RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION
PERMIT TO RECEIVE, STORE, HANDLE, TREAT AND RECYCLE CERTAIN
NON-HAZARDOUS OIL AND GAS WASTES

Amended Permit Nos. STF-0155, P012934, P012935, P012946, P012947, P012948 and P012949

BREAKWATER ENERGY PARTNERS
8 GREENWAY PLAZA STE 1005
HOUSTON TX 77046

Based on information contained in the original application, received November 8, 2019 and subsequent information received to date, you are hereby authorized to receive, store, handle, treat and recycle certain nonhazardous oil and gas wastes subject to the jurisdiction of the Railroad Commission of Texas (RRC) as specified below at the following facility:

Howard Co. Breakwater Recycling Facility # 1
Latitude, Longitude: 32.293230°, -101.655013°
Howard County, Texas
RRC District 08, Midland

NARRATIVE DESCRIPTION OF PROCESS:

Incoming produced water and frac flowback will enter the facility via pipeline for initial settling and storage in the Influent above ground storage tanks (AST) (P012946 and P012947). The wastes are then processed through a series of clarifier tanks, weir tanks and dissolved air flotation tanks where clarifiers and other chemicals are added as needed. The treated fluids are pumped to the Effluent AST (P012948 and P012949) and/or the Collecting Pits (P012934 and P012935) for storage before leaving the facility for downhole reuse via pipeline. Any resulting solids are conveyed to the sludge tanks and skim oil is stored in the skim oil tanks for sale.

Authority is granted to receive, store, handle, treat and recycle oil and gas wastes in accordance with 16 Texas Administrative Code (TAC) §3.8 (Statewide Rule 8), 16 TAC Chapter 4, Subchapter B, and is subject to the following minimum conditions:

I. General Permit Conditions

A. The effective date of this permit is February 7, 2020 and expires on February 6, 2025.

B. In accordance with 16 TAC §3.78, the permittee must maintain financial security in the amount of $3,219,623.00 until the entire facility and all of the referenced Permit Nos. have been closed in accordance with this permit. Technical Permitting reserves the right to revise this amount, as necessary. Prior to any modification of this facility that would require increased financial security, an updated closure cost estimate must be submitted to Technical Permitting in Austin, and any additional financial security must be filed with and approved by the RRC prior to making that modification.
C. No waste may be received at the facility until the groundwater monitoring wells required by Permit Condition VI. of this permit have been completed, developed and sampled. The documentation required by Permit Conditions VI.A. and VI.C. must be provided to and approved by Technical Permitting within 30 days after installation of groundwater monitoring wells.

D. A copy of a site-specific Spill Control Plan that details means and methods of waste management and containment in the event of a release or discharge must be maintained on-site and made available to RRC staff for review and inspection upon request.

E. The facility’s Stormwater Management Plan must be maintained on-site and made available upon request of the RRC.

F. The permittee may not receive, store, handle, treat or recycle oil and gas waste at the facility until all necessary air permits or exemptions (if any) are obtained from the Texas Commission on Environmental Quality (TCEQ).

G. Technical Permitting in Austin and the Midland District Office must be notified in writing upon final completion of construction of the facility. The permittee may not begin receiving, storing, handling, treating or recycling oil and gas waste until the Midland District Office has performed an inspection of the completed facility and has verified that the facility is constructed in accordance with the application and this permit.

H. Unless otherwise required by conditions of this permit, construction, use, and maintenance of the facility must be in accordance with the information represented in the permit application and attachments thereto. When construction of the facility is completed, submit the “as-built” plans to be incorporated as part of the permit application.

I. An On-Site Sewage Facility (OSSF) may be constructed, operated and maintained within the boundaries of the subject facility without an additional permit from the Commission if: (1) the OSSF waste is not commingled with any other oil and gas waste; (2) the system is designed by a Professional Engineer registered in the state of Texas or a sewage system installer licensed in the state of Texas; and (3) the construction, operation and maintenance of the OSSF complies with all applicable local, county, and state requirements.

J. Any deviation from this permit must be approved by amendment from Technical Permitting in Austin before implementation.

K. Any soil additives, stabilizers, bioaccelerators or treatment chemicals must be approved by Technical Permitting prior to use at the facility.

