



RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

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

Permit No. **STF-051**
R9-06-1205

TERVITA, LLC
10613 W SAM HOUSTON PKWY N
HOUSTON TX 77064

Based on information contained in your application received June 8, 2012, and subsequent information received to date, you are hereby authorized to receive, store, handle, and treat certain oil and gas wastes as specified below at the following facility:

Commercial Waste Separation Facility and Reclamation Facility
Joaquin Facility
Approx. 111 Acres at H.L. Brooks Survey, A-68 and Kesiah Pettitt Survey, A-574
Latitude, Longitude: 31.96466°, -94.01960°
Shelby County, Texas
RRC District 06, Kilgore

Authority is granted to receive, store, handle, and treat oil and gas wastes in accordance with Statewide Rule 8 and subject to the following minimum conditions:

NARRATIVE DESCRIPTION OF PROCESS:

Incoming waste is offloaded into one of three Unloading Hoppers. The pumpable waste is then pumped via pipe to the Shakers in the process area. Waste collected from the Pump Tank under the Shakers is then pumped to a Receiving Tank. Tests are performed to determine the necessary chemicals for successful separation. Chemicals will be used to adjust pH, and coagulate and flocculate solids in the mixture. After chemical pretreatment, the mixture is processed in the Two-Phase centrifuge to separate the liquid and solid phases. The liquid phase from the centrifuge is conveyed to Decanting Tanks where constituents will gravity separate. Oil is conveyed to the Oil Sales Tank prior to transport to sale. Saltwater is conveyed to Salt Water Tanks, then to Cascade Tanks, and finally to the Discharge Tank prior to transport to an authorized oil and gas waste facility for disposal. Mud is conveyed to Mud Filter Feed Tanks and the Oil Polishing Filter, separating out any other solids, and liquids are returned to the Decanting Tanks. Solid waste and non-pumpable waste separated at various stages at the facility will be loaded directly into roll-off boxes. Solids may be mixed with lime, fly ash, cement or saw dust for stabilization prior to transport to an authorized oil and gas waste facility for disposal.

I. GENERAL PERMIT CONDITIONS

- A. This permit is effective **January 31, 2014**, and expires **January 31, 2019**.
- B. No waste may be received at the referenced facility until financial security in the amount of \$404,000.00 for the Joaquin Stationary Treatment Facility is provided to and approved by the Commission.
- C. No waste may be received at the referenced facility until the monitor wells required by Condition V have been completed. The documentation required by Condition V.A. must be provided to and approved by Technical Permitting within 30 days of installation of the monitor wells.
- D. This permit may be considered for administrative renewal upon request and subsequent review by the Commission.
- E. This permit is **nontransferable** without the consent of the Commission.
- F. The permittee must make all records available for review and copying during normal business hours upon request of Commission personnel.
- G. All laboratory analyses required to be performed in accordance with this permit must be performed using appropriate EPA or Standard Methods by an independent laboratory neither owned nor operated by the permittee.
- H. Failure to comply with any provision of this permit or determination by the Commission that this permit is being abused will be cause for enforcement action including, but not limited to, modification, suspension, or termination of this permit.
- I. The permittee must submit a Quarterly Report containing the applicable information required in Conditions II.B., III., V.B. of this permit. The first Quarterly Report must cover the period beginning on the effective date of the permit and ending March 31, 2014. 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 30th day of the month following each reporting period, or each April 30, July 30, October 30, and January 30, respectively.
- J. Unless otherwise dictated by this permit, construction and operation of the facility must be as represented in the original application and subsequent information received to date by Technical Permitting in Austin.
- K. Any deviation from this permit must be approved by amendment from Technical Permitting in Austin before implementation.
- L. In accordance with Statewide Rule 78, financial security must be provided to the Commission in the amount necessary to close the facility. If any changes are planned to the facility that would increase the cost to close the facility, an updated closure cost estimate and the associated financial security must be submitted to and approved by the Commission prior to implementation of those changes.

- M. 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: 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.
- N. The permittee shall not accept waste from a waste hauler unless the waste hauler has a Commission-issued waste hauler permit and is authorized to deposit waste at this facility.

II. INCOMING WASTES

A. AUTHORIZED WASTES

1. Only the following RCRA-exempt or non-hazardous wastes subject to the jurisdiction of the Railroad Commission of Texas may be received or processed at this facility:
 - a. Oil-based drilling fluids and associated cuttings;
 - b. Production tank bottoms;
 - c. Water-based drilling fluids and associated cuttings;
 - d. Absorbent pads from crude oil spills from production operations;
 - e. