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RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PERMIT TO STORE, HANDLE, TREAT AND RE-USE CERTAIN NON-HAZARDOUS OIL AND GAS WASTES

Permit No. MR-0024

Amended
Supersedes Permit Issued
June 14, 2013

ECO ENVIRONMENTAL SERVICES LLC
ATTN: MARK KNIPPA
800 BERING DRIVE SUITE 250
HOUSTON, TX 77057

Re: Authorization for On-Lease Commercial Solid Oil and Gas Waste Recycling
State of Texas
Districts 1, 2, 3, 4, 5, 6, 7B, 7C, 8, 8A, 09, and 10

Based on information contained in your original application received May 21, 2012, amendment request dated September 9, 2013 and subsequent information received to date, you are hereby authorized to store, handle, treat and re-use certain oil and gas waste as specified below for re-use for the following load-bearing structures in the referenced Commission Oil and Gas Districts: lease roads, drilling pads, tank batteries, compressor station pads, and county roads.

The permittee will treat waste on oil or gas leases for reuse. Untreated waste will be stored in a reserve pit or a lined surface storage cell on natural grade. Waste shall be mixed in the storage cell or pit using a hopper using bioremediation agents. The waste will then be mechanically mixed with a stabilizing agent. Partially treated waste will then be stored in a mobile container or tote bag inside the storage area or reserve pit. Waste that has passed testing parameters, will be marked as recyclable product and remain on site until used on site or taken off site to be used as roadbase. This authority is granted in accordance with 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 November 1, 2013.

B. The authority granted by this permit expires on June 13, 2018.

C. The Commission may consider this permit for administrative renewal upon review.

D. Any request for renewal should be received at least 60 days prior to the permit expiration date. The Commission may consider administrative renewal of the permit upon review.

E. This permit is not transferable without the consent of the Commission. Any request for transfer of this permit should be filed with Technical Permitting in Austin at least 60 days before the permittee wishes the transfer to take place.

F. The permittee is responsible for:

1. Managing recyclable product generated by the recycling unit and until custody of the recyclable product is either transferred to a buyer for reuse use or it is disposed of in an authorized manner;

2. Ensuring the proper management of any oil and gas waste or partially treated waste generated by the treatment until it is treated for reuse and custody is transferred to a buyer or the generated waste resulting from the treatment is disposed of in an authorized manner;

3. Remediating any soil, surface water or ground water affected by spills or leaks resulting from activities associated with the recycling unit; and

4. Diverting stormwater away from the treatment area or collecting and disposing of any stormwater that is contaminated as a result of contact with recyclable product, oil and gas waste, or partially treated waste generated by the recycling unit until custody of the recyclable product or waste is transferred to a buyer for reuse.

G. This permit does not authorize the discharge from the treatment sites of any oil and gas waste, including contaminated stormwater.

H. The treated oil and gas waste must be mixed, stored, handled and applied in such a manner that the treated waste will not migrate off the site or enter any drainage ditch, dry creek, flowing creek, river or any other body of surface water.

I. Material Safety Data Sheets must be submitted to the Austin Office and the appropriate District Office for any chemical or biological agents proposed to be used in the treatment of waste. Use of the chemical or biological agent is contingent upon Commission approval.

J. Any soil, media, or other debris contaminated by a spill of waste or any other materials at any treatment site must be cleaned up immediately and processed through the recycling unit or disposed of in an authorized manner.

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

L. Failure to comply with any provision of this permit will be cause for modification, suspension or termination of this permit. This permit may be canceled if Technical Permitting determines that the permittee is in violation of the conditions of this permit or if permittee's operations pursuant to the permit are causing or allowing pollution of surface or subsurface water.

M. Unless otherwise required by conditions of this permit, construction, use, and maintenance of the treatment sites must be in accordance with the information represented in the permit application and attachments thereto.

N. An independent laboratory neither owned nor operated by the permittee must conduct any analysis of sampling required by this permit.

II. TRIAL RUN

The permittee must demonstrate the ability to successfully process, using this recycling unit, 1,000 cubic yards of waste before any additional waste may be received or processed.

A. Technical Permitting in Austin and the appropriate District Office must be notified in writing at least 72 hours before waste processing begins.

B. A composite sample of at least four sub-samples obtained at 200 ton intervals from the first 1,000 cubic yards to be processed at the well site(s) must be collected and analyzed for Wet Ball Mill value, liquid limit, and plasticity index. The testing must be conducted using TxDOT approved methods. The sample must not exceed a Wet Ball Mill value of 45 percent. The sample must not exceed a liquid limit of 40 percent. The sample must not exceed a plasticity index of 12.

C. A written report of the Trial Run must be submitted to Technical Permitting in Austin and the appropriate District Office within 60 days of receipt of the analyses required in Condition IV.D.2. The following information must be included:

1. Summary of Trial Run and report contents;
2. Volume of waste material processed;
3. Volume of stabilization material used; and
4. Copies of all lab analyses required by Conditions and II.B. and IV.D.2.

D. The final processed material must meet the limitations of Conditions IV.D.2.

E. No additional waste may be received or processed, and any roadbase produced during the Trial Run may not be used until Technical Permitting has received the Trial Run report and provides written confirmation that the Trial Run requirement has been fulfilled.

III. AUTHORIZED WASTES

A. Only oil and gas wastes subject to the jurisdiction of the Railroad Commission of Texas that are non-hazardous or exempt from RCRA, Subtitle C may be received. You may receive, store, handle, treat and process only the following non-injectable, non-reclaimable oil and gas wastes:

1. Water-based drilling fluids and associated cuttings;
2. Oil-based drilling fluids and associated cuttings; and
3. Soils contaminated with produced water, crude oil, or condensate.

B. Fresh water, non-VOC asphalt emulsion, inert aggregate, calcium oxide, calcium hydroxide, calcium carbonate, magnesium hydroxide, magnesium oxide, magnesium carbonate, fly ash, lime, kiln dust, cement kiln dust, and Portland cement may be stored appropriately in pits or aboveground storage tanks at any treatment site as required in the manufacturing of stabilized roadbase at any treatment site.

C. No asbestos-containing material regulated under the Clean Air Act or PCB-containing (polychlorinated biphenyls) material regulated under the Toxic Substances Control Act may be accepted for processing at any treatment site.

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

IV. SITING, CONSTRUCTION, OPERATION AND PROCESS CONTROL

A. SITING

1. The storage cells at the treatment sites and the location at the receiving sites must not be located:
   a. Within a 100 year floodplain;
   b. In a streambed; and
   c. In a sensitive area as defined by 16 TAC §3.91.
2. The storage cells at the treatment sites and the location at the receiving sites must be located:
   a. Above the top of the seasonal high water table;
   b. At least 150 feet from surface water; and
   c. At least 150 feet from public, domestic, or irrigation water wells.

B. CONSTRUCTION

1. The storage cells and pits located at the treatment sites must be designed to prevent stormwater runoff from entering the area.
2. The storage cells and pits located at the treatment sites must be surrounded by berms with a minimum height of two (2) feet and a minimum width at base of three (3) times the height.
3. If the treatment areas located at the receiving sites are constructed with a berm, the berm must be constructed to not allow seepage.
4. The combined volume of untreated waste and partially treated waste must not exceed 10,000 cubic yards at all treatment sites.
5. The combined volume of recyclable product must not exceed 10,000 cubic yards at all treatment sites.

C. OPERATION

1. The permittee must notify the appropriate District Office prior to operations commencing at each location. Notification must include the location of the site in latitude and longitude in decimal degrees accurate to four decimal places using the WGS 84 datum. Notification must also include waste generator information including Lease Number or Gas I.D. Number and Well Number, API Number, or Pipeline T-4 Number. The permittee may commence operations under the permit 72 hours after notice to the appropriate District Office.
2. The permittee must obtain written permission from the surface owner of the lease upon which recycling will take place.

3. Waste generated from no more than four wells may be treated at any one site.
4. Treatment must only occur on oil or gas leases or drilling units owned by the same operator who generated the waste.
5. Untreated waste and partially treated waste must be stored in lined above ground storage cells or any pit authorized for these waste types by Statewide Rule 8. Reserve pits authorized by Rule 8 cannot store waste generated outside of the well site. The aforementioned liner must meet one of the following specifications:
    a. HDPE liner with a thickness of at least 30 mils;
    b. Concrete liner with a thickness of at least six (6) inches; or
    c. Compacted clay liner with a thickness of at least two (2) feet, compacted to 95% Standard Proctor compaction.
6. The permittee must obtain written permission from the county commissioners prior to re-using the treated waste on county roads.
7. Waste must be mixed and stabilized at the treatment site with appropriate amounts or mixtures of non-VOC asphalt emulsion, inert aggregate, calcium oxide, calcium hydroxide, calcium carbonate, magnesium hydroxide, magnesium oxide, magnesium carbonate, fly ash, lime, kiln dust, cement kiln dust, and/or Portland cement. Mixing must be done mechanically with a trackhoe, dozer, pug mill, and/or comparable machinery.
8. Excess rainwater collected within a bermed area must be removed and disposed of in an authorized manner.
9. To maintain adequate segregation of the final treated material until laboratory results are received and demonstrate that the material meets permit specifications for use as road base, there must be at least five (5) foot spacing between recyclable product and partially treated waste or untreated waste. Each 800 ton group of waste used for Process Control sampling must maintain at least five (5) feet of spacing from other 800 ton groups. Each 800 ton group of recyclable product must be labeled with a sign identifying its unique lot identification number and corresponding laboratory analysis number. As compliant test data is received, the words "OK FOR USE" will be placed on the appropriate lot number sign for the compliant lot.
10. The recycling unit may operate at a single lease for no longer than one (1) year. Within the following 60 days: all processing equipment must be removed; all untreated waste, partially treated waste, and waste water must be disposed of in an authorized manner; all recyclable product must be reused or disposed of in an authorized manner; and final grading and site restoration must be completed.
11. Appropriate measures must be taken to control dust at all times.
12. Inspections must be conducted weekly during recycling operations. If an inspection indicates a leak in any tank or berm, it must be repaired immediately.

D. PROCESS CONTROL

1. Bench scale tests must be performed as needed to determine optimum mixing design.

2. A sample of the final treated material must be tested for the parameters listed below for every 800 tons of material produced. The 800 ton lot sample must be composed of a composite of four sub-samples obtained at 200 ton intervals. Each 800 ton lot sample must be analyzed for the following parameters:

PARAMETER	LIMITATION
Compressive Strength by a TxDOT-approved method:	≥ 35 psi
SPLP by EPA Method 1312:	
Arsenic	< 5.000 mg/l
Barium	< 100.00 mg/l
Cadmium	< 1.00 mg/l
Chromium (total)	< 5.00 mg/l
Lead	< 5.00 mg/l
Mercury	< 0.20 mg/l
Selenium	< 1.00 mg/l
Silver	< 5.00 mg/l
Zinc	< 5.00 mg/l
Benzene	< 0.50 mg/l
LDNR Leachate Test Method 1:4 Solid Solution:	
Chlorides	< 700.00 mg/l
TPH	< 100 mg/l
pH	6 – 12.49 (s.u.)

3. Any material not meeting the limitations in Condition IV.D.2. must be returned to the recycling process and reprocessed or disposed of in an authorized manner.

4. Processed material meeting Process Control parameters listed in Condition IV.D.2. is suitable for use as roadbase on lease roads, drilling pads, tank batteries, compressor station pads, and county roads. Recyclable product must not be used as road surface on county roads.

V. RECORDKEEPING AND REPORTING REQUIREMENTS

A. Records must be kept of all waste treated for a period of three (3) years from the date of treatment. These records must include the following:

1. Name of the generator;

2. Source of the waste (Lease Number or Gas I.D. Number and Well Number, API Number, or Pipeline T-4 Number and county);

3. Date the waste is treated at the treatment site;
4. Volume of the waste treated at the treatment site;
5. Latitude and longitude in decimal degrees of each treatment site accurate to four decimal places using the WGS 84 datum;
6. Date recyclable product is removed to the receiving site;
7. Volume of recyclable product removed to the receiving site;
8. Name of the carrier;
9. Documentation indicating the approximate location where processed material is used including a topographic map showing the location of the area;
10. Documentation that the landowner of the receiving location has been notified of the use of the processed material on the landowner's property if the recyclable product is used on private land;
11. Documentation that the lease operator has approved the recycling operation on their lease and assumes responsibility for the use of the recycled material in a matter consistent with its authorized use or its disposal in an authorized manner in the timeframe specified in Condition IV.C.10. if the recyclable product is used on an oil or gas lease;
12. Documentation that the county commissioners have approved the use of the processed material on the county roads if the recyclable product is used on county roads; and
13. Copies of analyses demonstrating that the recyclable product has met the limitations in Condition IV.D.2.

B. A copy of the records required in Condition V.A. must be submitted to Technical Permitting in Austin as part of the Quarterly Report required in Condition V.C. of this permit. If no waste was treated within a reporting period, a written statement indicating that no waste was treated must be submitted to Technical Permitting in Austin as part of the Quarterly Report required in Condition V.C. of this permit.

C. The permittee must submit a Quarterly Report containing the applicable information required in Conditions IV.C.1. and V.B. of this permit and a Report Summary.

The first Quarterly Report must cover the period beginning on the effective date of the permit and ending September 30, 2013. The reporting periods must thenceforth 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.

The Quarterly Reports must be submitted to Technical Permitting in Austin and the appropriate District Office no later than the 31st day of the month following each reporting period, or each May 1, July 31, October 31, and January 31, respectively.

VI. CLOSURE

A. All reserve pits must be closed as required by Rule 8.

B. All processed material must be applied and re-used for lease roads, drilling pads, tank batteries, compressor station pads, or county roads or must be disposed of in an authorized manner.

C. All unused free standing waste water remaining in any storage cell at a treatment site must be disposed of in an authorized manner.

D. All equipment and materials brought onsite for the purpose of recycling must be removed from each site and any dikes leveled or removed.

E. The contents of any vessels or other containers must be disposed of in an authorized manner.

Doug Johnson, P.E., Assistant Director
Environmental Permits and Support
Technical Permitting

cc: All RRC Districts

Notes:

1. The requirement to test the product for wetting and drying durability was removed because the test is not applicable to a product that does not contain cement.
2. Wet Ball Mill value, liquid limit, and plasticity index requirements were added to the trial run requirements, so that the product meets TxDOT standards for Grade 2 flexible base found in Table 1, Item 247 of "Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges".
3. The requirement that the recyclable product must not be used as road surface on county roads was added.