L. Safety Data Sheets (SDS) must be submitted to Technical Permitting in Austin for any chemical or compound proposed to be used in the treatment of waste at the facility. Use of the compound is contingent upon RRC approval. All chemicals must be stored according to the manufacturer's specifications.

M. All chemical laboratory analyses required to be performed in accordance with this permit must be performed using appropriate Environmental Protection Agency (EPA) methods or Standard Methods by an independent, National Environmental Laboratory Accreditation Program (NELAP) certified laboratory neither owned nor operated by the permittee. Any sample collected for laboratory analysis must be collected and preserved in a manner appropriate for that analytical method as specified by 40 CFR, Part 136. All geotechnical testing is to be performed utilizing tests standardized by the American Society for Testing and Materials (ASTM) and certified by a Texas licensed Professional Engineer.
N. The permittee must make all records required by this permit available for review and/or copying during normal business hours upon request of RRC personnel.

O. The permit may be considered for administrative renewal upon review by the RRC. Any application for renewal should be received at least 60 days prior to the permit expiration date.

P. This permit is nontransferable without consent of the RRC. Any request for permit transfer must be filed with Technical Permitting in Austin at least 60 days before the permittee wishes the transfer to take place.

Q. The permittee must submit a Quarterly Report according to the following:
   1. The reports must contain applicable information as required in Permit Conditions III.E., IV.K., IV.L., V.H.5, V.I.5, and VI.D.
   2. The quarterly reporting periods must be January 1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31 of each year.
   3. The reports must be submitted to Technical Permitting in Austin and the Midland District Office no later than the 30th day of the month following each reporting period, or each April 30th, July 30th, October 30th, and January 30th, respectively.
   4. An Executive Summary must be included that describes facility operations and relevant activities that occurred during the specific quarter.
   5. Data tables presenting volumes or amounts of treated and untreated solid waste on-site at the end of each quarter must be included.
   6. The laboratory analytical reports and the corresponding chain of custody must be provided for all chemical analyses performed.

R. Failure to comply with any provision of this permit may be cause for modification, suspension, termination or cancellation of this permit in accordance with Statewide Rule 8(d)(6)(E).

II. Authorized Wastes

A. Only oil and gas wastes subject to the jurisdiction of the RRC that are non-hazardous according to Subtitle C (Resource Conservation and Recovery Act (RCRA)) may be received. You may receive, store, handle, treat and recycle of only the following oil and gas wastes:
   1. Produced water and residual solids
   2. Frac flowback water and residual solids

B. No other waste may be accepted at this facility.

C. No oil and gas Naturally Occurring Radioactive Material (NORM) waste as defined in 16 TAC §4.603 or waste from a facility that is licensed by the Texas Department of State Health Services (DSHS) to handle, process, or treat oil and gas NORM waste may be received at this facility.

D. No asbestos-containing material regulated under the Clean Air Act or polychlorinated biphenyls (PCB) material regulated under the Toxic Substances Control Act may be accepted for processing at this facility.

E. This permit does not authorize the active reclamation of crude oil from oil and gas waste. A request for authorization under 16 TAC §3.57 must be submitted to and approved by
Technical Permitting in Austin prior to any active reclamation activities at the referenced facility. Any recovered free oil must be handled according to protocols specified in Permit Condition IV.J.

F. All waste haulers received at the facility must be RRC permitted Oil and Gas Waste Haulers and must have the subject facility listed as an authorized disposal facility on their "Oil and Gas Waste Hauler’s Authority to use Approved Disposal/Injection System", (Form WH-3).

III. Waste Testing and Record Keeping Requirements

A. Each load of incoming waste, other than water-based drilling fluids and associated cuttings, or oil-based drilling fluids and associated cuttings, must be scanned for the presence of NORM using a scintillation meter with a sodium iodide detector or other equivalent devices that comply with 25 TAC 289.259, Texas Regulation for Control of Radiation (TRCR Part 46). Manufacturer’s specifications must be submitted to Technical Permitting for equivalent devices used for NORM detection. All instrument calibration records must be maintained onsite and made available upon request. Any load with a reading of 50 microroentgens per hour or greater may not be unloaded or processed at the facility unless further analysis of the waste demonstrates that the waste does not exceed 30 picocuries per gram of Radium-226 combined with Radium-228 or 150 picocuries per gram of any other radionuclide. Current calibration records of all NORM screening devices must be maintained on-site and made available to RRC personnel upon request.

B. Prior to receipt at the site, representative samples of waste from commercial oil and gas facilities and reclamation plants must be analyzed for and may not exceed the limit for the following parameter(s):

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>LIMITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Organic Halides (TOX)</td>
<td>100 mg/l</td>
</tr>
<tr>
<td>(EPA Method 9020B)</td>
<td></td>
</tr>
</tbody>
</table>

Special authorization for disposal of waste with a TOX > 100 ppm may be considered. Authority must be obtained from Technical Permitting in Austin prior to acceptance of that waste.

C. The permittee must maintain the following records on each load of waste received at the facility for a period of three (3) years from the date of receipt:

1. Description of the site where the waste was generated, including:
   a. Generator name
   b. Lease name and number and well number(s), or gas ID number(s), or American Petroleum Institute (API) well number(s); or latitude and longitude coordinates in decimal degrees if waste was not generated on a lease
   c. County
2. Name and RRC permit number of the transporter
3. Volume of waste material (specify units)
4. Detailed description of the type of waste, including any analysis required by Permit Conditions III.A. and III.B., above
D. The permittee must maintain the following records on each load of waste removed from the referenced facility to an authorized disposal facility for a period of three (3) years from the date of shipment:
   1. Date waste is removed and hauled to a disposal facility
   2. Name and RRC permit number of the transporter
   3. Volume (specify units) of each shipment of waste hauled to a disposal facility
   4. Type of waste (basic sediment, water, water-based mud, etc.)
   5. Name and permit number of the disposal facility.

E. A report must be submitted to Technical Permitting in Austin and the Midland District Office as part of the Quarterly Report required in Permit Condition I.Q. and must include the following information:
   1. A table summarizing all incoming waste, including the following:
      a. Generator name
      b. Lease name and number and well number(s), or gas ID number(s), or American Petroleum Institute (API) well number(s); or latitude and longitude coordinates in decimal degrees if the waste was not generated on a lease
      c. County
      d. Name and RRC permit number(s) of the transporter(s)
      e. Description and total volume (specify units) of waste from each job (for which Permit Conditions III.C.1.a, III.C.1.b., and III.C.1.c are the same)
      f. The total volume of each type of waste material received during the quarter
   2. A table summarizing all waste removed from the facility, including the following:
      a. Name and permit number of the disposal facility
      b. Name and RRC permit number(s) of the transporter(s)
      c. Description and total volume (specify units) of waste hauled to the disposal facility
      d. The total volume of each type of waste that leaves the facility for disposal or final disposition during the quarter
   3. Copies of all analyses required by Permit Conditions III.A. and III.B. above.

IV. General Site Design and Maintenance Requirements

A. The general layout and arrangement of the facility must be consistent with the “Site Plan” (Sheet No. 3 of 12) diagram, received on December 13, 2019, which is attached as Permit Appendix A.

B. A sign must be posted at each entrance to the facility. The sign must be readily visible and show the operator name, facility name, and permit number in letters and numerals at least three (3) inches in height.

C. The facility must consist of the following waste management units:
   1. Ten (10) 500-bbl Clarifying Tanks
   2. Ten (10) 500-bbl Weir Tanks
3. Two (2) 60,000-bbl Influent AST (P012946 and P012947)
4. Two (2) 60,000-bbl Effluent AST (P012948 and P012949)
5. Two (2) 757,882-bbl Collecting Pits (P012934 and P012935)

D. No waste, treated or untreated, may be placed on the ground or in and/or on any non-authorized surface.

E. All storage tanks, chemicals, equipment and roll-off boxes must be maintained in a leak-free condition. If inspection of a tank, roll-off box or storage vessel reveals deterioration or leaks, it must be repaired before resuming use of the vessel.

F. Any spill of waste, chemical, or any other waste related material must be collected and containerized within 24 hours and processed through the treatment process or disposed of in an authorized manner.

G. Any chemical used in the treatment process must be stored in vessels designed for the safe storage of the particular chemical and these vessels must be maintained in a leak free condition.

H. Dikes or containment structures must be constructed around all waste management units. All earthen dikes surrounding pits and constructed as perimeter berms must be compacted or constructed of material that meets 95% Standard Proctor (ASTM D698) or 90-92% Modified Proctor (ASTM D1557) density and meet a permeability of $1 \times 10^{-7}$ cm/sec or less when compacted. During construction, successive lifts should not exceed nine inches in thickness, and the surface between lifts should be scarified to achieve a good seal. Each berm must maintain a slope no steeper than a one to three (vertical to horizontal) ratio, unless constructed of concrete or equivalent material (firewalls). These structures must be used to divert non-contact storm water around the waste management areas and contain and isolate contact storm water within the waste management units. Refer to the stormwater management requirements specified in Permit Condition VII.

I. The facility must maintain security to prevent unauthorized access. Access must be maintained by a 24-hour attendant or a six-foot-high security fence and locked gate when unattended. Fencing must be required unless terrain or vegetation prevents vehicle or livestock access except through entrances with lockable gates.

J. No oil may be allowed to accumulate on top of the water or wastes stored in the tanks and pits. Any oil on top of the liquids must be skimmed off and handled in accordance with RRC rules. Any recovered oil must be recorded and filed with the RRC on either a Skim Oil/Condensate Report (Form P-18) or a “Letter of Authority Request for Oil Movement” (Form T-1) Letter:

1. A Skim Oil/Condensate Report (Form P-18) must be filed with the RRC every month to record skim oil volumes recovered and sold during the operation of this facility. If no skim oil is recovered for a given month, a (Form P-18) should still be filed with the RRC.

   OR

2. An original signed “Letter of Authority Request for Oil Movement” (Form T-1) must initially be submitted on letterhead to Field Operations, Austin, TX, Oil and Gas Division, for every event in which sellable skim oil is recovered and intended to be sold during the operation of this facility. Filing frequency requirements may be redefined after the initial oil movement request has been processed. The request must include:
a. The time period for which oil movement authority is requested;
b. The name of the applicant requesting to move the oil;
c. Volume (barrels) of oil to be moved;
d. Name and location of the facility which the oil will be moved to;
e. Name, address, telephone, and fax number of facility buying the oil to be moved;
f. Contact person, T-1 permit number, and P-5 Operator Number of the oil buyer; and
g. A description of the source(s) of the oil at the facility.

K. Each month an inspection of the entire facility must be performed on all pits, concrete slabs, processing equipment, containment berms, and aboveground storage tanks or vessels for deterioration, leaks or spills. The records of each inspection must be kept on-site and maintained for a period of three (3) years from the date of the inspection. The following must be included in the inspection report and submitted as part of the Quarterly Report required by Permit Condition I.Q.

1. The results of the monthly inspection of the pits for evidence of deterioration, leakage, or storm water run-on, and a description of corrective action taken, if any.
2. The results of the monthly inspection of concrete slabs within the facility for evidence of deterioration, leakage, or storm water run-on, and a description of corrective action taken, if any.
3. The results of the monthly inspection of process equipment, tanks, and roll-off boxes for evidence of deterioration or leakage, and a description of corrective action taken, if any.
4. The results of the monthly inspection of waste levels within the storage areas, tanks, and roll-off boxes, and a description of corrective action taken, if any.

L. All pits equipped with a leak detection system (LDS) must be monitored daily, and the highest volume removed from the LDS during the seven-day period must be reported. Pits with multiple sumps must report the highest cumulative volume removed from the LDS during the seven-day period. The permittee must maintain a record of when the liner, containment berm and the LDS are inspected and the results of each inspection. Records of LDS monitoring must be submitted in table form within the Quarterly Report required in Permit Condition I.Q. The physical record must be maintained by the permittee for the life of the pit. The physical record must be filed with the RRC upon request. The record must include:

1. The date of fluid level measuring
2. The fluid level or volume
3. The volume of fluid removed
4. The electrical conductivity
5. The chloride concentration of the fluids removed

M. The fluid removed from the LDS will be compared to the appropriate allowed volume for each pit, as noted in Permit Conditions V.H.6.a. and V.I.6.a. If the volume withdrawn from the LDS exceeds the allowed volume for 15 consecutive days or the weekly reported volume required by Permit Condition IV.L. exceeds the allowed volume at least once a month for three consecutive months, the Midland District Office and Technical Permitting in Austin must be notified by phone or email within 24 hours of detection of
the liner system failure. The operator must immediately initiate the removal of wastes from the pit. When the removal of the waste is complete, the operator must notify Technical Permitting in Austin and the Midland District Office in writing.

