Ameredev II, LLC
2901 Via Fortuna Suite 600 • Austin, Texas 78746 • Phone (737) 300-4700

September 28, 2023

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

RE: NW, SW, and NE Recycling ASTs
Ike's Containment #1 and Recycling Facility
1 RF-508; Facility ID fVV2326835427
UL D Section 27 T26S R36E, Lea County

Ameredev Operating respectfully submits attached modification to the Ike's Containment #1 permit, 1RF-508. This modification describes 3 AST containments which are associated with this recycling facility, identified as NW AST, SW AST, and NE AST.

Dates of operation:

- NW AST: 8/2018 - 9/2023
- SW AST: 6/2019 – 4/2021
- NE AST: 5/2018 – 6/2019

This registration package includes:

- C 147
- Site Specific Information
- Plat of new pad
- Design and Construction Plan
- Operations and Maintenance Plan
- Closure Plan
- Appendix A: Technical Specifications
- Appendix B: Well Logs
- Appendix C: Variance requests
    - Fencing
    - Levee Slope
    - Anchor Trench
    - Primary Liner – Dual 40-mil LLDPE
    - Secondary liner - 60-mil HDPE

The ASTs have been deconstructed, according to the Closure Plan, and site closure is expected to commence in the next few weeks. The site will remain in-use for oil and gas operations. Closure report for the recycling ASTs will be submitted following completion of site closure activities.

A prior release was located south of the NW AST (Incident ID# NCS2003549670) and deferral was approved by NMOCD. Final remediation and restoration to an in-use site will occur in accordance with 19.15.29.12 and ultimately 19.15.29.13 when the site is no longer in use for oil and gas operations. Closure activities and confirmation sampling of this incident will be provided under separate cover, some confirmation samples may be used both for closure of the release and of AST sites.

The legacy C-148s for both the Ike's inground and AST containments will be submitted via the online portal process for C-148 forms.

Please contact me with any questions.

Sincerely,

Shane McNeely

Shane McNeely
Ameredev II, LLC

September 28, 2023

State of New Mexico
Energy Minerals and Natural Resources
Department Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
https://www.emnrd.nm.gov/ocd/ocd-e-permitting/

Form C-147
Revised October 11, 2022

Recycling Facility and/or Recycling Containment

Type of Facility: ☐ Recycling Facility ☑ Recycling Containment*

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

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

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

1.

Operator: Ameredev Operating, LLC (For multiple operators attach page with information) OGRID #: 372224

Address: 2901 Via Fortuna #600, Austin, TX 78746

Facility or well name (include API# if associated with a well): Ike's Containment #1 and Recycling Facility

OCD Permit Number: 1RF-508 (For new facilities the permit number will be assigned by the district office)

U/L or Qtr/Qtr D Section 27 Township 26S Range 36E County: Lea

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

2.

☐ **Recycling Facility:**

Location of recycling facility (if applicable): Latitude _____ Longitude _____ NAD83

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

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

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

☐ Fluid Storage

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

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

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

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

3.

☑ **Recycling Containment:** NW AST

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

Center of Recycling Containment (if applicable): Latitude 32.0209189 Longitude -103.2607928 NAD83

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

☑ Lined ☐ Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____

☐ String-Reinforced Primary liner: Dual (2) 40 mil LLDPE; Secondary liner: 60 mil HDPE

Liner Seams: ☑ Welded ☐ Factory ☐ Other _____ Volume: 60 K bbl Dimensions: L_____ x W_____ x D 12 ft 3.5 in

☐ Recycling Containment Closure Completion Date:_____ Diameter 191 ft

☑ **Recycling Containment:** SW AST

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

Center of Recycling Containment (if applicable): Latitude 32.0191416 Longitude -103.2608087 NAD83

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

☑ Lined ☐ Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____

☐ String-Reinforced Primary liner: Dual (2) 40 mil LLDPE; Secondary liner: 60 mil HDPE

Liner Seams: ☑ Welded ☐ Factory ☐ Other _____ Volume: 60 K bbl Dimensions: L_____ x W_____ x D 12 ft 3.5 in

☐ Recycling Containment Closure Completion Date:_____ Diameter 191 ft.

☑ **Recycling Containment:** NE AST

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

Center of Recycling Containment (if applicable): Latitude 32.0209202 Longitude -103.2598617 NAD83

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

☑ Lined ☐ Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____

☐ String-Reinforced Primary liner: Dual (2) 40 mil LLDPE; Secondary liner 60 mil HDPE

Liner Seams: ☑ Welded ☐ Factory ☐ Other _____ Volume: 60 K bbl Dimensions: L_____ x W_____ x D 12 ft 3.5 in

☐ Recycling Containment Closure Completion Date:_____ Diameter 191 ft

4.

Bonding:

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

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

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

5.

Fencing:

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

☑ Alternate. Please specify 8-foot game fence topped with a single strand of barbed wire.

6.

Signs:

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

☐ Signed in compliance with 19.15.16.8 NMAC

7.

Variances:

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

Check the below box only if a variance is requested:

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

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

8.

Siting Criteria for Recycling Containment

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

General siting

Ground water is less than 50 feet below the bottom of the Recycling Containment. Plate 2 NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☑ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. Plate 3 - Written confirmation or verification from the municipality; written approval obtained from the municipality	☐ Yes ☑ No ☐ NA
Within the area overlying a subsurface mine. Plate 7 - Written confirmation or verification or map from the NM EMNRD-Mining and Minerals Division	☐ Yes ☑ No
Within an unstable area. Plate 8 - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; topographic map	☐ Yes ☑ No
Within a 100-year floodplain. FEMA map. Plate 9	☐ Yes ☑ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). Plate 4 - Topographic map; visual inspection (certification) of the proposed site	☐ Yes ☑ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; aerial photo; satellite image. Plate 5	☐ Yes ☑ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. Plate 3 - NM Office of the State Engineer - iWATERS database search; visual inspection (certification) of the proposed site	☐ Yes ☑ No
Within 500 feet of a wetland. Plate 6 - US Fish and Wildlife Wetland Identification map; topographic map; visual inspection (certification) of the proposed site	☐ Yes ☑ No

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

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

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

Name (Print): Shane McNeely Title: Engineer
Signature: Shane McNeely Date: September 28, 2023
e-mail address: smcneely@ameredev.com Telephone: 737-300-4729

11.
OCD Representative Signature: Victoria Venegas **Approval Date:** 10/10/2023

Title: Environmental Specialist **OCD Permit Number:** 1RF-508

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

Site Specific Information and Compliance Demonstration

Ameredev II, LLC
2901 Via Fortuna Suite 600 • Austin, Texas 78746

Siting Requirements

The following sections address items as described in 19.15.34.11. Please refer to the C-147 General Siting Criteria checklist (Section 8) for additional setback criteria and further demonstration on attached Plates 2-9.

1.1. Site Map

Plate 1 shows the location of the NW, SW, and NE ASTs in relation to the Ike's inground recycling containment, production equipment, pipelines, and utilities. A prior release extent (Incident ID# NCS2003549670), with NMOCD approved deferral is located south of the NW AST. Closure of this incident will be provided under separate cover.

1.2. Depth to Ground Water

Depth to groundwater is greater than 50 feet below ground surface (and bottom of containments) where the AST containments are located. The nearest depth-to-water borehole is mapped on Plate 2.

- MISC-425 (J-00062 POD 1) is located approximately 0.17 miles to the south of the NW AST, 0.04 miles to the south of the SW AST, and 0.2 miles southwest of the NE AST. Depth of the water is noted as >101-feet. This borehole has been plugged. The well log is in Appendix B.

1.3. Wellhead Protection Area

Plate 3 shows that the AST containments are:

- Not within incorporated municipal boundaries or within a defined municipal fresh water well field.
- Not within 500 horizontal feet of a spring or a private domestic fresh water well used for domestic or stock watering purposes.
- The nearest freshwater well is J-00025 (POD 2). Location correction from OSE records done with aerial imagery and visual confirmation. It is located approximately 950 ft northwest of NW AST, 1400 ft northwest of SW AST, and 1200 ft northwest of NE AST. Well log is included in Appendix B and indicates it is an artesian well. The driller's log notes that the upper 600-feet is unsaturated and describes a sand and gravel layer 600 feet below ground surface (bgs). This sand and gravel layer is likely within the saturated zone. The overlying sand and clay layer is representative of a confining layer. Assuming the sand and clay layer acts as an aquitard, depth to water is 600-feet bgs with 501-feet of pressure head; yielding a static depth to water at 99 ft (=600 ft -501 ft). An

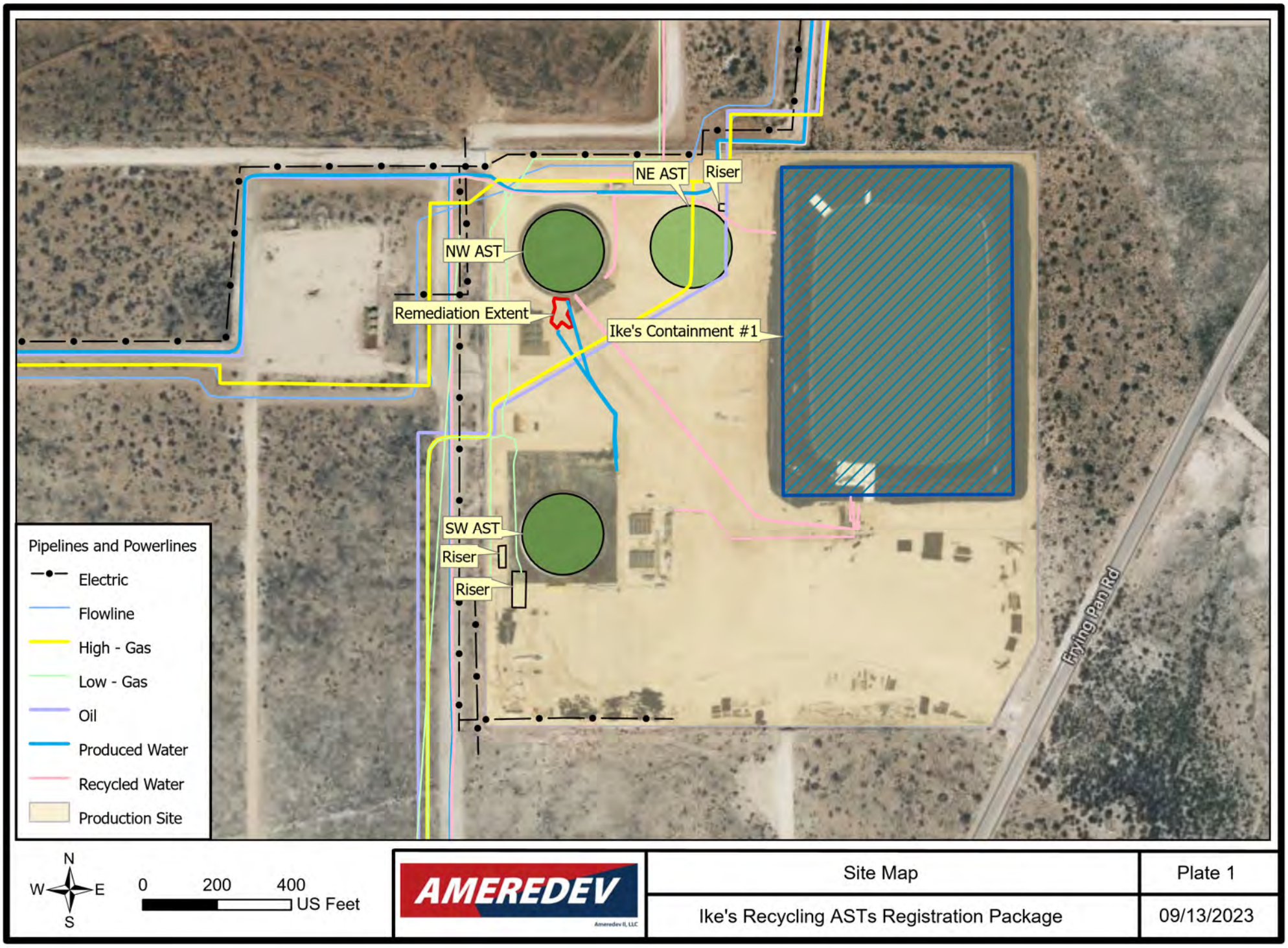
abandoned windmill is located > 1000 ft to the southeast of the containments and is identified on the USGS Topographic map as "Hutchin Windmill"

1.4. Distance to Nearest Significant Water Course

Plate 4 shows that the AST containments are:

- Not within ½ mile of any significant water course.
- Not within 300 feet of a continuously flowing watercourse or any other significant watercourse.
- Not within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

The nearest significant water courses are 2 lake/ponds located approximately 1 mile east of the AST containments and appear as dry depressions on aerial imagery.


