RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

PERMIT TO RECLAIM OILFIELD RELATED HYDROCARBONS

Permit No. R9 08-1102
AMENDED
Supersedes the Pit Permit issued on
October 31, 2014
Effective Date April 7, 2017

LAKewood ENERGY SOLUTIONS LLC
6655 SOUTH LEWIS AVE SUITE 200
TULSA OK 74136

Based on information contained in the original application submitted by Itero Energy, Inc. received on April 18, 2011, the amendment request received November 14, 2011, the transfer request submitted by Itero Energy LLC on April 7, 2014, the transfer request submitted by Lakewood Energy Solutions LLC on September 5, 2014, the amendment request received October 3, 2016, and subsequent information received to date, you are hereby authorized to store, stage and reclaim oilfield related hydrocarbons designated herein:

**Monahans Reclamation Facility**
G&MMB&A Survey, Section 84, Block A, A-95
Latitude/Longitude: 31.6284°, -102.9670°
Ward County
RRC District 08, Midland

NARRATIVE DESCRIPTION OF PROCESS:

The reclamation facility consists of an oil and gas waste processing area that contains a centrifuge, solids separation equipment, heated tanks, process oil tanks, and associated pumps and piping. Incoming oil and gas waste is offloaded into receiving tanks or frac tanks then pumped from the receiving tanks through a heat exchanger. The heated waste is conveyed through a shale shaker to remove excess solids. The heated liquid waste is mixed with a chemical additive to facilitate further separation. The residual wastes are placed in a centrifuge to further separate the solid and liquid fractions. Separated wastewater will be transported to an authorized Class II injection well for disposal. The recovered oil fraction will be stored in oil tanks and sold. Separated solid wastes will be stored in water tight roll-off boxes and transported off-site for disposal.
Authority is granted by the Railroad Commission of Texas (RRC) to receive, store, handle, and treat certain nonhazardous oil and gas wastes and reclaim oilfield related hydrocarbons in accordance with 16 Texas Administrative Code (TAC), Title 16, Part 1, §3.57 (Statewide Rule 57) and TAC, Title 16, Part 1, §3.8 (Statewide Rule 8) and is subject to the following conditions:

I. GENERAL PERMIT CONDITIONS

A. The authority granted by Permit No. (R9 08-1102) is effective April 7, 2017.

B. In accordance with TAC, Title 16, Part 1, §3.78 (Statewide Rule 78) the permittee must maintain financial security in the amount of $463,177.00 until this reclamation plant has 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. The permittee may not receive, store, handle, or treat oil and gas waste at the facility until all necessary air permits (if any) are obtained from the TCEQ.

D. Use of the Reclamation Plant is limited to the treatment, processing, or reclamation of tank bottoms and other hydrocarbon wastes generated through activities associated with exploration, development, and production of crude oil and other wastes containing crude oil.

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

F. A Stormwater Management Plan for the facility shall be maintained on-site and made available upon request of the RRC.

G. A copy of the site-specific Spill Prevention and 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.

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

I. 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 chemical is contingent upon RRC approval. All chemicals must be stored according to the manufacturer’s specifications.
J. 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 International) and certified by a Texas licensed Professional Engineer.

K. 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 RRC if: the OSSF waste is not commingled with any other oil and gas waste; 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 the construction, operation, and maintenance of the OSSF complies with all applicable local, county, and state requirements.

L. Access shall be maintained by a 24-hour attendant or a six-foot-high security fence and a locked gate when the facility is unattended. Fencing shall be required unless terrain or vegetation prevents vehicles or livestock access except through entrances with lockable gates.

M. Unless otherwise required by conditions of this permit, construction, use, and maintenance of the facility must be in accordance with the information represented on the “Application For Permit To Operate A Reclamation Plant” (Form R-9), provided and incorporated into this permit as Permit Appendix A, and attachments thereto.

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

O. The permit to operate a reclamation plant (R9 08-1102) shall remain in effect until canceled at the request of the operator, the permitted facility has been inactive for 12 months, or there has been a violation, or a violation is threatened, of any provision of the permit, the conservation laws of the state, or rules or orders of Statewide Rule 57 (c) (7).

