	VLF
Terraces	0.00	Linear Feet
Letdown channels	0.00	Linear Feet
Perimeter drainage ditches	500.00	Linear Feet
Average Daily Flow	0.00	tons/day
Landfill Disposal Cost	0.00	$/ton

VLF = Vertical linear feet. The sum of the depths of all monitoring wells.

Table H.2 - Closure Cost Estimates

Facility Name: Mid-Way Environmental Services, Inc. NHIW Processing Facility

Permit Number: ODEQ Permit Number 3519017

	Task/Service	Quantity	Units	Multiplier	Unit Cost	Subtotal
1	**PRELIMINARY SITE WORK**					
1.1	Conduct Site Evaluation	1	Lump Sum	1 [a]	$4,376.08 [b]	$4,376.08
1.2	Dispose Final Wastes					
	Average Daily Flow	0.00	tons/day			
	Disposal Cost	0.00	tons/day	5 [a]	$0.00	$0.00
1.3	Removal Temporary Building(s)	1	Lump Sum	1 [a]	4,012.98 [b]	$4,012.98
1.4	Remove Equipment	1	Lump Sum	1 [a]	3,275.69 [b]	$3,275.69
1.5	Repair/Replace Perimeter Fencing	2,608.00	Linear Feet	0.25 [a]	$4.29 [b]	$2,797.08
1.6	Clean Leachate Lines(s)	0	Lump Sum	1 [a]	$1,982.05 [b]	$0.00
2	**MONITORING EQUIPMENT**					
2.1	Rework/Replace Monitoring Well(s)	0.00	VLF	0.25 [a]	$92.01 [b]	$0.00
2.2	Plug Abandoned Monitoring Well(s)	578.00	VLF	0.25 [a]	$36.83 [b]	$5,321.94
2.3	Rework/Replace Methane Probe(s)	0.00	VLF	0.25 [a]	$79.47 [b]	$0.00
2.4	Plug Abandoned Methane Probe(s)	0.00	VLF	0.25 [a]	$29.04 [b]	$0.00
2.5	Rework/Replace Remediation and/or Gas Control Equipment	0	Lump Sum	0.05 [a]	$0.00	$0.00
3	**CONSTRUCTION**					
3.1	Complete Site Grading to include on- and off- site borrow areas	0.00	Acres	1 [a]	$1,735.01 [b]	$0.00
3.2	Construct Final Cap					
	Compacted on-site Clay Cap or	0.00	Cubic Yards	1 [a]	$6.23 [b]	$0.00
	Compacted off-site Clay Cap	0.00	Cubic Yards	1 [a]	$10.13 [b]	$0.00
	Install Geosynthetic Clay Liner Cap	0.00	Square Feet	1 [a]	$0.65 [b]	$0.00
3.3	Construct Landfill Gas Venting Layer					
	Place Sand or	0.00	Acres	1 [a]	$46,392.25 [b]	$0.00
	Install Net and Geotextile	0.00	Square Feet	1 [a]	$0.46 [b]	$0.00
3.4	Install Passive Landfill Gas	0.00	Acres	1 [a]	$1,111.39 [b]	$0.00

	Vents					
3.5	Install Flexible Membrane Liner	0.00	Square Feet	1 [a]	$0.51 [b]	$0.00
3.6	Drainage Layer					
	Place Sand or	0.00	Acres	1 [a]	$46,392.25 [b]	$0.00
	Install Net and Geotextile	0.00	Square Feet	1 [a]	$0.46 [b]	$0.00
3.7	Place On-Site Topsoil	0.00	Cubic Yards	1 [a]	$2.68 [b]	$0.00
	Place Off-Site Topsoil	0.00	Cubic Yards	1 [a]	$21.44 [b]	$0.00
3.8	Establish vegetative cover, including on- and off-site borrow areas	0.00	Acres	1 [a]	$1,236.49 [b]	$0.00
4	**DRAINAGE /EROSION CONTROL**					
4.1	Construct Terraces	0.00	Linear Feet	1 [a]	$11.23 [b]	$0.00
4.2	Construct Letdown Channels	0.00	Linear Feet	1 [a]	$122.82 [b]	$0.00
4.3	Clean Perimeter Ditches	500.00	Linear Feet	0.5 [a]	$8.56 [b]	$2,140.00
5	**TASKS NOT IDENTIFIED**					
5.1	**WATER SAMPLING AND ANALYSIS**					
5.1.1	Groundwater Monitoring Wells	5	# of Wells	1	$858.38 [c]	$4,291.90
5.1.2	Surface Water Monitoring Points	2	Sample Pts	1	$103.44 [c]	$206.88
5.1.3	Tank Rinsate	27	# of Tanks	1	$858.38 [c]	$23,176.26
5.2	**REMOVAL/DISPOSAL OF LIQUID WASTE AND RINSATE**					
5.2.1	Removal, Transportation and Disposal	800,000	Gallons	1	$0.2488 [d]	$199,040.00
5.3	**SOIL SAMPLING AND ANALYSIS**					
5.3.1	Facility Soil Testing	8	# of Samples	1	$858.38 [c]	$6,867.04
5.4	**SITE RESTORATION**					
5.4.1	Clean and Remove Tanks, Impoundments, and Related Accessories	1	Lump Sum	1	$72,920.49 [d]	$72,920.49
5.4.2	Remove Buildings and Concrete Structures	1	Lump Sum	1	$16,552.55 [d]	$16,552.55
5.4.3	Site Grading and Vegetation	1	Lump Sum	1	$13,922.41 [d]	$13,922.41
6	**SUBTOTAL**					**$358,901.30**
7	**ADMINSITRATIVE SERVICES**	1	Lump sum	0.10 [a]	$358,901.30	$35,890.13
8	**TECHNICAL AND PROFESSIONAL SERVICES**	1	Lump sum	0.12 [a]	$358,901.30	$43,068.16
9	**CLOSURE**	1	Lump sum	0.10 [a]	$358,901.30	$35,890.13

	CONTINGENCY					
10	**TOTAL FINAL CLOSURE**					**$473,749.71**

[a] Multipliers are determined from the Solid Waste Financial Assurance Program Report, December 22, 2000.

[b] Unit costs include a 3.64% inflationary adjustment for 2024.

[c] Sampling and Analysis Costs based on DEQ Post-Closure Cost Estimate Worksheet (Table I.1).

[d] Unit Cost from Average Cost of 3 Third Party Bids from 2016, including a 1.32% inflationary adjustment for 2017, a 1.02% inflationary adjustment for 2018, a 2.26% inflationary adjustment for 2019, a 1.75% inflationary adjustment for 2020, a 1.21% inflationary adjustment for 2021, a 4.14% inflationary adjustment for 2022, a 6.98% inflationary adjustment for 2023 and a 3.64% inflationary adjustment for 2024.

COST ASSUMPTIONS:

1) At the time of closure, all tanks will be completely full.
2) All the contents in the tanks will be hauled and disposed at a permitted off-site facility.
3) All tanks, process equipment, and buildings will be washed, rinsed and the generated risate will be hauled and disposed off-site or recycled.

3.2 COST ESTIMATE FOR INJECTION WELL PLUGGING AND ABANDONMENT

The cost estimate for injection well plugging and abandonment is determined based on the 2012 on-going market rates for oilfield services. The tasks and equipment/services cost estimates are as follows:

Task 1	Mobilize work over rig for three days	
	$2,550/day X 3 days	$ 7,650.00
Task 2	Testing and logging	$14,500.00
Task 3	Cementing	$10,500.00
Task 4	Site cleanup and restoration	$ 5,000.00
Task 5	Reporting and Certification	$ 7,000.00
	Subtotal	$44,650.00
	Contingency (10%)	$ 4,465.00
	Total Cost Estimate for Injection Well	$49,115.00

Subsequent inflationary adjustments resulted in an updated cost of $63,304.11 in 2023. This cost has been updated using an inflationary adjustment of 3.64% for 2024 based on the published

2024 Implicit Price Deflator, Gross National Product as found on the DEQ website. The estimated total cost for P&A has increased from $63,304.11 in 2023 to **65,608.38** in 2024.

To summarize, the total closure cost estimate is:

Surface Facilities Closure Cost (Worst Case)	$473,749.71
Injection Well Plug and Abandonment	$ 65,608.38
Total Closure Cost Estimate (Worst Case)	**$539,358.09**

The closure cost estimate will be updated annually, and financial mechanism will be adjusted accordingly.

3.3 CLOSURE COST FINANCIAL ASSURANCE

As part of the Class I Non-hazardous Injection Well Permit and in accordance with OAC 252:652-5-1(7), MES has established a Standby Trust Fund and posted a Financial Guarantee Bond in the amount of $70,000, (see Appendix D). MES also maintains a letter of credit (#SDP14000388) in the amount of $500,000.00 which is more than the current estimated closure cost for surface facilities in accordance with the requirements of OAC 252:515-27 (See Appendix E). If the volume of waste handled at the facility changes, MES will submit a change in the financial assurance to the DEQ within thirty (30) days, to reflect the latest operational conditions of the facility.