NE AST
Riser
NW AST
Remediation Extent
Ike's Containment #1
SW AST
Riser
Riser
Frying Pan Rd
Pipelines and Powerlines
Electric
Flowline
High - Gas
Low - Gas
Oil
Produced Water
Recycled Water
Production Site
N
W
E
S
0
200
400
US Feet
AMEREDEV
Ameredev II, LLC
Site Map
Plate 1
Ike's Recycling ASTs Registration Package
09/13/2023

SKETCH

SECTION 27, T-26-E, R-36-E, N.M.P.M.
LEA COUNTY, NEW MEXICO
"NORTHWEST QUARTER OF NORTHWEST QUARTER OF SECTION 27 BOUNDARY"

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

LEGEND

- SECTION LINE
- PROPOSED SITE
- PROPOSED ROAD
- LIFT — PROPOSED GAS LIFT LINE
- GAS — PROPOSED GAS LINE
- PROPOSED EDGE OF EASEMENT
- TRACT BORDER
- C/L OF ROAD
- ROAD WAY
- X — FENCE LINE
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- IRON ROD SET
- MONUMENT
- NAIL FOUND
- GAS/OIL WELL
- PROPOSED WELL
- UTILITY/POWER POLE
- GUY ANCHOR

PROPOSED
AMEN CORNER STATE COM
BATTERY SITE

PROPOSED
PLAYER COMPRESSOR STATION
SITE

CATTLE GUARD

PROPOSED GAS LIFT LINE

PROPOSED GAS LINE

PROPOSED ROAD

PROPOSED ROAD

PROPOSED MAGNOLIA STATE COM 26-36-22 101H
PROPOSED MAGNOLIA STATE COM 26-36-22 111H

PROPOSED
AMEN CORNER STATE COM 26-36-27 111H
PROPOSED
AMEN CORNER STATE COM 26-36-27 121H

PROPOSED
AMEN CORNER STATE COM
PAD SITE

SECTION 21
SECTION 22
SECTION 28
SECTION 27

FND. BRASS CAP,
U.S. G.L.O. SUR.
1913
21 22
28 27

1/2" IRON ROD SET

600'

PROPOSED ROAD

PROPOSED
OPTIONAL
PAD SITE

Frac Pond

800'

EXISTING WELL

NW4 OF NW4
OF SECTION 27

EXISTING WELL

TELEPHONE LINE

LEASE RD.

LEASE RD.

JAL-3 ROFFRYNG PAN RD.

CATTLE GUARD

1/2" IRON ROD SET

60D NAIL

EXISTING
SITE

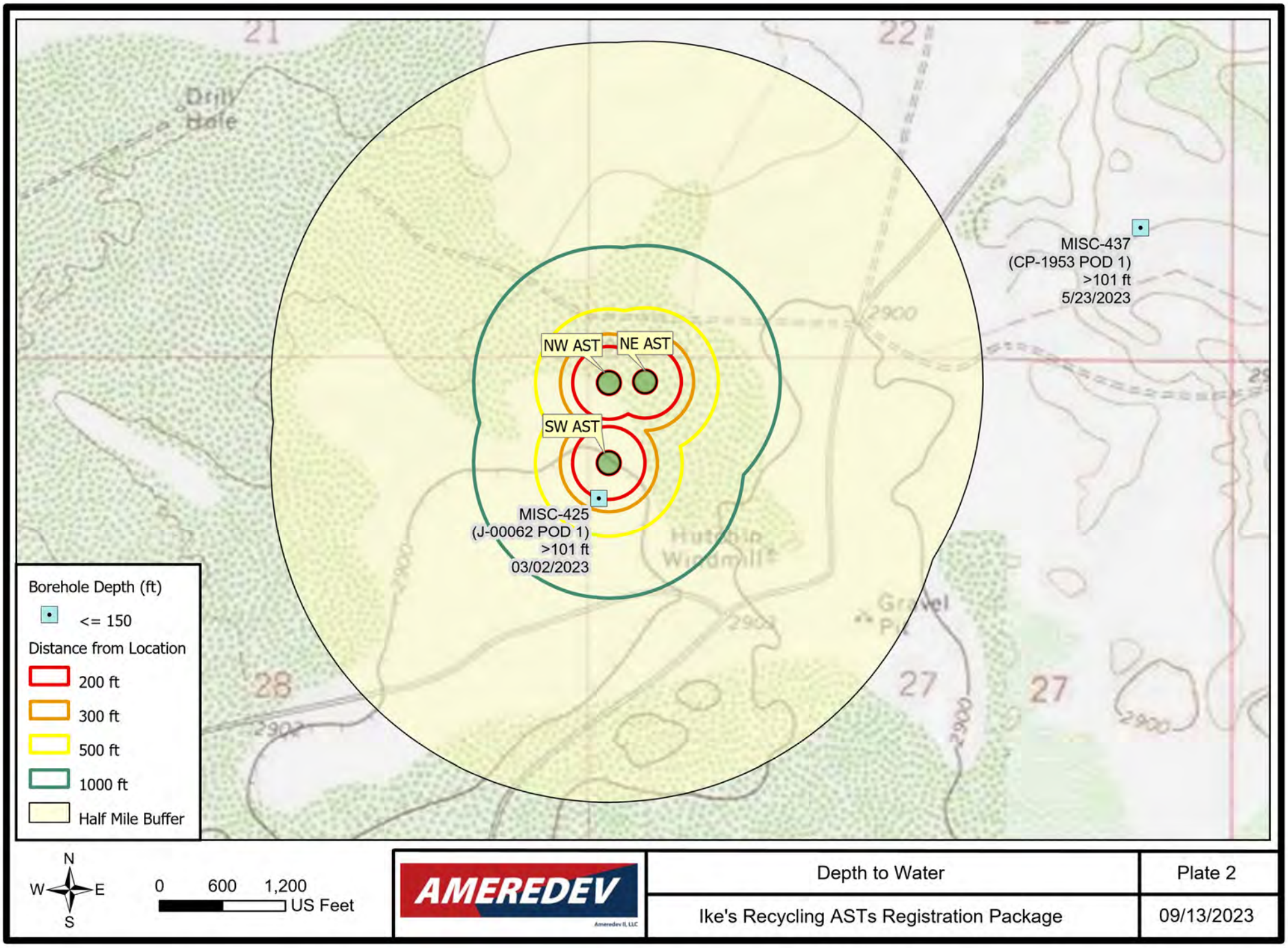
LEASE RD.

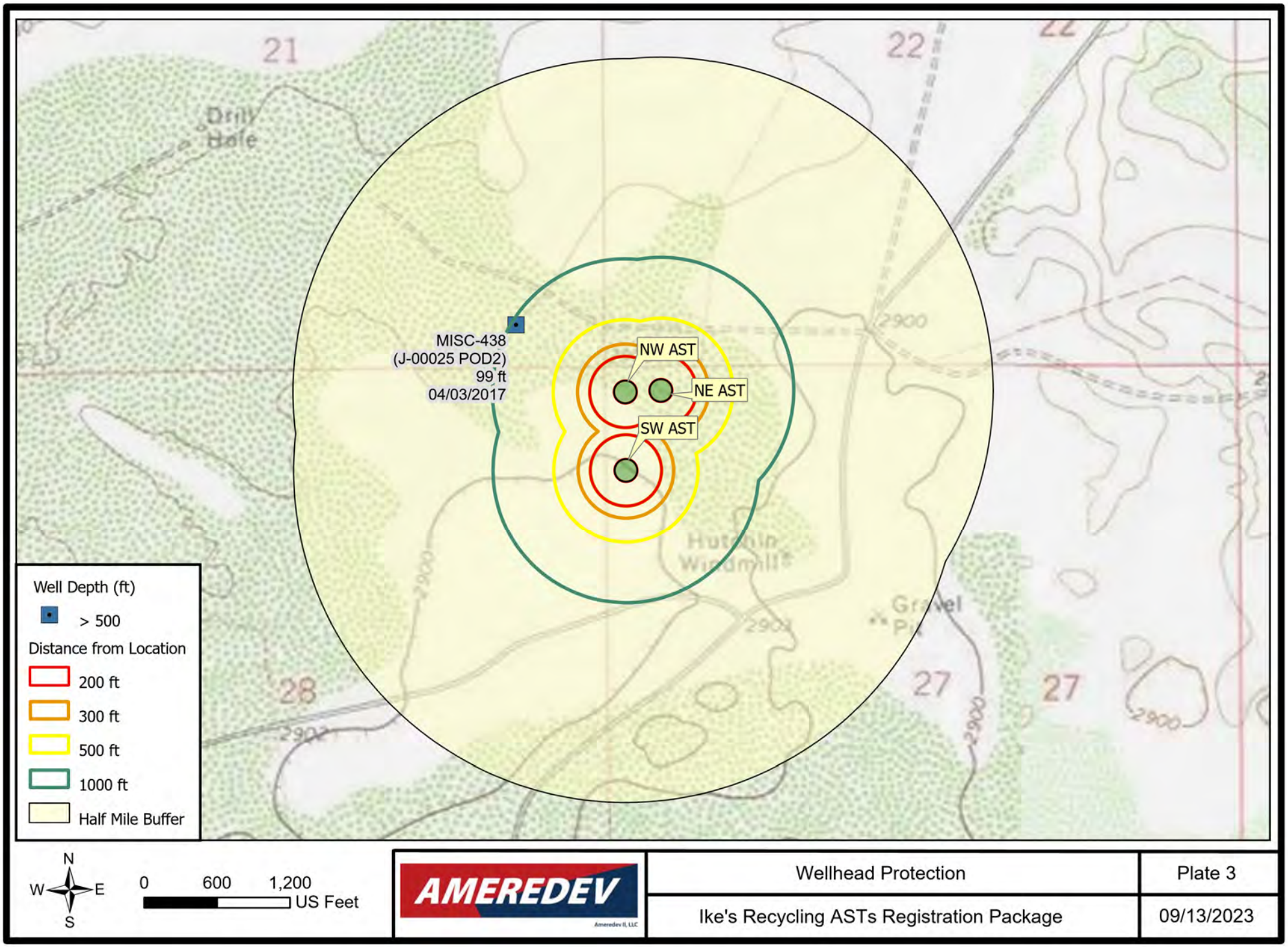
LEASE RD.

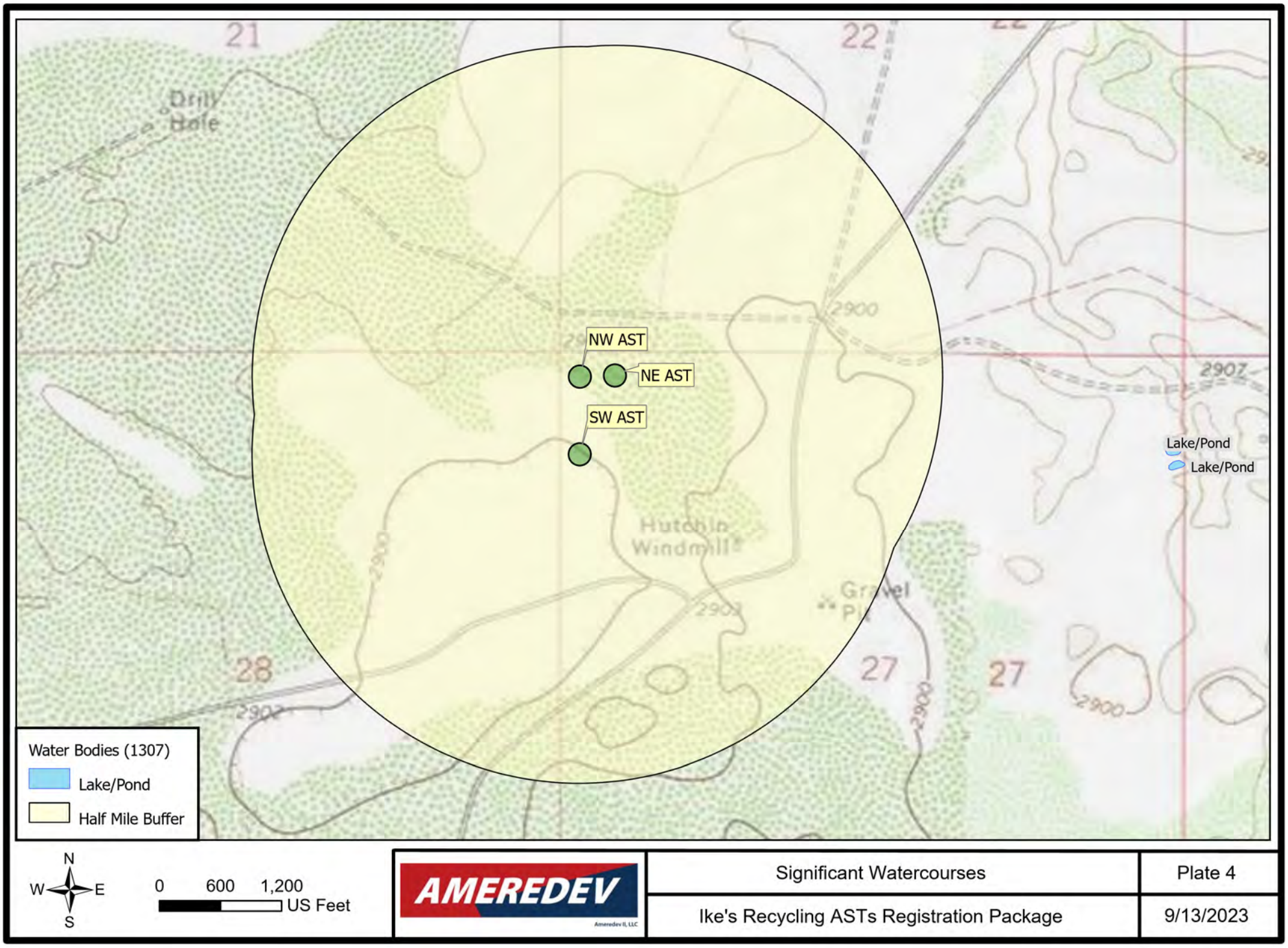
EXISTING WELL

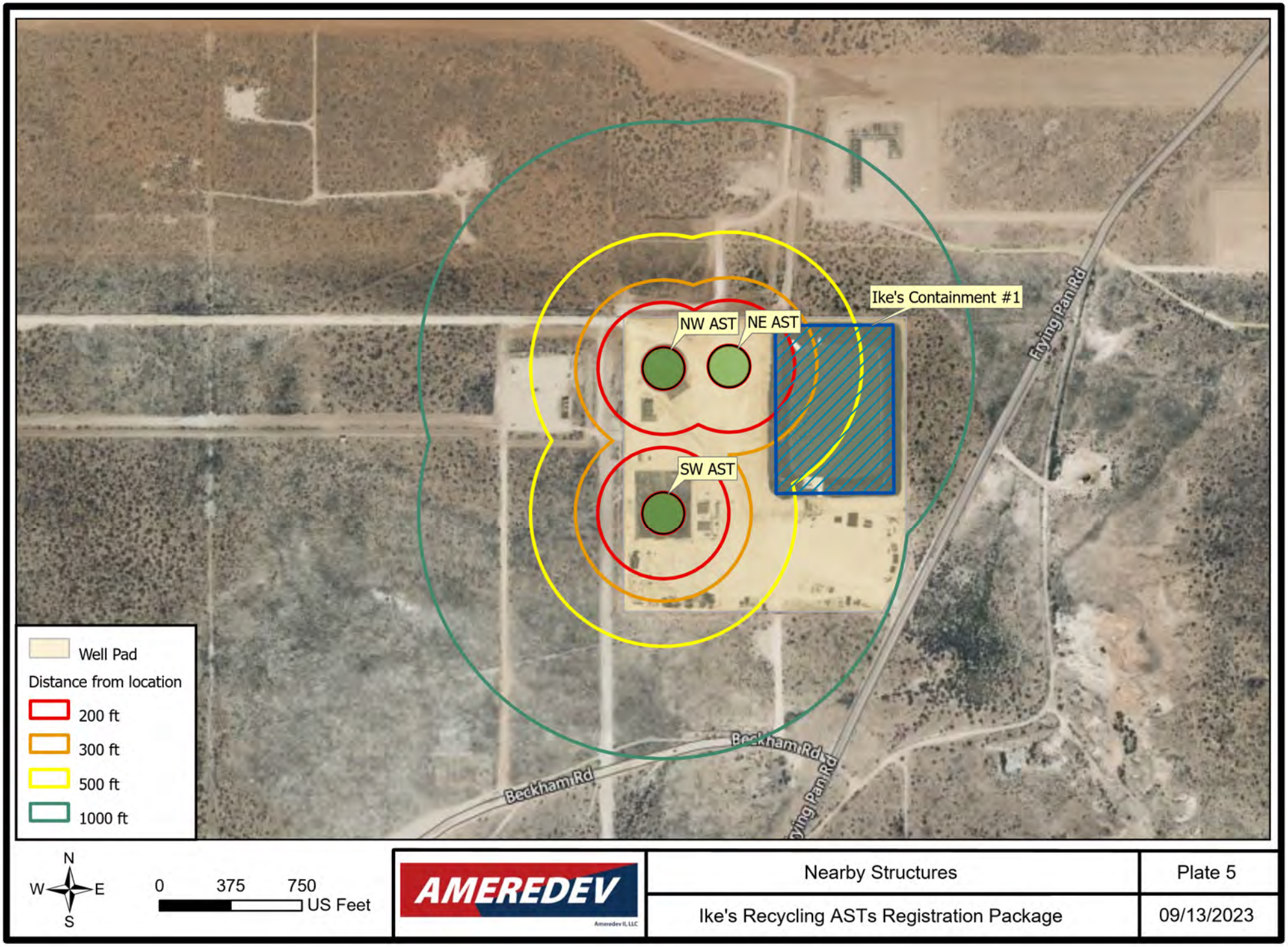
BORROW PIT

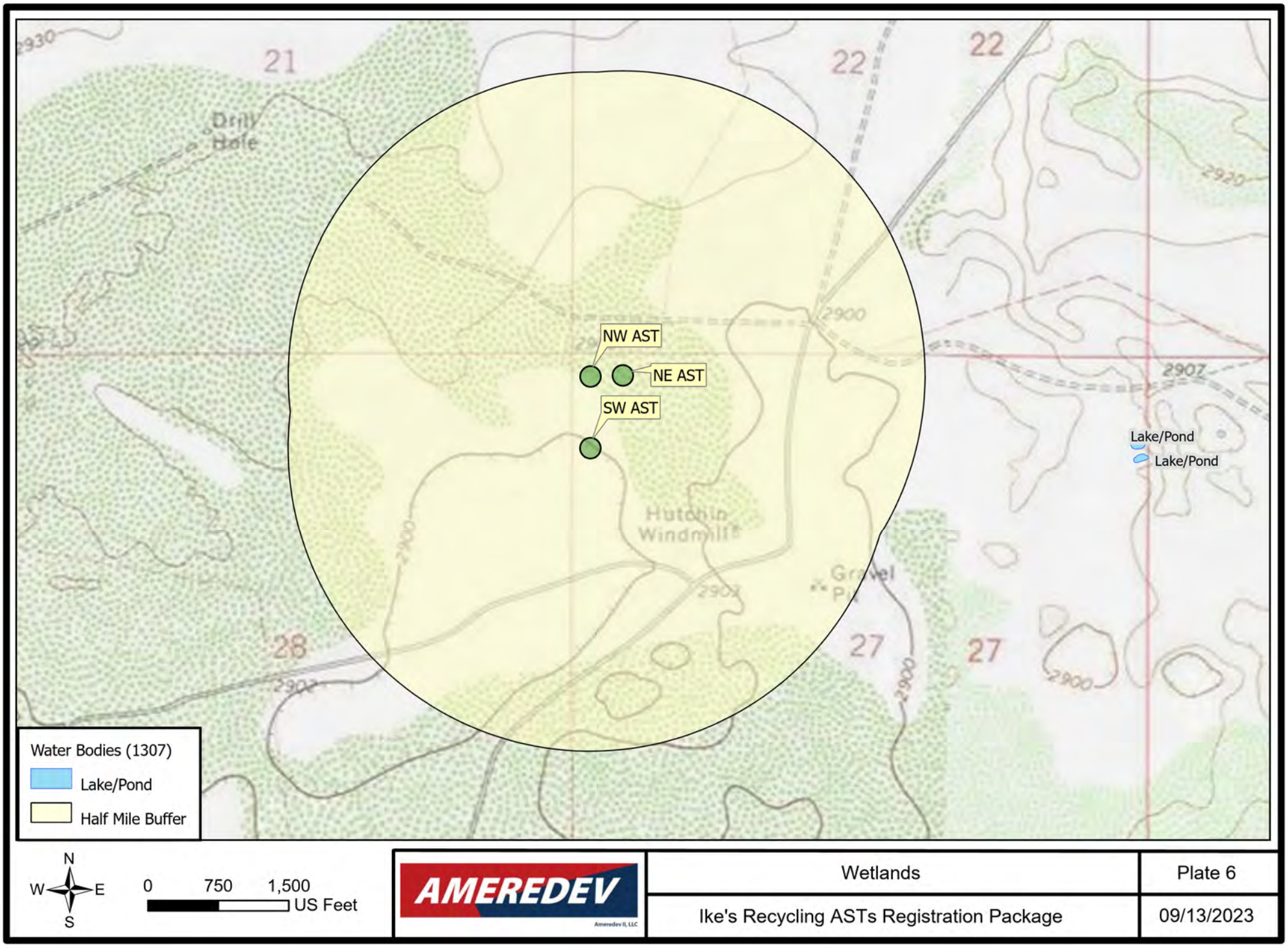
S:\SURVEY\AMEREDEV_OPERATING_LLC\NW4_NW4_SEC_27_BOUNDARY\FINAL_PRODUCTS\SKETCH\SK_NW4_NW4_SEC27_BOUNDARY.DWG 11/7/2017 10:51:49 AM ccaston

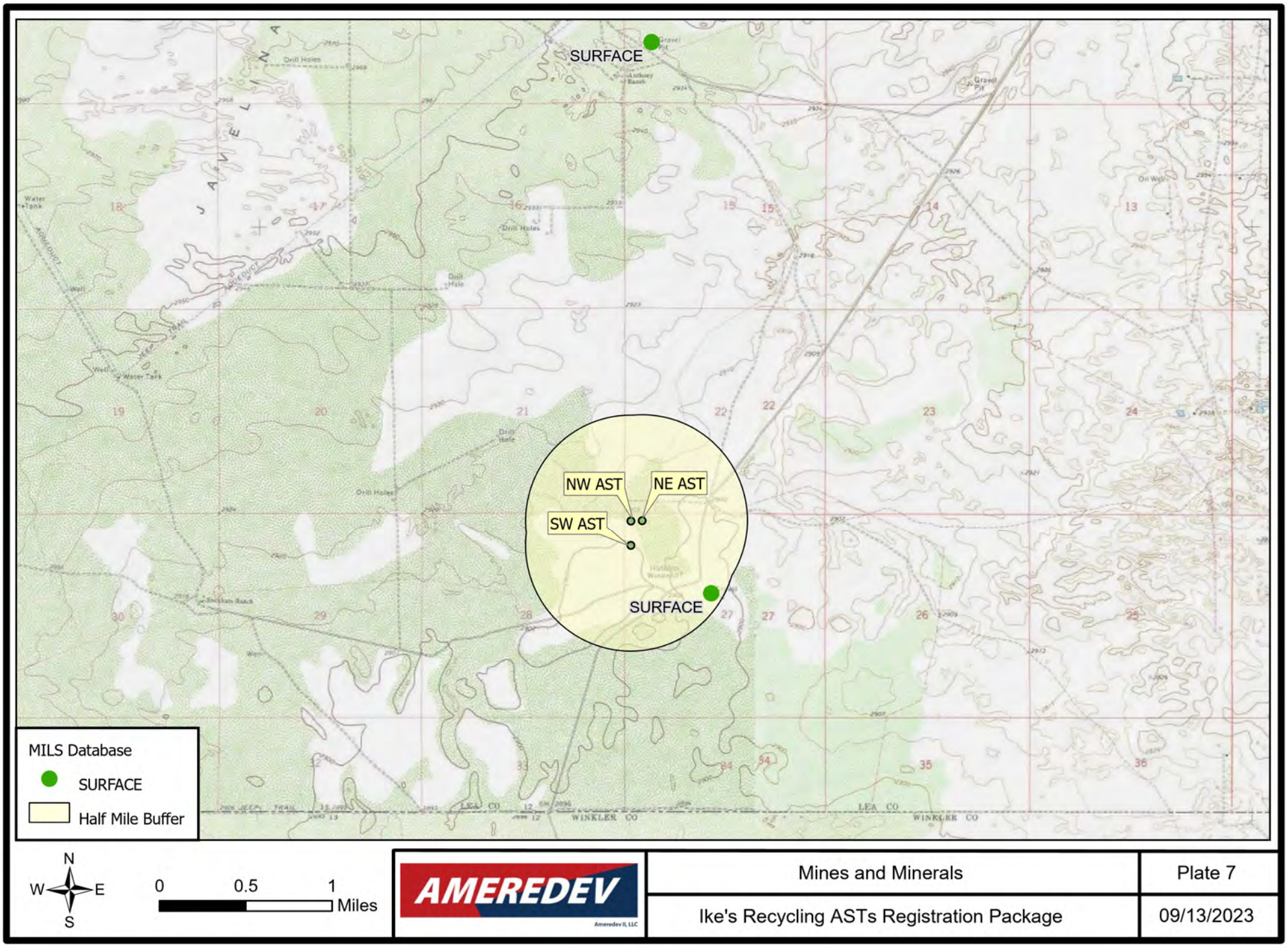

NW AST
NE AST
SW AST
MISC-425
(J-00062 POD 1)
>101 ft
03/02/2023
MISC-437
(CP-1953 POD 1)
>101 ft
5/23/2023
Borehole Depth (ft)
<= 150
Distance from Location
200 ft
300 ft
500 ft
1000 ft
Half Mile Buffer
N
W
E
S
0
600
1,200
US Feet
AMEREDEV
Depth to Water
Plate 2
Ike's Recycling ASTs Registration Package
09/13/2023

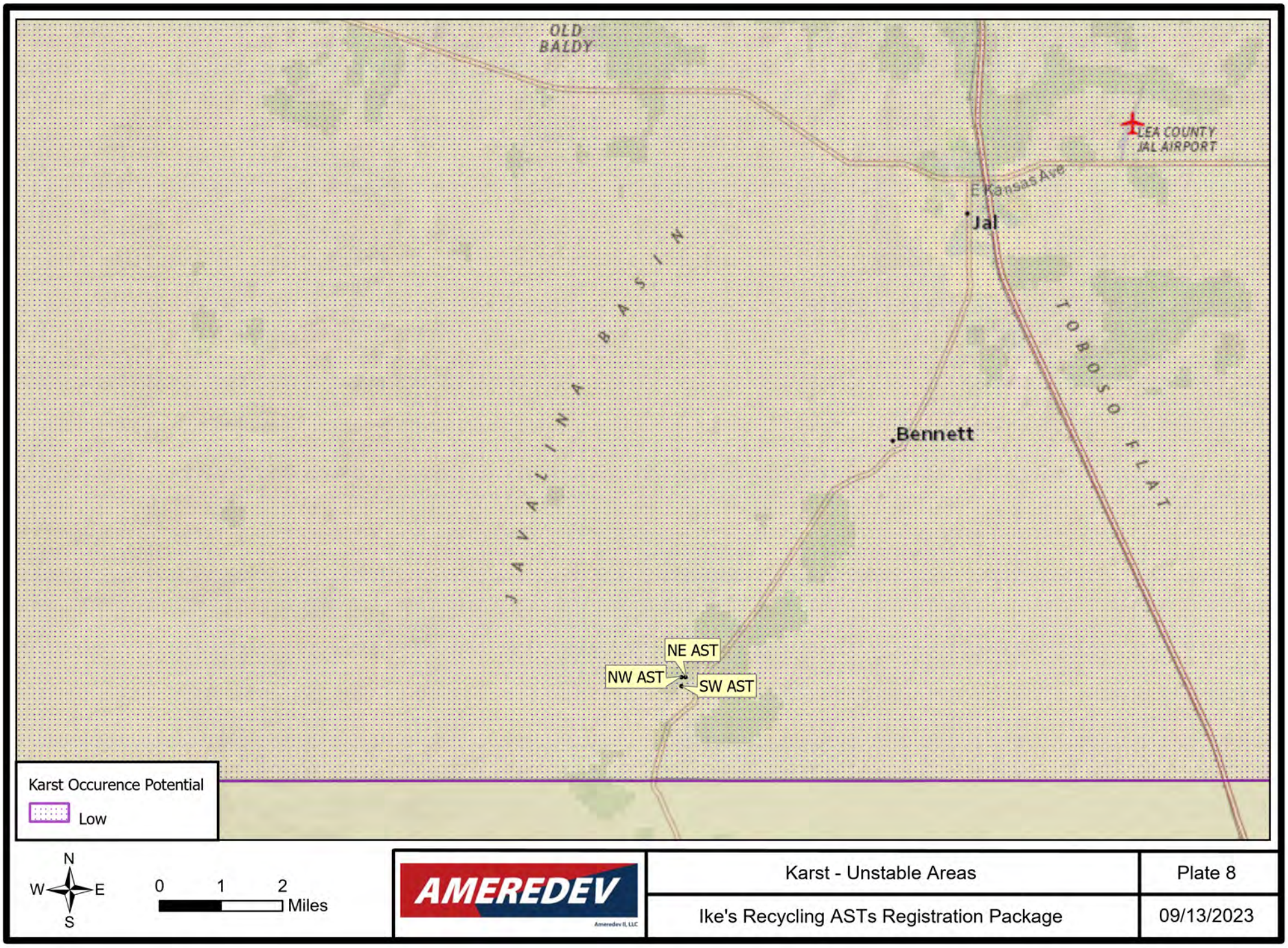

21
22
Drilly Hole
MISC-438
(J-00025 POD2)
99 ft
04/03/2017
NW AST
NE AST
SW AST
Hutchin Windmill
Gravel Pit
28
27
27
2900
Well Depth (ft)
> 500
Distance from Location
200 ft
300 ft
500 ft
1000 ft
Half Mile Buffer
N
W
E
S
0
600
1,200
US Feet
AMEREDEV
Wellhead Protection
Plate 3
Ike's Recycling ASTs Registration Package
09/13/2023

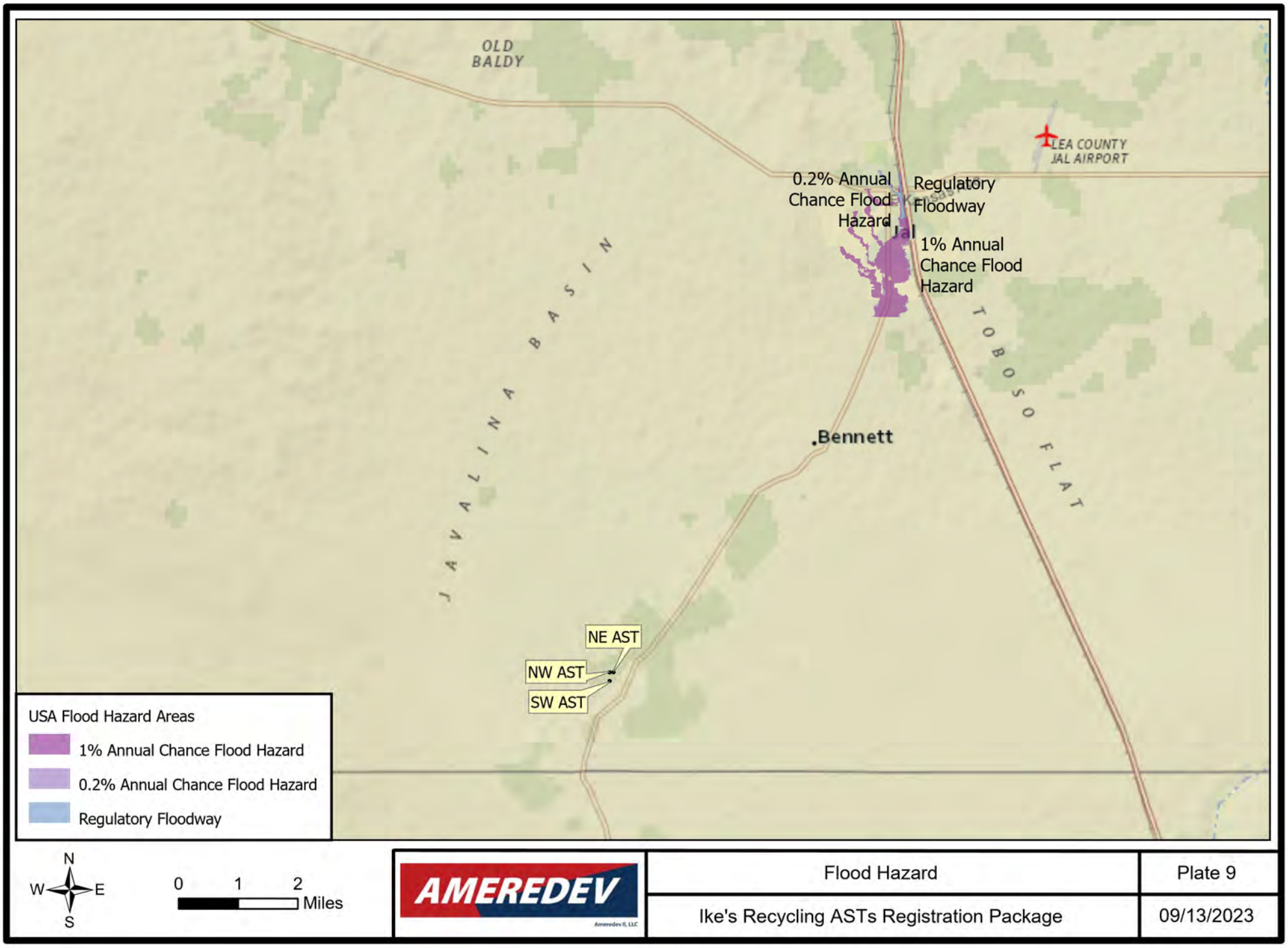

NW AST
NE AST
SW AST
Lake/Pond
Lake/Pond
Water Bodies (1307)
Lake/Pond
Half Mile Buffer
N
W
E
S
0
600
1,200
US Feet
AMEREDEV
Significant Watercourses
Plate 4
Ike's Recycling ASTs Registration Package
9/13/2023


Ike's Containment #1
NW AST
NE AST
SW AST
Frying Pan Rd
Beckham Rd
Well Pad
Distance from location
200 ft
300 ft
500 ft
1000 ft
N
W
E
S
0
375
750
US Feet
AMEREDEV
Nearby Structures
Plate 5
Ike's Recycling ASTs Registration Package
09/13/2023


NW AST
NE AST
SW AST
Lake/Pond
Lake/Pond
Water Bodies (1307)
Lake/Pond
Half Mile Buffer
N
W
E
S
0
750
1,500
US Feet
AMEREDEV
Wetlands
Plate 6
Ike's Recycling ASTs Registration Package
09/13/2023


SURFACE
NW AST
NE AST
SW AST
SURFACE
MILS Database
SURFACE
Half Mile Buffer
N
W
E
S
0
0.5
1
Miles
AMEREDEV
Ameredev II, LLC
Mines and Minerals
Plate 7
Ike's Recycling ASTs Registration Package
09/13/2023


OLD
BALDY
LEA COUNTY
JAL AIRPORT
E Kansas Ave
Jal
Bennett
JAVALINA BASIN
TOBOSO FLAT
NE AST
NW AST
SW AST
Karst Occurence Potential
Low
N
W
E
S
0
1
2
Miles
AMEREDEV
Ameredev II, LLC
Karst - Unstable Areas
Plate 8
Ike's Recycling ASTs Registration Package
09/13/2023


OLD BALDY
LEA COUNTY JAL AIRPORT
0.2% Annual Chance Flood Hazard
Regulatory Floodway
1% Annual Chance Flood Hazard
Jal
Bennett
JAVALINA BASIN
TOBOSO FLAT
NE AST
NW AST
SW AST
USA Flood Hazard Areas
1% Annual Chance Flood Hazard
0.2% Annual Chance Flood Hazard
Regulatory Floodway
N
W
E
S
0
1
2
Miles
AMEREDEV
Flood Hazard
Plate 9
Ike's Recycling ASTs Registration Package
09/13/2023

Design and Construction Plan
Operations and Maintenance Plan
Closure Plan

Design and Construction Plan

General

Ike's recycling ASTs are designed and constructed to confine produced water, to prevent releases and to prevent overtopping due to wave action or rainfall to meet or exceed standards put forth by 19.15.34.12 NMAC.

