



RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

AMERICAN OIL RECOVERY, L.L.C.
3201 ATKINSON
LUFKIN TX 75901

Re: Permit for Stationary Treatment Facility - Includes
Roadbase Processing Operation
American Oil Recovery, L.L.C. Facility Operating
on Verdant Industries, L.L.C. Property Pursuant to
Permit R9 06-1103
Permit No. STF-056

Based on information contained in your application received December 04, 2012, and subsequent information received to date, you are hereby authorized to receive, store, handle and treat certain non-hazardous oil and gas wastes as specified below at the following facility:

American Oil Recovery, L.L.C. Reclamation Facility East of Lufkin
Holloway Survey, A-310; Jacobs Survey, A-387; Torres Survey, A-607
3869 E. State Highway 103
Angelina County, Texas
RRC District 06

Authority is granted to receive, store, handle, treat, and dispose of certain nonhazardous oil and gas wastes in accordance with Statewide Rule 8 and subject to the following minimum conditions. The permit conditions are organized as follows: Section I – general permit conditions for roadbase operation, and Section II - specific permit conditions for roadbase operation.

I. GENERAL PERMIT CONDITIONS

- A. The effective date of this permit is July 15, 2013.
- B. The authority granted by this permit expires on July 14, 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. This permit does not authorize the discharge from the treatment sites of any oil and gas waste, including contaminated stormwater.
 - G. 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.
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- H. Material Safety Data Sheets must be submitted to the Austin Office and the appropriate District Office for any chemical proposed to be used in the treatment of waste. Use of the chemical is contingent upon Commission approval.
 - I. Any soil, media, or other debris contaminated by a spill of waste or any other materials at the treatment sites shall be promptly cleaned up and processed through the treatment cycle or disposed of in an authorized manner.
 - J. The permittee shall make all records required by this permit available for review and/or copying during normal business hours upon request of Commission personnel.
 - K. Failure to comply with any provision of this permit shall 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.
 - L. 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 a 1,000-cubic-yard batch of solids generated by on-site American Oil Recovery reclamation activities.

- A. Technical Permitting in Austin and the Commission's District 6 Office must be notified in writing at least 48 hours before waste processing begins.
- B. Samples of the processed waste must be collected and analyzed as required by Condition III.D.2.
- C. Samples shall be collected from every 200 cubic yards of a 1000-cubic-yard batch and analyzed for wetting and drying durability by ASTM D 559-96, modified to provide that samples are compacted and molded from finished processed material. Total weight loss after 12 cycles may not exceed 15%.

- D. A written report of the Trial Run must be submitted to Technical Permitting in Austin and the Commission's District 6 Office within 60 days of receipt of the analyses required in Condition III.D.2. The following information must be included:
1. The actual volume of waste material processed.
 2. The volume of stabilization material used.
 3. Copies of all lab analyses required by Conditions III.D.2.
- E. The final processed material must meet the limitations of Conditions III.D.2.
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III. SITING, CONSTRUCTION, OPERATION AND PROCESS CONTROL

A. SITING

1. The storage cells used for recycling may not be located:
 - a. Within a 100 year floodplain.
 - b. In a streambed.
 - c. In a sensitive area.
2. The storage cells used for recycling must be located:
 - a. Above the top of the seasonal high water table.
 - b. At least 100 feet from surface water.
 - c. At least 150 feet from water wells.

B. CONSTRUCTION

1. The storage cell used for recycling, Pit D, shall be designed to prevent stormwater run-on from entering the area.
2. The storage cell used for recycling, Pit D, shall be surrounded by a berm with minimum elevation height of 2 feet above the center of the concrete pad structure on which the pit will be located, and with a minimum wall slope of 1:3 if constructed of earthen materials.
3. If the treatment cell located at the receiving site is constructed with a berm, the height, slope, and construction material of the berm shall be such that it is structurally sound and does not allow seepage.

C. OPERATION

1. The permittee must obtain written permission from the county commissioners prior to re-using the treated waste on county roads.

2. Prior to stabilizing, all untreated tank-bottoms cuttings may be subjected to washing with water, provided that all resulting waste water generated by the washing process is stored in frac tanks and/or other authorized impermeable above-ground containers until disposal via permitted salt-water disposal wells or other state-authorized landfills. Oil-base mud and cuttings shall be mixed with and stabilized on site with appropriate amounts or mixtures of Portland cement, lime, sand, limestone, fly ash and/or aggregate. Mixing shall be done mechanically with a trackhoe, dozer, pug mill, and/or comparable machinery.