N. If the LDS indicates a liner system failure or if a crack or other failure is detected during inspection, no waste may be added to the pit. The affected component must be replaced or repaired and inspected by the appropriate RRC District Office before use of the pit is resumed.

O. The liner systems must be inspected whenever evidence of a liner leakage arises. If inspection of the liner reveals cracking, a leak or other loss of integrity, all waste must be immediately removed from the pit. No waste may be added to the affected pit until the liner has been replaced or repaired and re-inspected by RRC personnel before resuming use of the pit.

V. Collecting Pits (P012934 and P012935), Influent AST (P012946 and P012947) and Effluent AST (P012948 and P012949) Construction and Operation

A. The general layout and arrangement of the Collecting Pits (P012934 and P012935), the Influent AST (P012946 and P012947) and the Effluent AST (P012948 and P012949) must be consistent with the diagram provided in Permit Appendix A.

B. Use of the pits are limited to the collection of non-hazardous oil and gas wastes as specified in Permit Condition II.A.. No other oil field fluids or oil and gas wastes may be stored or staged in the pits.

C. A sign must be posted identifying the permit number of the pits using letter and numerals at least (3) three inches in height.

D. At least two (2) feet of freeboard must be maintained between the fluid level in each pit and the top of the pit walls.

E. Liquid waste accumulated within the pits must be removed as needed to maintain freeboard and disposed of in an authorized Class II injection well.

F. The pits, pit liners and leak detection system must be constructed, installed and monitored in accordance with the material manufacturer’s specifications and best management practices.

G. The ground surface surrounding the pits must be graded such that all surfaces slope away from the pit to prevent surface flow stormwater from entering.

H. COLLECTING PITS (P012934 AND P012935)

1. The construction of the Collecting Pits (P012934 and P012935) must be consistent with the “Cross Sections” (Sheet No. 5 of 12), “Pit Sump Details” (Sheet No. 6 of 12) and “Liner Details” (Sheet No. 7 of 12) diagrams, received on December 13, 2019, which are attached as Permit Appendix B.

2. The pits must be no greater than 728 feet by 438 feet by 13.30 feet deep with a permitted usable capacity not to exceed 757,882 bbl of waste.

3. The pits must be constructed in accordance with the liner system installation methods included in the application and consist of (from bottom-to-top) a prepared subgrade, overlain by a geosynthetic clay liner (GCL), overlain by a 40-mil high density polyethylene (HDPE) secondary liner, overlain by a 60-mil HDPE primary liner with 60-mil HDPE rubber sheets where needed.
4. The pits must be equipped with a LDS, including a 200-mil geonet drainage layer that extends over the entire pit between the primary and secondary liners.

5. The LDS must be monitored as required by Permit Condition IV.L. Records of leak detection system monitoring must be submitted in table form within the Quarterly Report required by Permit Condition I.Q. The physical record must be maintained by the permittee for the life of the pit. The physical record must be filed with the RRC upon request.

6. If the LDS indicates a possible liner system failure, the liner system must be inspected for deterioration and leaks within five (5) days of the detection of the failure. The Midland District Office must be notified by phone or email within 24 hours of detection of the failure. No additional waste may be added to the affected pit in the event of a failure. After inspection, the identified failed component must be replaced or repaired and re-inspected by RRC personnel before resuming use of the pit(s). A liner system failure is defined as any of the following:

   a. A volume withdrawn from the LDS that is greater than 7,300 gallons per day
   b. Any failure in the leak detection and return system or any component thereof
   c. Any detected damage to or leakage from the secondary liner

7. The pits must be sloped to allow fluids to drain to the sump.

I. INFLUENT AST (P012946 AND P012947) AND EFFLUENT AST (P012948 AND P012949)

1. The construction of the Influent AST (P012946 and P012947) and Effluent AST (P012948 and P012949) must be consistent with the "AST Design for Influent and Effluent AST's" and "AST Leak Detection" (Sheet No. Attach. D) diagrams, received on December 13, 2019, which are attached as Permit Appendix C.

2. The pits must be no greater than 191 feet in diameter by 12.33 feet deep with a permitted usable capacity not to exceed 60,000 bbl of waste.