A Tank Tech, LLC Model 600 above ground water storage tank were used at this site. Tank Tech specifications are attached in Appendix A.

Solmax is the manufacturer for the geomembrane liners and leak detection geogrid materials. Liner specifications are attached in Appendix A.

The ASTs were constructed as described in this Design and Construction Plan and in accordance with 19.15.34.12 NMAC, supported by variance requests where the design of the ASTs diverges from the rule, which was written pertaining to inground containments.

Foundation for AST Containment

Ike's recycling ASTs are constructed on a new pad, northwest of the existing pad for the associated recycling facility. Plate 1 shows the Site Map, followed by plat of surface extension site.

The foundation consists of a firm, unyielding base, smooth and free of rocks, debris, sharp edges, or irregularities to prevent the liner's rupture or tear. A geotextile was placed under the secondary liner to reduce stress-strain that may compromise liner's integrity. Any stripped topsoil has been stockpiled for reuse during closure activities.

Containment construction

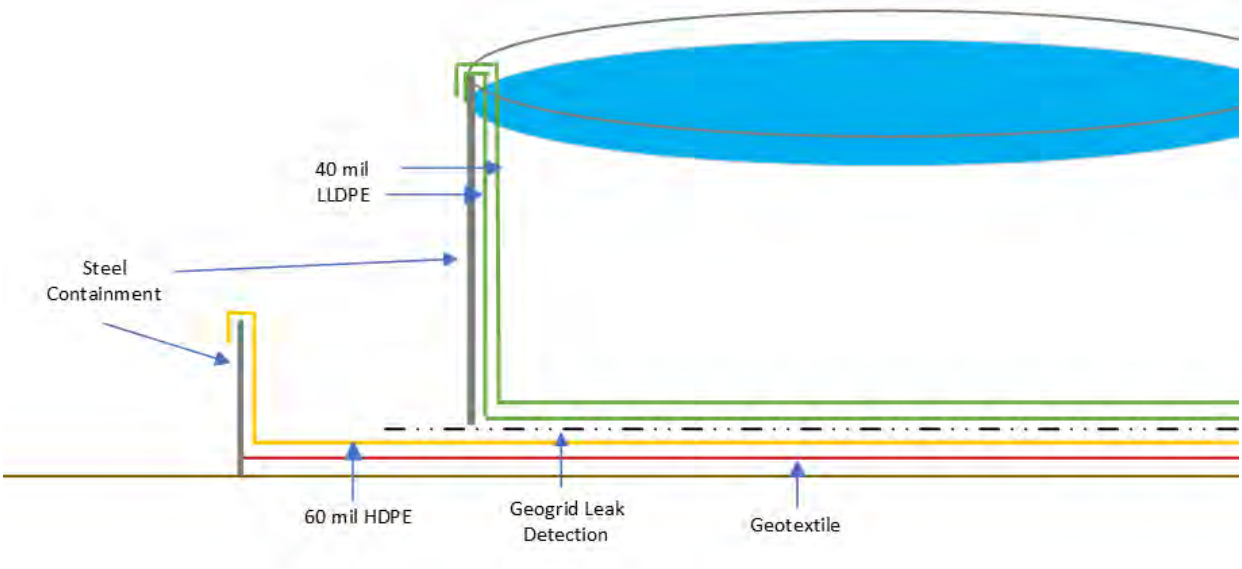
Ike's recycling ASTs are constructed of upright steel panels 12 ft 3.5 inches in height. The structure's diameter is 191 ft with a capacity of 62,719 barrels.

The ASTs are constructed of upright steel panels which preclude any risk of surface run-on. Additionally, the secondary liner is attached to upright steel panels as used for tank battery secondary containments. Adequate access is provided for inspection and maintenance. *A variance request from the defined levee slope requirement is provided in Appendix C.*

Liner and Leak Detection System:

The liner and leak detection system for the recycling ASTs meets or exceeds specifications put forth in the 19.15.34.12. A (4).

Schematic for liner system is as follows (not to scale).



- Primary Liner: Dual (2 layers) 40 mil LLDPE attached to steel containment wall with clips.
- Leak Detection: 200 mil Geogrid placed between primary and secondary liners.
- Secondary Liner: 60 mil HDPE
- Steel wall containment with secondary liner attached with clips.
- Geotextile underlayment
- Employed bird netting on top of containment is not depicted in this schematic.

Per **19.15.34.12 A. (4) NMAC.** "All primary (upper) liners in a recycling containment shall be geomembrane liners composed of an impervious, synthetic material that is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. All primary liners shall be 30-mil flexible PVC, 45-mil LLDPE string reinforced or 60-mil HDPE liners. Liner compatibility will meet or exceed the EPA SW-846 method 9090A or subsequent relevant publications."

For Ike's recycling ASTs a dual (double layer) 40 mil LLDPE is used as the primary liner. *Variance request attached in Appendix C*

Per **19.15.34.12 A. (4) NMAC. "**Secondary liners shall be 30-mil LLDPE string reinforced or equivalent with a hydraulic conductivity no greater than 1 x 10-9 cm/sec. Liner compatibility will meet or exceed the EPA SW-846 method 9090A or subsequent relevant publications."

For Ike's recycling ASTs the secondary liner is a 60 mil HDPE. *Variance request attached in Appendix C.*

Unlike inground containments, the build of these ASTs requires that the primary and secondary liners are attached to the upright steel walls of the AST with clamps. As the build of the AST system does not allow for the anchor trench as described in the Rule for inground containments, a *variance request from anchor trench for securing liner systems is attached in Appendix C.*

The leak detection system, appropriate for site's condition, is constructed with a properly designed drainage and collection system with a **200 mil geonet** placed between the primary (dual upper 40 mil LLDPE) liners and secondary (lower 60 mil HDPE) liner. This geonet extends beyond the 12 ft steel walls of the AST. The slope is such to facilitate the flow of any fluids along the geonet where it can be visibly seen within the secondary liner containment, to allow the earliest possible leak detection. Any visible or pooling fluids resulting from a leak would be removed with a hydrovac or sump pump for disposal to an NMOCD approved facility. This system meets NMOCD requirements.

Liner seams have been minimized and oriented up and down, not horizontally on the wall of the ASTs. Factory welded seams were used as much as possible. Minimal field seams were employed in both the primary and secondary liners and both were overlapped 4-6 inches and thermally sealed and tested by qualified personnel.

The injection or withdrawal of fluids from the containment is accomplished through a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes (or other hydrostatic force or mechanical damage). These lines will not penetrate the liner system.

Signs

Ameredev has posted signs, not less than 12 inches by 24 inches with lettering 2 inches or greater in height in conspicuous places along the fence surrounding the container, where they can be easily read. It contains the operator's name, the location of the site by quarter-quarter unit letter, section, township and range and emergency numbers.

Fencing

Ameredev has fenced the recycling containment and facilities in a manner to deter unauthorized human access and wildlife and shall maintain the fences in good repair. All gates are closed and locked when responsible personnel are not onsite. This AST is enclosed by 8-foot game fence topped with a single strand of barbed wire. *A variance request is attached in Appendix C.*

Netting

The Ike's recycling ASTs are netted to be protective of wildlife, including migratory birds. On at least a monthly basis, Ameredev shall inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

Operations and Maintenance Requirements

General

Ameredev will maintain and operate the recycling containments in accordance 19.15.34.11 NMAC with the following plan to contain liquids to prevent contamination of fresh water and protect public health and the environment.

The recycling containments may hold produced water for use in connection with drilling, completions, producing or processing oil and/or gas. Such fluids may include freshwater, brackish water, recycled and treated water, fluids added to water to facilitate well drilling or completion, water produced with oil and gas, flowback from operations, water generated by an oil or gas processing facility or other waters that are gathered for well drilling or completion. They may not include hazardous waste or be used for disposal of produced water or other oilfield waste.

Any releases from the recycling and re-use of produced water shall be remediated in accordance with 19.15.29 NMAC. An oil absorbent boom or other device is maintained on site to contain any unanticipated release.

Ameredev will monitor for and remove any visible oil from the surface of the ASTs with an oil absorbent boom or other device, which will be maintained on site. Removed fluid shall be transported off-site to a division approved disposal facility.

At least three feet of freeboard shall be always maintained.

The injection or withdrawal of fluids from the containment shall be accomplished through a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses and/or pipes.

The facility will be operated to prevent the collection of surface run-on.

These activities shall occur in a manner consistent with hydrogen sulfide gas provisions in 19.15.11 NMAC or NORM provisions in 19.15.35 NMAC, as applicable.

Ike's recycling ASTs will be deemed to have ceased operations if less than 20% of the total fluid capacity is used every six months following the first withdrawal of produced water for use. Cessation of operations must be reported to the appropriate division district office. An extension to this determination of cessation of operations, not to exceed 6 months, may be requested from NMOCD via OCD Permitting portal using a C 147 long form with cover letter describing request.

Inspections:

- Must occur **weekly** when ***any*** volume of fluid is present within the containment.
- A log of these inspections should be maintained and available for review on request per NMOCD.
- Inspections to include:
  - Leak detection system and for evidence of fluid in secondary containment.
  - Visible liner integrity/potential compromise by fluid jets or impact from installation and removal of hoses or pipes.
  - Liner secured with clips.
  - Freeboard/fluid levels
  - Noting and removal/appropriate disposal of visible oil on surface.
  - Integrity of berms/prevention of surface run-on.
  - Integrity of netting
  - Presence of wildlife/birds (any found must be reported to appropriate wildlife agency.)
  - Integrity of fencing
  - Assessment of tank panels/compromise of the steel structure.
  - Presence of H2S

Leak Detection

If the liner develops a leak or is compromised above the liquid's surface, then Ameredev will repair the damage or initiate replacement of the primary liner within 48 hours of discovery or will seek an extension from NMOCD.

If the primary liner is compromised below the fluid's surface, determined by inspection of the liner or from evidence of produced water in the leak detection system, all fluid shall be removed above the damage or leak and Ameredev will notify NMOCD within 48 hours of discovery. The liner shall then be cleaned and repaired or replaced by qualified personnel.

Reporting of identified leaks/damage to liner integrity:

- There is no allowable volume for leaks. Any volume of fluid identified with the leak detection system (that is not proven through testing to be unimpacted fluid, i.e. condensation) must be reported within 48 hours. A plan for intervention, including dropping the fluid level to below the leak and a plan for repair and/or extension request, if indicated, should be included in report.

- Liner damage *above* fluid level is expected to be repaired within 48 hours of discovery or seek extension from NMOCD.
- Communication should be via the OCD Permitting Portal using the C 147 long form with an explanatory cover letter.

Reporting of water transfer and usage:

- Monthly report of volumes of water received (fresh and produced water separately) and volumes leaving facility via online permitting portal using C 148 form (updated January 2022). Use one C 148 per facility, current forms have place for reporting volumes for inground and AST containments.
- Records of sources and disposition of water must be kept and available for NMOCD review upon request.

Containments may be used for 5 years from the date the registration is initially filed with NMOCD. This may or may not correlate with the date of start of use. Annual extension may be requested by online submission of C-147 (long form) with an attached summary of inspections *30 days prior to registration expiration*.

Closure Plan

Once operations have ceased, Ameredev will remove all fluids within 60 days and close the containment within six months from the date operations are ceased. An extension for the removal of fluids, not to exceed 2 months may be requested. An extension to close the containment may be requested, not to exceed six months. Extensions will be requested through the OCD online process using a C-147 long form with an explanatory cover letter.

Containment Deconstruction

Residual fluids in the containments will be removed and sent to disposal at a division-approved facility.

Following removal of fluids, all solid contents, synthetic liners, and leak detection materials will be removed and transported to a division-approved facility.

Deconstruction of the steel walls and other infrastructure will occur according to the manufacturer's recommendations (Tank Tech).

Soil Sampling

After removal of containments, Ameredev will test the soils beneath the containment for contamination with a five-point composite sample to include any areas which may have been impacted as observed by stained or wet soils. Soil samples will be analyzed for the constituents of concern as listed in Table I of 19.15.34.14 NMAC.

If all contaminant concentrations are less than or equal to the parameters listed in Table I, then Ameredev can proceed to backfill with non-waste containing, uncontaminated, earthen material.

If any contaminant concentration is higher than the parameters listed in Table I, the division may require additional delineation upon review of the results and Ameredev must receive NMOCD approval before proceeding with closure.