P. The permittee must make all records required by this permit available for review and copying during normal business hours upon request of RRC personnel.

Q. 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.
R. The permittee shall submit a Quarterly Report according to the following:

1. The report shall contain applicable information as required in Conditions II.B., II.C.4., IV.L., and IV.M. of this permit.

2. The quarterly reporting periods shall 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 Quarterly Reports must be submitted to Technical Permitting and the appropriate District Office no later than the 28th day of the month following each reporting period, or each April 28th, July 28th, October 28th and January 28th respectively.

4. An Executive Summary shall be included that describes facility operations and relevant activities that occurred during the specific quarter.

S. Failure to comply with any provision of this permit shall be cause for modification, suspension, termination or cancellation of this permit if Technical Permitting determines that the permittee is in violation of RRC rules.

II. INCOMING AND OUTGOING WASTES

A. AUTHORIZED WASTES

1. Only oil and gas wastes subject to the jurisdiction of the RRC that are nonhazardous or exempt from Resource Conservation and Recovery Act (RCRA), Subtitle C may be received or processed at this facility. This permit authorizes the receipt of only the following oil and gas wastes:

   a. Tank bottoms; and

   b. Other hydrocarbon wastes as defined by Statewide Rule 57 (b) (2).

2. 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 process or treat oil and gas NORM waste may be received at this facility.

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

4. 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).

B. TESTING REQUIREMENTS FOR INCOMING WASTES

1. The operator of the reclamation plant must conduct a shakeout test on all tank bottoms or other hydrocarbon wastes upon removal from any producing lease tank, pipeline storage tank, or other production facility, to determine crude oil content and lease condensate thereof.
2. The shakeout test shall be conducted in accordance with the most current American Petroleum Institute (API) or ASTM method.

3. Each load of incoming waste must be scanned for the presence of NORM using a scintillation meter with a sodium iodide detector. Any load with a maximum reading of 50 microremgens per hour or more 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 radium-226 combined with radium-228 or 150 picocuries per gram of any other radionuclide.

C. RECORDKEEPING REQUIREMENTS

1. Details of receipts, deliveries and stock on hand must be reported monthly on the Form R-2, Monthly Report for Reclaiming and Treating Plants. Submit the original of the Form R-2 report directly to Technical Permitting in Austin and a copy of the report to the appropriate District Office by the 15th day of the calendar month following the month of the report. Form R-2 shall be completed in accordance with Statewide Rule 57.

2. The permittee shall 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:
   a. Description of the site where the waste was generated, including:
      (1) Generator name;
      (2) Lease name and number and well number(s), or gas ID number(s), or API well number(s); or latitude and longitude coordinates in decimal degrees if waste was not generated on a lease; and
      (3) County
   b. Name and RRC permit number of the transporter;
   c. Date the waste is received; and
   d. Volume of the waste material (specify units).

3. The permittee shall maintain the following records on each load of waste removed from the facility for a period of three (3) years from the date of receipt:
   a. Date waste is removed and hauled to a disposal facility;
   b. Name and RRC permit number of the transporter;
   c. Volume of each shipment of waste hauled to a disposal facility;
   d. Type of waste (basic sediment, water, water-based mud, etc.); and
   e. Name and permit number of the facility to which the waste was disposed.
4. A report must be submitted to Technical Permitting in Austin and the appropriate District Office as part of the Quarterly Report required in Permit Condition I.R. and shall include the following information:

   a. All records required by Permit Conditions II.C.2 and II.C.3, above, as well as a summary of waste receipts;

   b. The total volume of each type of waste material received during the specific quarter; and

   c. Total volume of each type of waste that leaves the facility for disposal or final disposition during the quarter.

III. RECLAMATION PROCESS (PERMIT NO. R9 08-1102)

A. Use of the Reclamation Plant is limited to the treatment, processing, or reclamation of tank bottoms and other hydrocarbon wastes generated through activities associated with exploration, development, and production of crude oil and other wastes containing crude oil.

B. The “Application For Permit To Operate a Reclamation Plant” (Form R-9), which is attached as Permit Appendix A, grants authority for the reclaiming of oil field related hydrocarbons and does not cover reclamation of any refined products. Commingling or blending of refined products with crude is not permitted unless written authority is granted by the RRC’s Director of Field Operations following a formal written request for such blending by the Reclamation Plant operator. Any deliveries made containing products or crude blended with products must be clearly identified on the RRC Form R-2 as “Products” or “Crude Blended with Products.”

C. The removal of tank bottoms or other hydrocarbon wastes from the facility for which a monthly report (Form R-2) is not filed with the RRC must be authorized in writing by the RRC prior to such removal. A written request for such authorization must be sent to Technical Permitting in Austin, and must detail the location, description, estimated volume, and specific origin of the material removed, as well as the name of the reclaimer and intended destination of the material.

D. The receipt of any tank bottoms or other hydrocarbon wastes from outside the State of Texas must be authorized in writing by the RRC prior to such receipt. Written approval from the RRC is not required if another regulatory agency indicates, in the appropriate monthly report, a corresponding delivery of the same material.

E. The reclamation facility must be clearly identified with signs showing the name of the plant operator and the permit number in letters and numerals at least three inches in height.
IV. CONSTRUCTION AND GENERAL OPERATIONS

A. The general layout and arrangement of the facility shall be consistent with the “Plan View (Exhibit B)” schematic, received on January 9, 2017, which is attached to and incorporated into this permit as Permit Appendix B.

B. The facility shall consist of the following waste management units and designations:

1. Tank Farm Area:
   a. Seven 500-bbl BS&W tanks;
   b. Nine 500-bbl Crude Oil tanks; and
   c. Two 500-bbl Produced Water tanks.

2. Frac Tank Area:
   a. Eight 500-bbl BS&W Frac tanks.

3. Washout Area:
   a. One 300-bbl Wash tank; and
   b. One Poly tank.

4. Other Processing Equipment:
   a. One Tricanter Centrifuge;
   b. One Heat Exchanger; and
   c. One Shaker.

C. The reclamation facility and the tanks listed above are limited to having no more than 13,300 bbls of unprocessed and processed oil and gas waste resulting from the reclamation process onsite at any given time.

D. No additional equipment may be added without prior written approval by Technical Permitting in Austin. A request for any additional equipment must be submitted in writing to Technical Permitting for review.

E. All wastes generated by reclaiming operations shall be disposed of in an authorized manner.

F. No waste, treated or untreated, may be placed on the ground. All untreated and treated waste must be stored in steel tanks or in steel, water-tight roll-off boxes.

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

H. Any chemical used in the treatment process shall be stored in vessels designed for the safe storage of the particular compound and these vessels shall be maintained in a leak free condition.
I. All storage tanks, equipment and roll-off boxes must be maintained in a leak-free condition. If inspection of a tank or storage vessel reveals deterioration or leaks, the tank must be repaired before resuming use of the tank.

J. Berms or containment structures must be constructed around all waste management units and must be compacted or constructed of material that meets or exceeds 95% Standard Proctor (ASTM D698) or 90-92% Modified Proctor (ASTM D1557) density. Each berm shall maintain a slope no steeper than a three to one (horizontal to vertical) 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 Storm Water Management requirements specified in Permit Condition V.

K. All the storage tanks containing fluid waste or fuel shall be contained within dikes. Secondary containment of 120% total storage capacity is recommended, however a firewall capacity that will capture 100% of the volume of the largest tank plus the volume of a 25 year/24-hour rainfall event for Ward County is acceptable.

L. Each month an inspection of the entire facility must be performed on all concrete slabs, firewalls, processing equipment, berms, and aboveground storage tanks for deterioration, leaks and spills. Records of each inspection must be kept on-site and submitted as part of the Quarterly Report required by Condition I.R. of this permit.

M. The following records must be submitted and maintained for a period of three (3) years from the date of the inspection as required by Condition IV.L.:

1. The results of the monthly inspection of concrete slabs, berms and firewalls within the facility for evidence of deterioration, leakage, or storm water run-on, and a description of the corrective action taken, if any.

2. The results of the monthly inspection of process equipment, tanks, and roll-off boxes for evidence of deterioration or leakage, and a description of the corrective action taken, if any.

3. The results of the monthly inspection of waste levels within the storage areas, tanks, and roll-off boxes, and a description of the corrective action taken, if any.

V. STORM WATER MANAGEMENT

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

B. A discharge permit from the EPA may be required for non-contact storm water discharges. If required, the permit from the EPA must be in place prior to commencement of discharge operations.
C. This permit does not authorize the discharge of oil and gas waste or storm water that has come into contact with oil and gas waste.

D. Any storm water that has accumulated within the firewalls for storage tanks or within any pit or waste management unit will be considered contact storm water. Contact storm water must be collected and containerized within 24 hours and disposed of in an authorized manner.

E. The site must be graded so that non-contact storm water within the facility is conveyed away from the waste management units.

VI. FACILITY CLOSURE

A. Technical Permitting and the appropriate 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 other waste related materials must be processed and removed from the facility for authorized reuse or disposed of in an authorized manner.

C. Processing equipment, aboveground storage tanks and associated piping, and any other relevant equipment must be removed from the facility in an authorized manner.

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

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

F. Closure of the Processing/Reclamation and Storage Areas shall be as follows:

1. All aboveground storage tanks and any other equipment must be removed from the area in an authorized manner.

2. All concrete shall be steam cleaned, demolished and the concrete rubble and washwater must be disposed of in an authorized manner.

3. 12 inches of soil from beneath the tanks and concrete shall be excavated, removed and disposed of in an authorized manner.

4. After soil removal, four representative soil samples must be obtained from the Tank Farm Area, four representative soil samples must be obtained from the Frac Tank Area, and four representative soil samples must be obtained from the Washout Area. These soil samples must be analyzed for the Parameters listed in Condition VI.G. of this permit. Additional soil must be removed in any area where the Parameters Limitations have been exceeded.
G. Soil samples required by Permit Condition VI.F., must be analyzed for the following parameters and shall not exceed the specified limitations:

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>LIMITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (EPA Method 9045C)</td>
<td>6 to 10 standard units</td>
</tr>
<tr>
<td>Electrical Conductivity (EC) ¹</td>
<td>≤ 4.0 mmhos/cm</td>
</tr>
<tr>
<td>Total Petroleum Hydrocarbons (TPH) (EPA Method 5035A/TX1005)</td>
<td>≤ 10,000 mg/kg or 1% by weight</td>
</tr>
<tr>
<td>Total Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (EPA Method 5035A/8021/8260B)</td>
<td>≤ 30 mg/kg</td>
</tr>
<tr>
<td>Metals (Total) (EPA Method 6010/6020/7471A)</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 Condition VI.F. must include:
   a. A map drawn to scale with coordinates of the sampling locations;
   b. A table indicating the results of the parameters sampled;
   c. The date of sampling;
   d. The approximate depth of the sample below land surface;
   e. Copies of the laboratory analytical reports and the corresponding chain of custody.

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

¹ Louisiana Department Natural Resources (LDNR) Lab Procedures for Extraction and Analysis of Exploration and Production (E&P) Waste or equivalent
J. Once the results of the closure activities have been approved by the RRC the final surface grading of the facility must be accomplished in such a manner that rainfall will not collect at these former waste storage locations. Upon final closure, the appropriate District Office and Technical Permitting in Austin shall 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 April 7, 2017

Grant Chambless, P.G., Manager
Environmental Permits & Support
Technical Permitting

Attachments:
Appendix A (Form R-9)
Appendix B (Plan View (Exhibit B))

Cc:
RRC District 8A, Midland
Reporting Log – Austin
RRC - Production Audit Austin

Notes:

1. The financial security for this facility has been increased from $90,166.72 to $463,177.00; additional tanks were added to the facility, and several tanks exhibited NORM readings more than 50 µR/hour.

2. The facility has added six 500-bbl above-ground steel tanks, and eight 500-bbl frac tanks.

3. The allowable capacity of unprocessed and processed oil and gas waste onsite has been increased from 6,000 bbls to 13,300 bbls.

4. The facility is required to submit Quarterly Reports, in accordance with Permit Condition I.R.

5. The number of samples required for facility closure has increased, due to the increase in waste storage areas.
PERMIT APPENDIX A

Application for Permit to Operate a Reclamation Plant
(Form R-9)
**RAILROAD COMMISSION OF TEXAS**
**Oil and Gas Division**

**APPLICATION FOR PERMIT TO OPERATE A RECLAMATION PLANT**

<table>
<thead>
<tr>
<th>1. OPERATOR NAME, exactly as shown on P-5 Organization Report</th>
<th>2. OPERATOR P-5 NO.</th>
<th>3. RRC DISTRICT NO.</th>
<th>4. COUNTY OF PLANT LOCATION</th>
</tr>
</thead>
</table>
| Lakeview Energy Solutions LLC                                 | 4836003              | 08                  | WAR | DRAFT
| 5. OPERATOR ADDRESS, including city, state, and zip code      |                      |                     |     |
| 445 S. Lewis Avenue, Suite 200                              |                      |                     |     |
| Tulsa, OK 74136                                              |                      |                     |     |
| 6. PURPOSE OF PLANT                                          |                      |                     |     |
| □ New permit for new facility. Estimated completion date:    |                      |                     |     |
| □ New permit for existing facility. Name of previous operator: Tero Energy LLC |                      |                     |     |
| □ One-time renewal of existing permit serial/registration (R-2) no. |                      |                     |     |
| 7. TYPE OF FACILITY                                          |                      |                     |     |
| □ Permanent                                                  |                      |                     |     |
| □ Portable                                                   |                      |                     |     |
| 8. Driving directions from the nearest town (identify town)  |                      |                     |     |
| Eight miles north of Monahans, TX on Hwy 18. Left-hand side of road. |                      |                     |     |
| 9. Brief description of treating process                     |                      |                     |     |
| flotation tank used separate crude slop wastewater into oil water + solids |                      |                     |     |
| 10. Material transported to plant in: (see list, No. 8)      |                      |                     |     |
| □ vehicles owned by applicant                                |                      |                     |     |
| □ for-hire vehicles                                          |                      |                     |     |
| □ both applicant's and for-hire vehicles                     |                      |                     |     |
| 11. Identify all oil and/or gas-related facilities located within 100 yards of facility. (example: well, pipeline, subwater disposal facility, tank battery, etc.) |

**CERTIFICATION**

I certify under penalties prescribed in Sec. 91, 143. Texas Natural Resources Code, that I am authorized to make this report, that it was prepared by me or under my supervision and direction, and that the data and facts stated herein are true, correct, and complete to the best of my knowledge.

<table>
<thead>
<tr>
<th>SIGNATURE</th>
<th>OPERATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie Buxton</td>
<td>Business Development</td>
</tr>
</tbody>
</table>

**TO BE COMPLETED BY RAILROAD COMMISSION PERSONNEL**

This permit is valid until cancellation under either of the following conditions:

1. The above named operator requests cancellation in writing.
2. The commission cancels the permit after notice and opportunity for hearing because:
   a. the permit facility has been inactive for 12 months, or
   b. there has been a violation or a violation is threatened of any provision of the permit, the conservation laws of the state, or rules or orders of the Commission.

This permit is non-transferable. The financial assurance filed in support of this application shall be renewed and continued in effect until its conditions have been met or release is authorized by the Commission. The facility schematic diagram is to be kept with this permit. Permit and diagram are to be kept at facility.

**Serial/registration no.**

| 9008-1102 |

**issue/renewal effective**

| October 31, 2014 |

**by**

| C.L. Grant Chambers |

**Signature of RRC representative**

| (812) 463-3840 |

**Name (print or type)**

**Phone No.**

**ALL WASTES GENERATED BY RECLAIMING OPERATIONS SHALL BE DISPOSED OF IN ACCORDANCE WITH STATEWIDE RULES, 8, 9, AND 46 (RELATING TO WATER PROTECTION, DISPOSAL WELLS, AND FLUID INJECTION)**
PERMIT APPENDIX B

Plan View (Exhibit B)