RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

PERMIT TO RECLAIM OILFIELD RELATED HYDROCARBONS

AMENDED
Permit No. R9 08-1802A
Supersedes the permit issued on
August 15, 2019

SPECTRUM OILFIELD SOLUTIONS, LLC
11807 WESTHEIMER RD
STE 550-506
HOUSTON TX 77077

Based on information contained in the application by Spectrum Oilfield Solutions, LLC, received on February 14, 2019, the amendment request, received on December 12, 2019, and subsequent information received to date, you are hereby authorized to store, handle, treat and reclaim oilfield related hydrocarbons as designated herein:

**Permit to Reclaim Oilfield Related Hydrocarbons**
Ector County – Wildcatter Reclamation Facility
T&P RR CO Survey, Section 44, A-836
Latitude, Longitude: 31.78051°, -102.483374°
Ector County, Texas
RRC District 08, Midland

**NARRATIVE DESCRIPTION OF PROCESS:**
Incoming oil and gas wastes are separated into water, oil, and solid fractions by means of thermal, physical, and chemical processes. The incoming waste is off-loaded into the truck off-loading area where the waste is pumped to the separation tanks for gravity separation and then transferred to the storage tanks. The separated liquids and viscous solids are heated and sent to a three-phase centrifuge, which separates the mixture into oil, wastewater, and solid fractions. The separated solids are transferred to an open tank for staging prior to transportation for off-site authorized disposal. The separated wastewater is stored in the water tanks before being transported to an authorized Class II injection well for disposal. The recovered oil fraction is stored in oil tanks and sold.

Authority is granted by the Railroad Commission of Texas (RRC) to store, handle, treat and reclaim certain nonhazardous oil and gas wastes and reclaim oilfield related hydrocarbons in accordance with Texas Administrative Code (TAC) Title 16, Part 1, Chapter §3.57 (Statewide Rule 57) and is subject to the following minimum conditions:
I. General Permit Conditions

A. This authority granted by this permit is effective **January 29, 2020**.

B. In accordance with TAC, Title 16, Part 1, §3.78 (Statewide Rule 78) the permittee must maintain financial security in the amount of **$77,305.00** 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 addition financial security must be filed with and approved by the RRC prior to making that modification.

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

D. 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.

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

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

G. 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) attached as **Permit Appendix A** and attachments thereto. Authority is granted for the active reclaiming of oil field related hydrocarbons and does not cover reclamation of any refined products. Commingling or blending of refined products with crude oil or condensate is not permitted unless written authority is granted following a formal written request for such blending by the Reclamation Plant operator. Any deliveries made containing refined products or crude blended with refined products must be clearly identified on the RRC Form R-2 as “Products” or “Crude Blended with Products.”

H. 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: (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.

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

K. 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.

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

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

N. This permit is nontransferable by Statewide Rule 57 (c) (9). A new permit must be obtained by the new operator.

O. The permittee must submit a Quarterly Report according to the following:
   1. The report must contain applicable information as required in Permit Conditions III.H. and IV.M.
   2. The quarterly reporting periods must be January 1 through March 30, 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 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.

P. The permit to operate a reclamation plant 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).

Q. 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. Authorized Wastes

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

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

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

C. 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.

D. No oil and gas Naturally Occurring Radioactive Material (NORM) waste as defined in 16 TAC, Part 1, §4.603, or waste from a facility that is licensed by the Texas Department of State Health Services to handle, process or treat oil and gas NORM waste, may be received at this facility.

E. 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.

F. The receipt of any tank bottoms or other hydrocarbons wastes from outside the State of Texas must be authorized in writing by the RRC prior to such receipt. Written approval is not required if another regulatory entity with jurisdiction over the waste will indicate, in the appropriate monthly report, a corresponding delivery of the same material.

G. The removal of tank bottoms or other hydrocarbon wastes from the facility for which monthly reports are 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 reclamer and intended destination of the material.

H. 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 approved 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. For the purposes of this permit a representative sample of incoming waste is defined as one grab sample from each 50 cubic yards of waste material from each job (e.g., from each well, pit, spill location).
B. Each load of incoming waste, other than water-based drilling fluids and associated cuttings, or oil-based drilling fluid 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 complies with 25 TAC §289.259, Texas Regulations for Control of Radiation (TRCR Part 46). Manufacturer's specifications must be submitted to Technical Permitting for equivalent devices used for NORM detection. 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.

C. The operator of the Reclamation Plant must conduct a shakeout test on all tank bottoms and 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. The shakeout test must be conducted in accordance with the most current American Petroleum Institute (API) or ASTM International method.

D. Prior to receipt at the site, representative samples of waste from commercial oil and gas facilities and reclamation plants must be analyzed for either of the Parameters listed below and may not exceed the Limitation for the respective Parameters:

<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>

OR

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>LIMITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extractable Organic Halides (EOX)</td>
<td>100 mg/kg</td>
</tr>
<tr>
<td>(EPA Method 9023)</td>
<td></td>
</tr>
</tbody>
</table>

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

E. Details of receipts of deliveries for incoming waste to be processed at the Reclamation Plant and the stock on hand (available for re-sale) must be reported monthly on the Form R-2, "Monthly Report for Reclaiming and Treating Plants". Submit the original Form R-2 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 must be completed in accordance with Statewide Rule 57.

F. 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 the 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.B., III.C. and III.D. above

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

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

H. 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.O. 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.F.1.a, III.F.1.b., and III.F.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.B., III.C., and III.D. above

IV. Reclamation Plant and Unloading Area Construction and Operation

A. The general layout and arrangement of the facility must be consistent with the "Spectrum Oilfield Solutions LLC Reclamation Plant Site Diagram" diagram, received on December 12, 2019, which is attached as Permit Appendix B.