Closure Report

Within 60 days of completion of closure, Ameredev will submit a closure report to document all closure activities, including required attachments, demonstrating sampling results with laboratory certificate of analysis, details of any remediation, backfilling, capping or covering as necessary. The closure report shall certify that all information in the report and attachments are correct and that Ameredev has complied with all applicable closure requirements and conditions specified in division rules or directives. All pertinent communications with NMOCD will be included in the report. Closure report to be submitted through the OCD permitting portal using a C-147 long form with explanatory cover letter.

Remediation, Restoration, & Reclamation

If constituents of concern exceed Closure Criteria per Table 1 of 19.15.34 NMAC, NMOCD may require remediation prior to restoration and reclamation activities. Please refer to the above section "Soil Sampling" for additional details.

If Closure Criteria is met per Table 1 of 19.15.34 NMAC, Ameredev will:

- If the location remains in-use for oil and gas production, the location will be restored to an active production site.
- If the location will not be in-use for oil and gas production, the site will be restored and reclaimed to the condition that existed prior to the construction of the recycling containment.
    - ✓ Reclaim the containment's location to a safe and stable condition that blends with the surrounding undisturbed area.
    - ✓ Topsoils and subsoils shall be replaced to their original relative positions and contoured to achieve erosion control, long-term stability, and preservation of surface water flow patterns.
    - ✓ The disturbed area shall then be reseeded in the first favorable growing season following closure of a recycling containment.
    - ✓ Reclamation will be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

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

Ameredev will notify NMOCD when this process is complete via OCD online using form C 147.

Inspection Log

	Ike's AST's									
Date	Leak Detection	Liner	Clips	Oil Visibility	Containment	Netting	Wild Life	Fencing	Tank Panels	H2S Present
11/2/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/9/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/16/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/23/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/30/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/7/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/14/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/21/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/28/2018	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/4/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/11/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/18/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/25/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/1/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/8/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/15/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/22/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/1/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/8/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/15/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/22/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/29/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/5/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/12/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/19/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/26/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/3/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/10/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/17/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/24/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/31/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/7/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/14/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/21/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/28/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/5/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/12/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/19/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/26/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/2/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/9/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/16/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/23/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/30/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/6/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/13/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/20/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/27/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/4/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/11/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/18/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/25/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/1/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/8/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/15/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/22/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/29/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/6/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/13/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM

	Ike's AST's									
Date	Leak Detection	Liner	Clips	Oil Visibility	Containment	Netting	Wild Life	Fencing	Tank Panels	H2S Present
12/20/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/27/2019	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/3/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/10/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/17/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/24/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/31/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/7/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/14/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/21/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/28/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/6/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/13/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/20/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/27/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/3/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/10/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/17/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/24/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/1/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/8/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/15/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/22/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/29/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/5/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/12/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/19/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/26/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/3/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/10/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/17/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/24/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/31/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/7/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/14/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/21/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/28/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/4/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/11/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/18/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/25/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/2/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/9/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/16/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/23/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/30/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/6/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/13/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/20/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/27/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/4/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/11/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/18/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/25/2020	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/1/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/8/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM

	Ike's AST's									
Date	Leak Detection	Liner	Clips	Oil Visibility	Containment	Netting	Wild Life	Fencing	Tank Panels	H2S Present
1/15/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/22/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/29/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/5/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/12/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/19/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/26/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/5/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/12/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/19/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/26/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/2/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/9/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/16/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/23/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/30/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/7/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/14/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/21/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/28/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/4/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/11/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/18/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/25/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/2/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/9/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/16/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/23/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/30/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/6/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/13/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/20/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/27/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/3/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/10/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/17/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/24/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/1/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/8/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/15/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/22/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/29/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/5/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/12/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/19/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/26/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/3/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/10/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/17/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/24/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/31/2021	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/7/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/14/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/21/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/28/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/4/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM

	Ike's AST's									
Date	Leak Detection	Liner	Clips	Oil Visibility	Containment	Netting	Wild Life	Fencing	Tank Panels	H2S Present
2/11/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/18/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/25/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/4/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/11/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/18/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/25/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/1/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/8/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/15/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/22/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/29/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/6/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/13/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/20/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/27/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/3/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/10/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/17/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/24/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/1/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/8/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/15/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/22/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/29/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/5/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/12/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/19/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/26/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/2/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/9/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/16/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/23/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/30/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/7/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/14/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/21/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
10/28/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/4/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/11/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/18/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
11/25/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/2/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/9/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/16/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/23/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
12/30/2022	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/6/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/13/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/20/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
1/27/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/3/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/10/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/17/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
2/24/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/3/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM

	Ike's AST's									
Date	Leak Detection	Liner	Clips	Oil Visibility	Containment	Netting	Wild Life	Fencing	Tank Panels	H2S Present
3/10/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/17/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/24/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
3/31/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/7/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/14/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/21/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
4/28/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/5/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/12/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/19/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
5/26/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/2/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/9/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/16/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/23/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
6/30/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/7/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/14/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/21/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
7/28/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/4/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 ppm
8/11/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/18/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
8/25/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM
9/1/2023	Dry	Good	Yes	Minimal	Good	Good	None	Good	Good	0 PPM

Appendix A

Technical Specifications

TANK TECH

Tank Tech, LLC can provide
engineering services and fabrication
for any custom size above
ground storage tank.

TANK TECH IS MORE THAN JUST A TANK COMPANY

Tank Tech, LLC is a Fort Worth, Texas based company that provides high capacity industrial modular fluid storage tanks throughout the United States. Our mission is to provide the highest quality tank to mitigate your environmental risk and decrease your overall footprint. This is the solution to earthen pits for drilling fluids, water reclamation and water storage.

Tank Tech Tanks are designed and certified by a professional structural engineer and fabricated by our sister steel company to the strictest quality standards. Our rolled steel panels are made of high quality grade 50 domestic (U.S.A.) steel that should exceed the customers expectations.

In addition, our tanks will be equipped with supply and discharge lines that can be manufactured to fit any application.

Tank Tech offers leasing and the sale of our tanks. Our operations team will erect and dismantle your tank and our VP of operations has over 30 years of experience in the construction industry.

TANK TECH MODELS & SPECS

TANK TECH MODEL	400	425	600
Capacity (Barrels)	40,290	43,555	62,719
Capacity (Barrels) w/8” Freeboard	38,276	41,193	59,317
Capacity (Gallons)	1,692,180	1,829,298	2,634,198
Structure Diameter (ft)	160’-0”	159’-2”	191’-0”
Excavation Diameter (ft)	180’	190’	221’
Panel Height (ft)	11’-3”	12’-3 1/2”	12’-3 1/2”
Number of Panels	16	25	20
Truck Loads	3	3	3

Why Tank Tech, LLC should be incorporated into your operation

- Designed and certified by a licensed Professional Engineer with over 25 years of structural engineering experience.
- We offer the highest quality tanks to mitigate your environmental risk and decrease your overall footprint.
- Our tank height of 11’ & 12’ minimizes wildlife encroachment and transport.
- Each tank utilizes a geotextile mat and liner customized for the installation.
- Perfect alternative to earthen pits for fracking, drilling, water reclamation and water storage.
- Tank Tech can custom design, engineer, and fabricate any size/type tank to accommodate the customers needs.
- Mobility allows the tank to be installed on the most effective area of the job site.

Side view of Model 600 with 6” fill line.

Front view of Tank Tech Model 600.

Tank Tech uses High Density Polyethylene for all mechanical applications.

Tank Tech employee checking water level on Model 425.

An example of a Water Reclamation Project/Tank Farm.

Typical supply/discharge mechanical system.

Tank Tech's Bird netting system with cabling/center pole/netting.

Example of safety clamps on Tank Tech Model 600 tank.

FWN&A
Structural Engineering

December 12, 2018

Washington Crossing Field Services, LLC
5707 Southwest Parkway
Suite 1-275
Austin, Texas 78735

Re: Desoto Springs Containment – 32.076, -103.282844

To whom it may concern,

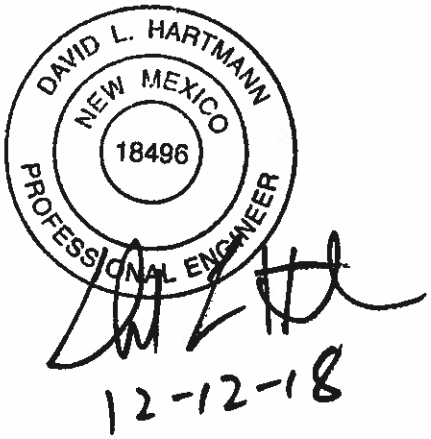
It is proposed to use a Tank Tech, LLC Model 600 above ground water storage tank to store water at the above referenced site. The Model 600 is 12'-3 ½" tall with a diameter of 190'-11 7/8". It has a storage capacity of 62,719 barrels or 2,634,189 gallons.

The Model 600 tank was designed for loads in accordance with the International Building Code, 2015 Edition. The capacity of the various structural components was determined in accordance with the International Building Code, 2015 Edition and its various referenced Standards.

If there is any additional information that we may be able to provide at this time, please feel free to contact me at your convenience.

Sincerely,

David L. Hartmann, P.E., S.E.
Principal
dhartmann@fwna-eng.com



Frank W. Neal & Assoc., Inc.
1015 W. Broadway
Fort Worth, Texas 76104
(817) 332-1944

Fax (817) 336-8620
fwna-eng.com

SOLMAX

TECHNICAL DATA SHEET

LLDPE Series, 40 mils

White Reflective, Smooth

2801 Boul. Marie-Victorin Varennes, Quebec Canada J3X 1P7
Tel: (450) 929-1234 Sales: (450) 929-2544 Toll free in North America:1-800-571-3904 www.Solmax.com www.solmax.com

PROPERTY	TEST METHOD	FREQUENCY[1]	UNIT Imperial	
SPECIFICATIONS				
Thickness (min. avg.)	ASTM D5199	Every roll	mils	40.0
Thickness (min.)	ASTM D5199	Every roll	mils	36.0
Melt Index - 190/2.16 (max.)	ASTM D1238	1/Batch	g/10 min	1.0
Sheet Density (8)	ASTM D792	Every 10 rolls	g/cc	≤ 0.939
Carbon Black Content	ASTM D4218	Every 2 rolls	%	2.0 - 3.0
Carbon Black Dispersion	ASTM D5596	Every 10 rolls	Category	Cat. 1 & Cat. 2
OIT - standard (avg.)	ASTM D3895	1/Batch	min	100
Tensile Properties (min. avg) (2)	ASTM D6693	Every 2 rolls		
Strength at Break			ppi	168
Elongation at Break			%	800
2% Modulus (max.)	ASTM D5323	Per formulation	ppi	2400
Tear Resistance (min. avg.)	ASTM D1004	Every 5 rolls	lbf	22
Puncture Resistance (min. avg.)	ASTM D4833	Every 5 rolls	lbf	62
Dimensional Stability	ASTM D1204	Certified	%	± 2
Multi-Axial Tensile (min.)	ASTM D5617	Per formulation	%	30
Oven Aging - % retained after 90 days	ASTM D5721	Per formulation (5)		
STD OIT (min. avg.)	ASTM D3895		%	35
HP OIT (min. avg.)	ASTM D5885		%	60
UV Resistance - % retained after 1600 hr	ASTM D7238	Per formulation (5)		
HP-OIT (min. avg.)	ASTM D5885		%	35
Low Temperature Brittleness	ASTM D746	Certified	°F	- 106
SUPPLY SPECIFICATIONS (Roll dimensions may vary ±1%)				
Color (one side) (4)		-		White

NOTES

1. Testing frequency based on standard roll dimension and one batch is approximately 180,000 lbs (or one railcar).
2. Machine Direction (MD) and Cross Machine Direction (XMD or TD) average values should be on the basis of 5 specimens each direction.
4. Smooth edge may not have the same consistent shade of color as the membrane itself. The colored layer may cause the carbon black content results to be higher than 3%.
5. Certified by core (black) formulation on geomembrane roll or molded plaque.
8. Correlation table is available for ASTM D792 vs ASTM D1505. Both methods give the same results.

* All values are nominal test results, except when specified as minimum or maximum.
* The information contained herein is provided for reference purposes only and is not intended as a warranty of guarantee. Final determination of suitability for use contemplated is the sole responsability of the user. SOLMAX assumes no liability in connection with the use of this information.