3. After stabilizing the mud and cuttings, the waste shall be removed and stored in a storage cell.
4. The waste in the storage cell shall be tested for salinity, metals and hydrocarbons.
5. Excess rainwater collected within a bermed area shall be removed and disposed of in an authorized manner.
6. The recycled material in the storage cell shall be moved to the receiving site, spread using a dozer, and compacted. Appropriate amounts of cement kiln dust, fly ash, lime kiln dust, Portland cement or lime shall then be applied over the compacted waste and mixed with a rototiller. The waste shall then be watered, compacted and bladed. Free standing wastewater from the storage cell may be used to supply all or part of the required water.
7. Upon closure of the solids recycling facility or expiration of this permit, within the following 60 days: all processing equipment and partially treated or recycled material must be reused or removed; final grading and site restoration must be completed; and any waste water that is generated from washing recycling equipment on an as-needed basis must be disposed via injection in permitted salt-water disposal wells or by other state-authorized methods.
8. Appropriate measures shall be taken to control dust at all times.

D. PROCESS CONTROL

1. Bench scale tests shall be performed as needed to determine optimum mixing design.
2. A sample of the final treated material for each receiving site shall be tested by a third-party laboratory for the parameters listed below for every 800 tons of material produced. Each 800-ton sample shall be tested for compressive strength. For the SPLP and 7-Day Leachate Test, each 800-ton lot sample shall be composed of four (4) sub-samples obtained at 200-ton intervals. The samples shall be analyzed for the following parameters:

<u>PARAMETER</u>	<u>LIMITATION</u>
Compressive Strength by Method Tex-113-E, Tex-241-F, Tex-226-F, or Tex-117-E	35 psi minimum

SPLP by EPA Method 1312

Metals

Arsenic (mg/l)	<5.00
Barium (mg/l)	<100.00
Cadmium (mg/l)	<1.00
Chromium (mg/l)	<5.00
Lead (mg/l)	<5.00
Mercury (mg/l)	<0.20
Selenium (mg/l)	<1.00
Silver (mg/l)	<5.00
Zinc (mg/l)	<5.00
Benzene (mg/l)	<0.50

1:4 Solid: Solution 7-Day Leachate Test (LAC 43:XIX.Subpart 1)

Chlorides (mg/l)	<700.00
TPH (mg/l)	<100.00
pH (Standard Units)	6 – 12.49

3. Any material not meeting the limitations in Condition III.D.2. shall be returned to the mixing cycle and reprocessed.
4. Processed material meeting or exceeding process control parameters listed in Condition III.D.2. is suitable for use on lease roads, drilling pads, tank batteries, compressor station pads, and county roads.

IV. RECORDKEEPING AND REPORTING REQUIREMENTS

A. RECORDKEEPING

1. 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:
 - a. Name of the generator.
 - b. Source of the waste (Lease Number or Gas I.D. Number and Well Number, or API Number).
 - c. Date the waste is treated.
 - d. Volume of the waste treated.
 - e. Date waste is removed to the storage cell.

- f. Salinity and TPH of the treated waste and free standing wastewater in the storage cells.
- g. Date treated waste is removed to the receiving site.
- h. Volume of treated waste removed to the receiving site.
- i. Date free standing wastewater is removed to the receiving site.
- j. Volume of free standing wastewater removed to the receiving site.
- k. Name of the carrier.
- l. Identification of the receiving site including the Lease Number or Gas I.D. Number and Well Number, API Number, or County Road Number.
- m. ~~Documentation that the landowner of the receiving location has been notified of the use of the processed material on the landowner's property if used on private land.~~
- n. 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 if used on a lease.
- o. Documentation that the county commissioners have approved the use of the processed material on the county roads if used on county roads.
- p. Copies of analyses demonstrating that the final processed material met the limitations in Condition III.D.2. prior to its application, as specified by, and limited to, those applications defined in Condition III.D.4. Any other application of the recyclable solids must be authorized by amending this permit.
- q. Documentation indicating the approximate location where processed material is used including a topographic map showing the location of the area.

B. REPORTING

1. A copy of the records required in Permit Condition No. IV.A. must be submitted to Technical Permitting in Austin as part of the Quarterly Report required in Condition No. IV.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 No. IV.C. of this permit. For compressive strength analyses, each test report shall contain an explanation of why a specific test method was selected for each sample of final treated material.

C. QUARTERLY REPORT

1. Beginning from the effective date of the permit to September 30, 2013 and every three months thereafter, permittee shall submit a Quarterly Report containing applicable information as required in Conditions III.C.1., III.C.5. and IV.B. of this permit for the previous three month period.
2. The Quarterly Report shall be received no more than 30 days after the end of the reporting period, or every October 30, January 30, April 30, and July 30, respectively.

V. CLOSURE

- A. All processed material must be applied and re-used for lease roads, drilling pads, tank batteries, compressor station pads, or county roads, as specified in Condition III.D.4., or shall be disposed of in compliance with Commission rules.
- B. All unused free standing wastewater remaining in any storage cell shall be disposed of in an authorized manner.
- C. All equipment must be removed from each site and any dikes leveled or removed.
- D. The contents of any vessels or other containers shall be disposed of in an authorized manner.

Failure to comply with any provision of this permit shall 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 the permittee's operations pursuant to the permit are causing or allowing pollution of surface or subsurface water.



Michael Sims, P.E., Manager
Environmental Permits and Support
Technical Permitting

cc: RRC - Kilgore/06