3. The pits must be constructed in accordance with the liner system installation methods included in the application and consist of (from bottom-to-top) a prepared subgrade, overlain by a 40-mil linear low density polyethylene (LLDPE) secondary liner, overlain by a 40-mil LLDPE primary liner.

4. The pits must be equipped with a LDS, including a 200-mil geonet drainage layer that extends over the entire pit between the primary and secondary liners.

5. The LDS must be monitored as required by Permit Condition IV.L. Records of leak detection system monitoring must be submitted in table form within the Quarterly Report required by Permit Condition I.Q. The physical record must be maintained by the permittee for the life of the pit. The physical record must be filed with the RRC upon request.

6. If the LDS indicates a possible liner system failure, the liner system must be inspected for deterioration and leaks within five (5) days of the detection of the failure. The Midland District Office must be notified by phone or email within 24 hours of detection of the failure. No additional waste may be added to the affected pit in the event of a failure. After inspection, the identified failed component must be replaced or repaired and re-inspected by RRC personnel before resuming use of the pit(s). A liner system failure is defined as any of the following:

   a. A volume withdrawn from the LDS that is greater than 660 gallons per day
b. Any failure in the leak detection and return system or any component thereof

c. Any detected damage to or leakage from the secondary liner

7. The pits must be sloped to allow fluids to drain to the sumps.

J. Unless otherwise required by conditions of this permit, construction, use and maintenance of each pit must be in accordance with the information represented on the applications (Form H-11) and attachments thereto.

VI. Groundwater Monitoring

A. At least six (6) monitor wells must be installed, maintained and routinely sampled at the facility. The monitor wells are to be installed at the locations designated on the "Monitoring Well Plan" (Sheet No. 10 of 12) schematic, received on December 13, 2019, which is attached as Permit Appendix D. The following provisions must be met for each well:

1. The wells must be completed by a certified water well driller in accordance with 16 TAC Part 4, Chapter 76 (Water Well Drillers and Water Well Pump Installers).

2. The wells must be completed and penetrate the shallowest groundwater zone, and the completion must isolate that zone from any deeper groundwater zone.

3. The screened interval of the wells must be designed to intercept at least five feet of groundwater.

4. Provision must be made to protect the well heads from damage by vehicles and heavy equipment.

5. The wells must be watertight at the surface and fitted with a lockable watertight expansion cap.

6. The following information must be submitted after the wells are completed:

a. A soil boring lithologic log for the well, with the soils described using the Unified Soil Classification System (equivalent to ASTM D 2487 and 2488). The log must also include the method of drilling, well specifications, slot size, riser and screen length, bentonite and cement intervals, total depth, and the top of the first encountered water or saturated soils. The sand pack size should be compatible with well screen and slot size, as well as the local lithology.

b. A well installation diagram for each well detailing construction specifications for each well, including riser and screen length, screen slot size, bentonite and cement intervals. The sand pack size should be compatible with the well screen slot size and the local lithology.

c. A survey elevation for each well head reference point (top of casing) relative to a real or arbitrary on-site benchmark and relative to mean sea level.

d. A potentiometric contour map showing static water levels and the estimated direction of groundwater flow and the calculated gradient.

B. The groundwater monitor wells must be able to provide a sample that is representative of the groundwater underlying the site for the duration of facility operations. If a monitor well is not capable of providing a representative sample, the permittee must notify Technical Permitting in Austin and install a replacement monitor well that is acceptable
to the RRC. Additional groundwater monitoring wells may be required with future site development.

C. The groundwater monitor wells must be sampled or monitored for the following parameters after installation and quarterly thereafter:

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static Water Level</td>
<td>Feet (ft)</td>
</tr>
<tr>
<td>Total Depth</td>
<td>ft</td>
</tr>
<tr>
<td>pH</td>
<td>s.u.</td>
</tr>
<tr>
<td>EPA Method 150.1, 150.2, or equivalent</td>
<td></td>
</tr>
<tr>
<td>Total Dissolved Solids (TDS)</td>
<td>mg/L</td>
</tr>
<tr>
<td>Standard Method 160.1 or equivalent</td>
<td></td>
</tr>
<tr>
<td>TPH</td>
<td>mg/L</td>
</tr>
<tr>
<td>Method TX1005</td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>mg/L</td>
</tr>
<tr>
<td>EPA Method 8260/8021B or equivalent</td>
<td></td>
</tr>
<tr>
<td>Soluble Cations:</td>
<td>mg/L</td>
</tr>
<tr>
<td>Calcium, Magnesium, Potassium, and Sodium</td>
<td></td>
</tr>
<tr>
<td>EPA Method 6010/6020 or equivalent</td>
<td></td>
</tr>
<tr>
<td>Soluble Anions:</td>
<td>mg/L</td>
</tr>
<tr>
<td>Bromides, Carbonates, Chlorides, Nitrates, and Sulfates</td>
<td></td>
</tr>
<tr>
<td>EPA Method 300/9056 or equivalent</td>
<td></td>
</tr>
</tbody>
</table>