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

LIST OF GEOMEMBRANE ROLLS

SOLMAX

Solmax, 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7
Tél.: 1-450-929-1234 • Fax.: 1-450-929-2547 • www.solmax.com

SOLMAX APPROVED Quality Assurance

Project Name : PO 3292-2 - Odessa, TX

Project Number : 3292-2

Reference Number : 111550

Packing Slip Number : 224726

Roll Number	Product Code	Resin Lot Number	Manufactured Date	Resin Melt Index 190/2.16 g/10 min D1238	Resin Density g/cc D1505	OIT Spec Result min D3895	HPOIT Spec Result min D5885	ESCR SP-NCTL Spec Roll Tested hours D5397
LLDPE 40 mils White Reflective Smooth								
5-35524	1008348-56350-1	CJB810750	23-mars-18	0.32	0.919	*100* > 120		N/A
5-35539	1008348-56350-1	CJB810750	24-mars-18	0.32	0.919	*100* > 120		N/A
5-35540	1008348-56350-1	CJB810750	24-mars-18	0.32	0.919	*100* > 120		N/A
5-35542	1008348-56350-1	CJB810500	24-mars-18	0.36	0.919	*100* > 120		N/A
5-35543	1008348-56350-1	CJB810500	24-mars-18	0.36	0.919	*100* > 120		N/A
5-35550	1008348-56350-1	CJB810500	25-mars-18	0.36	0.919	*100* > 120		N/A
5-35551	1008348-56350-1	CJB810500	25-mars-18	0.36	0.919	*100* > 120		N/A
5-35552	1008348-56350-1	CJB810500	25-mars-18	0.36	0.919	*100* > 120		N/A
5-35553	1008348-56350-1	CJB810500	25-mars-18	0.36	0.919	*100* > 120		N/A
5-35554	1008348-56350-1	CJB810500	25-mars-18	0.36	0.919	*100* > 120		N/A
5-35556	1008348-56350-1	CJB810500	25-mars-18	0.36	0.919	*100* > 120		N/A
5-35557	1008348-56350-1	CJB810500	25-mars-18	0.36	0.919	*100* > 120		N/A

Quantity (rolls) : **12**

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

SOLMAX

MANUFACTURING QUALITY CONTROL

Test Results - Rolls

Solmax, 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7
Tél.: 1-450-929-1234 • Fax.: 1-450-929-2547 • www.solmax.com

Project Name PO 3292-2 - Odessa, TX

Reference Number : 111550

Project Number : 3292-2

Packing Slip Number : 224726

SOLMAX APPROVED Quality Assurance

Product 1008348-56350-1

LLDPE 40 mils White Reflective Smooth

CE Certificate = LL-40-SS-WB

Properties		Thickness ave / min.	Geo-membrane Density	Carbon Black Content	Carbon Black Dispersion	Tensile Yield Strength	Tensile Yield Elong.	Tensile Break Strength	Tensile Break Elong.	Tear Resist.	Puncture Resist.	Dimension. Stability	Asperity Height in / out
Unit		mils	g/cc	%	Cat. 1 and 2	ppi	%	ppi	%	lbs	lbs	%	mils
Test Method		D5199	D1505/D792	D4218 / D1603	D5596	D6693				D1004	D4833	D1204	
Frequency		Each roll		1/2 ro	1/10 ro	1/2 ro				1/5 ro	1/5 ro	Certied	N/A
Specification		40.0 / 36.0	≤ 0.939	2.0 - 3.0	Cat. 1 _ Cat. 2			168	800	22	62	± 2	
5-35524	MD	40.6 / 39	0.937	2.68	10 /10 Views			211	873	25.7	92.9		/
	XD							214	980	27.1			
5-35539	MD	40.1 / 39	0.937	2.25	10 /10 Views			211	864	25.6	90.4		/
	XD							197	915	26.9			
5-35540	MD	40.4 / 39	0.937	2.25	10 /10 Views			211	864	25.1	88.9		/
	XD							197	915	27.3			
5-35542	MD	40.6 / 39	0.937	2.39	10 /10 Views			210	860	25.1	88.9		/
	XD							206	939	27.3			
5-35543	MD	40.6 / 39	0.937	2.23	10 /10 Views			213	866	25.1	88.9		/
	XD							209	942	27.3			
5-35550	MD	41.4 / 40	0.936	2.59	10 /10 Views			221	913	25.9	88.6		/
	XD							217	1011	27.7			
5-35551	MD	40.7 / 39	0.936	2.68	10 /10 Views			215	878	25.9	88.6		/
	XD							222	1031	27.7			
5-35552	MD	40.9 / 39	0.936	2.68	10 /10 Views			215	878	25.9	88.6		/
	XD							222	1031	27.7			
5-35553	MD	40.8 / 39	0.937	2.83	10 /10 Views			218	894	25.0	90.9		/
	XD							220	1028	27.2			
5-35554	MD	40.9 / 40	0.937	2.83	10 /10 Views			218	894	25.0	90.9		/
	XD							220	1028	27.2			
5-35556	MD	40.6 / 39	0.937	2.59	10 /10 Views			210	855	25.0	90.9		/
	XD							216	1021	27.2			
5-35557	MD	40.8 / 40	0.937	2.51	10 /10 Views			225	926	25.0	90.9		/
	XD							216	1001	27.2			

CoA Date: 02/13/2018

Certificate of Analysis

Shipped To: SOLMAX
2801 BOUL MARIE-VICTORIN
VARENNES QC J3X 1P7
CANADA

Recipient: Marcotte
Fax:

Delivery #: 89611704
PO #: 116755-0
Weight: 188300.000 LB
Ship Date: 02/13/2018
Package: BULK
Mode: Hopper Car
Car #: CPCX815050
Seal No: 110664

Product:
MARLEX 7104 POLYETHYLENE in Bulk
Additive levels have been tested and meet minimum the specification for this lot.
As a result, Standard OIT (by ASTM D 3895) is greater than 120 minutes (nominal value, not tested on every lot).

Lot Number: CJB810500

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.36	g/10min
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

KEVIN AYRES
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Melissa Alexander at +-832-813-4244

Page 1 of 1

CoA Date: 02/14/2018

Certificate of Analysis

Shipped To: SOLMAX
2801 BOUL MARIE-VICTORIN
VARENNES QC J3X 1P7
CANADA

Recipient: Marcotte
Fax:

Delivery #: 89612650
PO #: 116787-0
Weight: 196150.000 LB
Ship Date: 02/14/2018
Package: BULK
Mode: Hopper Car
Car #: NAHX620433
Seal No: 122023

Product:
MARLEX 7104 POLYETHYLENE in Bulk
Additive levels have been tested and meet minimum the specification for this lot.
As a result, Standard OIT (by ASTM D 3895) is greater than 120 minutes (nominal value, not tested on every lot).

Lot Number: CJB810750

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.32	g/10min
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

KEVIN AYRES
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Melissa Alexander at +-832-813-4244

Page 1 of 1

Laura Parker

From: Jorge Hernandez <jhernandez@solmax.com>
Sent: Monday, March 27, 2023 12:45 PM
To: Laura Parker
Subject: [EXTERNAL] Re: AST liner information Ameredev II, LLC

Laura,

This is what I got from our internal technical manager:
40-mil unreinforced LLDPE is similar to string-reinforced material, but does not contain tensile elements that create stress concentrations under certain types of loads. While reinforced products attempt to resist puncture and tear by tensile strength, unreinforced LLDPE was developed to maintain barrier performance under higher loads than can be resisted by tensile elements under extreme geotechnical loads. By providing much better linear and multi-axial elongation capacity, tensile stresses are relieved, stopping the poisson effect deformation that can lead to puncture in reinforced products. Unreinforced LLDPE thereby provides equal or better groundwater protection than string-reinforced products under extreme loads such as tank foundations and hydrostatic conditions.

Regards,

Jorge Hernandez
Value Engineer

(m) +1 713 828 7653 | jhernandez@solmax.com
19103 Gundle Road, Houston, Texas, 77073, USA

On Mar 16, 2023, at 09:49, Laura Parker <lparker@ameredev.com> wrote:

Good Morning Mr. Hernandez,

I wanted to follow up regarding the information requested below to compare 40 mil LLDPE liners with NMOCD regulatory requirements and EPA testing. Please let me know if you can obtain this technical information for us to use in writing variance request.

Thank you,

SOLMAX

TECHNICAL DATA SHEET

HDPE Series, 60 mils

Black, Smooth

2801 Boul. Marie-Victorin Varennes, Quebec Canada J3X 1P7
Tel: (450) 929-1234 Sales: (450) 929-2544 Toll free in North America:1-800-571-3904 www.Solmax.com www.solmax.com

PROPERTY	TEST METHOD	FREQUENCY(1)	UNIT Imperial	
SPECIFICATIONS				
Thickness (min. avg.)	ASTM D5199	Every roll	mils	60.0
Thickness (min.)	ASTM D5199	Every roll	mils	54.0
Melt Index - 190/2.16 (max.)	ASTM D1238	1/Batch	g/10 min	1.0
Sheet Density (8)	ASTM D792	Every 10 rolls	g/cc	≥ 0.940
Carbon Black Content	ASTM D4218	Every 2 rolls	%	2.0 - 3.0
Carbon Black Dispersion	ASTM D5596	Every 10 rolls	Category	Cat. 1 & Cat. 2
OIT - standard (avg.)	ASTM D3895	1/Batch	min	100
Tensile Properties (min. avg) (2)	ASTM D6693	Every 2 rolls		
Strength at Yield			ppi	132
Elongation at Yield			%	13
Strength at Break			ppi	243
Elongation at Break			%	700
Tear Resistance (min. avg.)	ASTM D1004	Every 5 rolls	lbf	42
Puncture Resistance (min. avg.)	ASTM D4833	Every 5 rolls	lbf	120
Dimensional Stability	ASTM D1204	Certified	%	± 2
Stress Crack Resistance (SP-NCTL)	ASTM D5397	1/Batch	hr	500
Oven Aging - % retained after 90 days	ASTM D5721	Per formulation		
HP OIT (min. avg.)	ASTM D5885		%	80
UV Res. - % retained after 1600 hr	ASTM D7238	Per formulation		
HP-OIT (min. avg.)	ASTM D5885		%	50
Low Temperature Brittleness	ASTM D746	Certified	°F	- 106
SUPPLY SPECIFICATIONS (Roll dimensions may vary ±1%)				

NOTES

1. Testing frequency based on standard roll dimension and one batch is approximately 180,000 lbs (or one railcar).
2. Machine Direction (MD) and Cross Machine Direction (XMD or TD) average values should be on the basis of 5 specimens each direction.
8. Correlation table is available for ASTM D792 vs ASTM D1505. Both methods give the same results.

* All values are nominal test results, except when specified as minimum or maximum.
* The information contained herein is provided for reference purposes only and is not intended as a warranty of guarantee. Final determination of suitability for use contemplated is the sole responsability of the user. SOLMAX assumes no liability in connection with the use of this information.

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

SOLMAX

Mustang Extreme Environmental Services

July 22, 2020

Attn: Alex Skousen | Operations Manager
Re: Hydraulic Conductivity – Solmax HDPE 60 mil

Dear Mr. Skousen:

Solmax International Inc. hereby certifies that the HDPE geomembrane 60 mil, black smooth, has a hydraulic conductivity (ATMD E 96) lower than 1×10^{-12} cm/s.

Hoping the above information will be satisfactory.

Sincerely,

Mauricio Ossa
Global Technical Engineering Manager

Appendix B

Well Logs

Atkins
ENGINEERING ASSOCIATES INC.