B. The reclamation facility must be clearly identified with signs showing the name of the plant operator and permit number in letters and numerals at the least three inches in height.

C. Prior to beginning operations, the facility must have procedures in place to prevent unauthorized access. Access must 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.

D. The facility must consist of the following waste management units and designations:

   1. Truck Offloading Area
   2. Processing/Solids Storage Area
      a. One 52 cubic yard Steel Solids Tanks
      b. Three 500 bbl Solids/Liquids Separating Tank
      c. One 20-foot by 30-foot by 6-inch reinforced concrete slab
      d. One Centrifuge and Stand
      e. One 500 gal Produced Water Tank
      f. One 500 gal Oil Sales Tank
   3. Liquids Storage Area
      a. Seven 400 bbl Storage Tanks
      b. One Heating Unit
      c. One Wilsa Electromagnetic Unit
   4. Disposal/Sales Storage Area
      a. Three 400 bbl Produced Water Tanks
      b. Two 400 bbl Oil Sales Tanks
      c. One Wilsa Electromagnetic Unit

E. The reclamation facility and the tanks listed above are limited to having no more than 6,800 bbls of unprocessed and processed oil and gas waste and 52 cubic yards of solids from the reclamation process onsite at any given time.
F. 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.

G. All wastes generated by reclaiming operations must be disposed of in an authorized manner.

H. 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.

I. Any spill of waste, treatment chemicals, 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.

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

K. 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 nor leaks, the tank must be repaired before resuming use of the tank.

L. 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 x 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.

M. Each month an inspection of the entire facility must be performed on all concrete slabs, firewalls, processing equipment, berms, and above ground storage tanks for deterioration, leaks and spills. 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 records must be submitted as part of the Quarterly Report required by Permit Condition I.O. of this permit.

1. The results of the monthly inspection of liners, berms and firewalls within the facility for evidence of deterioration, leakage or stormwater 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. Stormwater Management

A. The facility must be surrounded by a steel containment berm that is at least two (2) feet in height. The berm must installed and constructed to contain contact stormwater and prevent run-on of non-contact stormwater.

B. All storage tanks containing fluid waste or fuel must 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 Ector County is acceptable.

C. Any stormwater than has accumulated within the firewalls for storage tanks or within any pit will be considered contact stormwater. Contact stormwater must be collected and containerized within 24 hours and disposed of in an authorized manner or used in the treatment process.

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

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 closure activities beginning.

B. At facility closure, all waste, chemicals, and other waste 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.

F. Closure of the Reclamation Plant must be as follows:

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

2. Twelve (12) inches of soil from beneath the aboveground storage tanks must be excavated, removed and disposed of in an authorized manner.
3. After soil removal, a soil sampling plan must be submitted to Technical Permitting to characterize the scope of any residual contamination at the facility. After the removal of wastes, composite soil samples must be taken comprised of a number of samples that is representative of acreage and number of former waste management units. Samples must be taken from around and underneath the former Reclamation Plant.

4. These soil samples must be analyzed for the parameters listed in Permit Condition VI.G. Additional soil must be removed in any area where the parameters limitations have been exceeded.

G. All soil samples 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 (EPA Method 9045C)</td>
<td>6 to 10 standard units</td>
</tr>
<tr>
<td>Electrical Conductivity (EC)</td>
<td>≤ 4.0 mmhos/cm</td>
</tr>
<tr>
<td>Total Petroleum Hydrocarbons (TPH)</td>
<td>≤ 10,000 mg/kg or 1% by weight</td>
</tr>
<tr>
<td>(EPA Method 5035A/TX1005)</td>
<td></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:

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; and
5. Copies of the laboratory analytical reports and chain of custody.

1 Louisiana Department Natural Resources (LDNR) Lab Procedures for Extraction and Analysis of Exploration and Production (E&P) Waste or equivalent
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.

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 locations. Upon final closure, the appropriate 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 **January 29, 2020**

Tiffany Humberson, Manager  
Environmental Permits & Support  
Technical Permitting

**Attachments:** Appendices A and B

**CC:** RRC District 08, Midland

**Notes:**
1. Amended the waste process narrative.
2. Updated waste management units and designations.
3. Reduced sample requirements.
PERMIT APPENDIX A

APPLICATION FOR PERMIT TO OPERATE A RECLAMATION PLANT
(FORM R-9)
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.

Serial/registration no: R9-0818024

Facility Name: Wildcatter Reclamation Ector Co Facility

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

SPECTRUM OILFIELD SOLUTIONS LLC
RECLAMATION PLANT SITE DIAGRAM
Spectrum Oilfield Solutions LLC
Reclamation Plant Site Diagram
Drawn by: Bart A. Huffman, P.E., November 21, 2019

Area of Site Measures ~115 ft X 210 ft
Area of Secondary Containment Measures ~ 95 ft X 170 ft

Tank Identification
A = 1 250 Bbl Horizontal Open Steel Solids Tank
B = 2 500 Bbl Horizontal Steel Solids/Liquids Separating Tank - 8' Wide X 44' Long X 8.5' Tall
C = 3 Elevated All-Weather Totes - 350 gallon Poly Totes
D = 7 400 Bbl Vertical Steel Closed Top AST's
E = 1 500 Bbl Horizontal Steel Solids/Liquids Separating Tank - 8' Wide X 44' Long X 8.8' Tall
F = 1 Centrifuge & Stand
G = 2 Wilsa Electromagnetic Units 8'6" X 4'2"
H = 1 750,000 BTU Propane fired Heating Unit 4'7" Wide X 17' Long
PW = 3 400 Bbl Vertical Steel Closed Top AST's, 1 500 gallon poly AST - Produced Water
S = 2 400 Bbl Vertical Steel Closed Top AST's, 1 500 gallon poly AST - Oil Sales