D. Copies of the monitoring-well gauging and sampling event data must be filed quarterly with Technical Permitting and the Midland District Office as part of the Quarterly Report required in Permit Condition I.Q. The laboratory analytical reports and the corresponding chain of custody must be provided for all chemical analyses performed.

E. If any of the parameters listed in Permit Condition VI.C. show potential impacts from operations at the facility or if a liner system failure as defined under Permit Conditions V.H.6. and V.I.6. occurs, Technical Permitting reserves the authority to initiate an appropriate sampling frequency.

VII. Stormwater Management

A. The facility must be designed and constructed to contain contact stormwater and prevent run-on of non-contact stormwater.

B. All above ground storage tanks and waste treatment areas must have secondary containment. The secondary containment must be constructed and maintained at a minimum to contain the largest tank’s maximum capacity, plus freeboard to contain the 25-year, 24-hour storm event volume for Howard County and meet the criteria specified in Permit Condition IV.H.

C. Contact stormwater must be prevented from migrating outside of the waste processing and storage areas. The facility must be sloped to facilitate the separation of contact and non-contact stormwater.
D. Non-contact stormwater be prevented from entering the waste processing and storage areas. Areas outside of the bermed waste processing and storage areas must be sloped to prevent non-contact stormwater from contacting waste.

E. Contact stormwater must be collected within 72 hours of accessibility and utilized within the waste treatment process or disposed of in an authorized manner.

F. This permit does not authorize discharge from the facility of any oil and gas waste, including contaminated or contact storm water.

G. A discharge permit from the EPA may be required for non-contact stormwater discharges. If required, a permit from the EPA must be in place prior to commencement of discharge operations.

VIII. Facility Closure

A. Technical Permitting and the Midland District Office must be notified in writing at least 45 days prior to commencement of closure activities. The permittee must submit a closure plan to Technical Permitting in Austin to be reviewed and approved prior to beginning closure activities.

B. At facility closure, all waste, chemicals, and waste related materials must be processed and removed from the facility for authorized reuse or disposed of in an authorized manner.

C. Waste processing equipment, aboveground storage tanks, and any other equipment not associated with the maintenance of the facility must be removed.

D. Provisions must be taken to prevent erosion both during and following closure.

E. The entire facility must be backfilled as necessary, contoured to original grade and re-vegetated as appropriate for the geographic region.

F. Closure of the waste treatment area, Collecting Pits (P012934 and P012935) and Influent and Effluent AST (P012946, P012947, P012948 and P012949) must be as follows:
   1. The contents of all tanks, vessels, or other containers must be disposed of in an authorized manner.
   2. All equipment must be removed and salvaged, if possible, or disposed of in an authorized manner.
   3. The pits must be dewatered, emptied, demolished, backfilled and compacted as necessary, and properly closed. All wastes, including the liners, must be removed and disposed of in an authorized manner.
   4. Any concrete areas and access roads must be cleaned and demolished, and the concrete rubble and wash-water must be disposed of in an authorized manner.
   5. All visually contaminated soils from beneath the synthetic pit liners, must be excavated and removed. The contaminated soil must be disposed of in an authorized manner.
   6. Once waste removal is completed, a soil sampling plan must be submitted to Technical Permitting to characterize the scope of contamination (if any) at the facility. After the removal of wastes, composite soil samples must be taken comprised of a minimum of four representative soil samples per former pit location, and five representative soil samples per acre. Samples must be taken from around and underneath the Collecting Pits and Collecting Pit Areas.
7. Soil samples must be analyzed for the parameters listed in Permit Condition VIII.G., and those parameter limitations must not be exceeded. If any parameter limitation is exceeded, additional waste must be removed from that location, and the area must be resampled. The process must be repeated until the analytical results meet criteria.