2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

March 9, 2023

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record J-00062 POD-1

To whom it may concern:

Attached please find a well log & record and a plugging record, in duplicate, for a one (1) soil borings, J-0062 POD-1

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

Lucas Middleton

Enclosures: as noted above

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).
POD-1	n/a	J-00062

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Ameredev Operating, LLC	737-300-4700

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
2901 Via Fortuna Suite 600	Austin	TX	78746

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	1	5.98	N
	LONGITUDE	103	15	39.71	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

SW NW NW Sec.27 T26S R36E NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
2/21/23	2/21/23	temporary well material	±101	n/a

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

STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DATE STATIC MEASURED: 3/2/2023

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

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	101	6.25"	Soil Borning	--	--	--	--

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

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

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	24	24	Sand, very fine-grained, poorly graded, unconsolidated, Brown /Tan	Y ✓ N	
24	45	21	Sand, very fine-grained, poorly graded, slight consolidated, Tan	Y ✓ N	
45	101	56	Sand, fine-grained, poorly graded, unconsolidated, Tan	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION: Removed temporary well material from soil boring, backfilled with drill cutting from total depth to 10 feet below ground surface, then placed hydrated bentonite from 10 feet to ground surface. See attached plugging record.
DTW-17

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

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 3/9/2023

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

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

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: J-00062 POD-1

Well owner: Ameredev Operating, LLC Phone No.: 737-300-4700

Mailing address: 2901 Via Fortuna Suite 600

City: Austin State: Texas Zip code: 78746

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)

2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/23

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge, Cameron Pruitt

4) Date well plugging began: 3/2/2023 Date well plugging concluded: 3/2/2023

5) GPS Well Location: Latitude: 32 deg, 1 min, 5.98 sec
Longitude: 103 deg, 15 min, 39.71 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 101 ft below ground level (bgl), by the following manner: water level probe

7) Static water level measured at initiation of plugging: n/a ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 1/26/23

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Version: September 8, 2009
Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	0-10' Hydrated Bentonite	Approx. 15 gallons	15 gallons	Boring	
	10'-101' Drill cuttings	Approx. 145 gallons	145 gallons	Boring	

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins — Signature of Well Driller

3/9/23 — Date

Version: September 8, 2009
Page 2 of 2

17-Well Record and Log-packet-forsign

Final Audit Report 2023-03-09

Created:	2023-03-09
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAzXuzWP53KQ1xK_g3D901wUVwqrF0rJrW

"17-Well Record and Log-packet-forsign" History

Document created by Lucas Middleton (lucas@atkinseng.com)
2023-03-09 - 5:46:44 PM GMT- IP address: 64.17.82.146

Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2023-03-09 - 5:49:37 PM GMT

Email viewed by Jack Atkins (jack@atkinseng.com)
2023-03-09 - 7:24:12 PM GMT- IP address: 64.90.153.232

Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2023-03-09 - 7:24:27 PM GMT - Time Source: server- IP address: 64.90.153.232

Agreement completed.
2023-03-09 - 7:24:27 PM GMT

Adobe Acrobat Sign

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE RECEIVED

2023 MAR -7 PM 12 57

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
J-25 Pod 2	~~J-38~~ J-25
WELL OWNER NAME(S)	PHONE (OPTIONAL)
Brad Beckham	
WELL OWNER MAILING ADDRESS	CITY / STATE / ZIP
po box 1203	Jal NM 88252

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	01	18	N
	LONGITUDE	103	15	49	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

sw/4se/4se/4 sec 21 T26s 36e 1/4 mile south of existing oil well

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-331	Joel Stewart	Stewart Brothers Drilling Co

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
3-16-17	4-3-17	800	810	unk

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

STATIC WATER LEVEL IN COMPLETED WELL (FT): 99

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

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	20	26	steel	n/a	20	.250	
0	287	171/2	steel	welded	12	.312	
287	800	171/2	steel slotted screen	welded	12	.312	.050

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
810	260	171/2	8-16 silica sand	540	tremie
260	250	171/2	bentonite pellets	8	tremie
250	0	171/2	neat cement	250	tremie

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 10/29/15)

FILE NUMBER	J-25	POD NUMBER	2	TRN NUMBER	55820
LOCATION	COM	26S.36E.21.443			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	105	105	red brown silt and sand	Y ✓ N	
105	120	15	tan siltstone	Y ✓ N	
120	490	370	red brown silt and fine sand	Y ✓ N	
490	600	110	brown sand and clay	Y ✓ N	
600	760	160	tan sand and gravel	Y N	
760	800	40	gray clay	Y N	
800	810	10	red brown clay	Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION:

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

W LBrunson

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

W L Brunson — 4 7 17

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 10/29/2015)

FILE NUMBER J-25 | POD NUMBER 2 | TRN NUMBER 515820

LOCATION Com 26S.31E.21.443 | PAGE 2 OF 2

Appendix C

Variance Requests

Variance Requests

Ameredev respectfully requests the following variances to 19.15.34.16 NMAC as listed below. A variance to fencing is requested as the utilized fence is felt to be better than what is prescribed. Variance requests for levee slopes, anchor trench, primary and secondary liners are requested due the nature of the build of an above ground steel tanks (ASTs) with vertical walls as compared to inground containments.

Fencing

9.15.34.12. D (2) NMAC prescribes that recycling containments are fenced with a four-foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level.

Ameredev used an 8-foot game fence with a single strand of barbed wire attached above the game fencing. This will more effectively deter wildlife or human intrusion which may otherwise go under or climb over prescribed fencing, therefore, meeting or exceeding above requirements to provide equal or better protection of fresh water; public health; and the environment.

Levee Slopes

9.15.34.12. A (2) NMAC. …The operator shall construct the containment in a levee with an inside grade no steeper than two horizontal feet to one vertical foot (2H:1V). The levee shall have an outside grade no steeper than three horizontal feet to one vertical foot (3H:1V). The top of the levee shall be wide enough to install an anchor trench and provide adequate room for inspection and maintenance.

The prescribed slopes apply to a lined inground containment. The Ike's Recycling ASTs are modular fluid storage tanks which have upright steel walls that provide the structure for the containment, prevents surface run-on, and allows for inspection and maintenance between the 12-foot high tank wall which support the primary liners and the secondary vertical steel wall which supports the secondary liner (see schematic in Design and Construction Plan). These AST tanks were designed and certified by a professional structural engineer (see Tank Tech technical specifications and letter from professional engineer in Appendix A) and provide an alternative to inground containments for produced water storage. This structure provides equal or better protection of fresh water, public health, and the environment than the prescribed inside and outside levee slopes.

Anchor Trenches

9.15.34.12. A (3) NMAC. …The edges of all liners shall be anchored in the bottom of a compacted earth-filled trench. The anchor trench shall be at least 18 inches deep.

The prescribed anchor trench for securing the liner system pertains to inground containments. The Ike's Recycling ASTs are above ground modular fluid storage tanks which have upright steel walls and therefore no anchor trench can be utilized. The liner system is anchored to the steel walls by clips or clamps. (Please see schematic in Design and Construction Plan). This system has been engineered and installed in a manner to provide equal protection of fresh water, public health, and the environment.

Primary Liners

9.15.34.12. A (4) NMAC. All primary (upper) liners in a recycling containment shall be geomembrane liners composed of an impervious, synthetic material that is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. All primary liners shall be 30-mil flexible PVC, 45-mil LLDPE string reinforced or 60-mil HDPE liners. Liner compatibility shall meet or exceed the EPA SW-846 method 9090A or subsequent relevant publications.

Ameredev has utilized a dual 40-mil LLDPE liner as the primary liner. The primary liner of a produced water containment is meant to act as the primary protective barrier, withstanding UV and chemical insult, to protect from any potential impact to fresh water, public health, or the environment. The prescribed liners do not take into consideration the upright steel walls of an AST containment.

40-mil LLDPE is more flexible and will more readily conform to the structure of the above ground tank. While reinforced products attempt to resist puncture and tear by tensile strength, unreinforced LLDPE was developed to maintain barrier performance under higher loads than can be resisted by tensile elements under extreme geotechnical loads. By providing much better linear and multi-axial elongation capacity, tensile stresses are relieved, stopping the poisson effect deformation that can lead to puncture in reinforced products. Unreinforced LLDPE thereby provides equal or better groundwater protection than string-reinforced products under extreme loads such as tank foundations and hydrostatic conditions (see email from Solmax technical support in Appendix A). Field seaming is reduced as it is produced in large sheets. The dual liner will require that a leak penetrate 2 40-mil LLDPE liners prior to reaching the secondary liner. Technical specifications and email from technical support for the Solmax 40 mil LLDPE liners are included in Appendix A. This primary liner system will provide equal protection of fresh water, public health, and the environment.

Secondary Liners

9.15.34.12. A (4) NMAC. Secondary liners shall be 30-mil LLDPE string reinforced or equivalent with a hydraulic conductivity no greater than 1 x 10-9 cm/sec. Liner compatibility shall meet or exceed the EPA SW-846 method 9090A or subsequent relevant publications.

Ameredev has utilized a 60-mil HDPE liner as the secondary liner, which is attached to an outer steel wall containment with clamps (see schematic in Design and Construction Plan). The purpose of a secondary liner is to contain any produced water fluids that may leak through the primary liner. Liner thickness and hydraulic conductivity are important to this purpose. The 60-mil HDPE liner provides a better barrier as it is thicker and denser than the prescribed 30-mil LLDPE. A letter from the Technical Engineering Manager for the liner manufacturer certifies that the 60-mil HDPE liner has a hydraulic conductivity less than 1×10^{-12}. (Please refer to liner specifications and above letter in Appendix A). The 60 mil HDPE liner provides superior protection from UV and chemical exposure (thus an NMOCD approved primary liner) than the prescribed liners. This liner provides equal or better protection of fresh water, public health, and the environment than the prescribed 30-mil string reinforced LLDPE.

Venegas, Victoria, EMNRD

From: Venegas, Victoria, EMNRD
Sent: Tuesday, October 10, 2023 2:42 PM
To: 'Shane McNeely'; Andrew Parker
Subject: 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427]
Attachments: C-147 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427] Modification.pdf

1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427]

Ms. McNeely,
NMOCD has reviewed the recycling containment permit modification and related documents, submitted by [372224] AMEREDEV OPERATING, LLC, Application ID: 270110, for 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427] in Unit Letter D, Section 27, Township 26S, Range 36E, Lea County, New Mexico.
This modification describes three (3) AST containments which are associated with 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427], identified as NW AST, SW AST, and NE AST.

Dates of operation:
NW AST: 8/2018 - 9/2023
SW AST: 6/2019 – 4/2021
NE AST: 5/2018 – 6/2019

The form C-147 and related documents for the modification of permit 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427] is approved with the following conditions of conditions of approval:

- [372224] AMEREDEV OPERATING, LLC will close 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427] as proposed in the original application.
- The variance to 19.15.34.12.A.(2) NMAC for the no side-slope requirement for the AST containment with vertical walls is approved.
- The variance to 19.15.34.12.A.(3) NMAC for the liners to be anchored to the top of the AST steel walls and no anchor trenches is approved.
- The variance to 19.15.34.12 A (4) NMAC for the installation on the AST containment of a 40-mil non-reinforced LLDPE primary liner and a 60-mil non-reinforced LLDPE secondary liner with a 200-mil geogrid drainage layer is approved.
- The variance to NMAC 19.15.34.12.D to install an 8-foot game fence topped with a single strand of barbed wire is approved.
- Per 19.15.34.14. A: CLOSURE AND SITE RECLAMATION REQUIREMENTS FOR RECYCLING CONTAINMENTS: If the operator wants to use the containment for a purpose other than recycling, then the operator must have that use approved or permitted by the division in accordance with the appropriate rules. The closure plan included in Appendix D of the application is approved. [372224] AMEREDEV OPERATING, LLC will close 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427] as proposed in the original application.
- At such time the operator decides to use the containment for produced water recycling purposes, [372224] AMEREDEV OPERATING, LLC must provide an inspection certified by a PE on the liner's design and integrity, use 1RF-508 to submit the C-148 monthly reports, recycle at a minimum of 20% of the total fluid capacity every six months, resume operation and inspections as required by 19.15.34.13 NMAC, and notify the OCD that the containment is no longer being utilized for only fresh water storage.

Victoria Venegas ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division

506 W. Texas Ave. Artesia, NM 88210
(575) 909-0269 | Victoria.Venegas@emnrd.nm.gov
https://www.emnrd.nm.gov/ocd/

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 270110

CONDITIONS

Operator:	OGRID:
AMEREDEV OPERATING, LLC 2901 Via Fortuna Austin, TX 78746	372224
	Action Number: 270110
	Action Type: [C-147] Water Recycle Long (C-147L)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	This modification describes three (3) AST containments which are associated with 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427]. Dates of operation: NW AST: 8/2018 - 9/2023; SW AST: 6/2019 – 4/2021; NE AST: 5/2018 – 6/2019. • Per 19.15.34.14. A: CLOSURE AND SITE RECLAMATION REQUIREMENTS FOR RECYCLING CONTAINMENTS: If the operator wants to use the containment for a purpose other than recycling, then the operator must have that use approved or permitted by the division in accordance with the appropriate rules. The closure plan included in Appendix D of the application is approved. [372224] AMEREDEV OPERATING, LLC will close 1RF-508 - IKE's CONTAINMENT #1 FACILITY ID [fVV2326835427] as proposed in the original application. • At such time the operator decides to use the containment for produced water recycling purposes, [372224] AMEREDEV OPERATING, LLC must provide an inspection certified by a PE on the liner's design and integrity, use 1RF-508 to submit the C-148 monthly	10/11/2023