G. Soil samples required by Permit Conditions VIII.F.7. must be analyzed for the following parameters and must not exceed the specified limitations:

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>LIMITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH <em>(EPA Method 9045C or equivalent)</em></td>
<td>6 to 10 standard units</td>
</tr>
<tr>
<td>Electrical Conductivity (EC)*</td>
<td>≤ 4.0 mmhos/cm</td>
</tr>
<tr>
<td>TPH <em>(EPA Method 5035A/TX1005)</em></td>
<td>≤ 10,000 mg/kg or 1 % by weight</td>
</tr>
<tr>
<td>Total Benzene, Toluene, Ethylbenzene,</td>
<td></td>
</tr>
<tr>
<td>Xylenes (BTEX) <em>(EPA Method 5035A/8021/8260B)</em></td>
<td>≤ 30 mg/kg</td>
</tr>
<tr>
<td>Metals (Total) <em>(EPA Method 6010/6020/7471A)</em></td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>≤ 10 mg/kg</td>
</tr>
<tr>
<td>Barium</td>
<td>≤ 10,000 mg/kg</td>
</tr>
<tr>
<td>Cadmium</td>
<td>≤ 10 mg/kg</td>
</tr>
<tr>
<td>Chromium</td>
<td>≤ 100 mg/kg</td>
</tr>
<tr>
<td>Lead</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Mercury</td>
<td>≤ 10 mg/kg</td>
</tr>
<tr>
<td>Selenium</td>
<td>≤ 10 mg/kg</td>
</tr>
<tr>
<td>Silver</td>
<td>≤ 200 mg/kg</td>
</tr>
</tbody>
</table>

H. A summary of the soil sampling required by Permit Conditions VIII.G. must include:
1. A map drawn to scale with coordinates of the sampling locations
2. A table indicating the results of the Parameters sampled
3. The date of sampling
4. The approximate depth of the sample below land surface
5. Copies of the laboratory analytical reports and chain of custody

I. Any soil sample that exceeds the parameter limitations specified in Permit Condition VIII.G. is considered waste and must be disposed of at an authorized disposal facility.

J. Once the results of the closure activities have been approved by the RRC, all non-disposal pits must be dewatered, emptied, demolished, backfilled, and compacted within 120 days of final cessation of use of each pit. Final surface grading of the pits and the storage tank battery areas must be accomplished in such a manner that rainfall will not

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1 Louisiana Department of Natural Resources Lab Procedures for Extraction and Analysis of Exploration and Production Waste or equivalent
collect at these former locations. Upon final closure, the Midland District Office and Technical Permitting in Austin must be notified in writing.

This authorization is granted subject to review and cancellation should investigation show that such authorization is being abused.

APPROVED AND ISSUED ON February 7, 2020

Tiffany Humpherson, Manager
Environmental Permits & Support
Technical Permitting

Attachments:
1. Permit Appendix A
2. Permit Appendix B
3. Permit Appendix C
4. Permit Appendix D

cc: RRC District 08, Midland
Permit Appendix A

Site Plan
(Sheet No. 3 of 12)
Permit Appendix B

Cross Sections
(Sheet No. 5 of 12)

Pit Sump Details
(Sheet No. 6 of 12)

Liner Details
(Sheet No. 7 of 12)
Permit Appendix C

AST Design for Influent and Effluent AST's

AST Leak Detection
(Sheet No. Attach. D)
OPTIONS:
- ACCESS LADDER
- ESCAPE LADDER
- OBSERVATION PLATFORM
- RP FILL LINES
- LINE-X COATING
- SPRAY FOAM INSULATION
- CUSTOM FABRICATION

AST Design for Influent and Effluent AST’s
AST ID: AST 1, AST 2, AST 3 and AST 4

- 12” PIPE DISCHARGE LINE W/ 10” BUTTERFLY VALVE
- 4” PIPE FILL LINE W/ BUTTERFLY VALVE
- CROSSOVER STAIRS
- ASSEMBLY SUPPORTS
- PROTECTIVE RUBBER STRIP COVERING END SEAMS
- 1/2” THICK WALLS
- LIFTING RINGS

12'-4"
Permit Appendix D

Monitoring Well Plan
(Sheet No. 10 of 12)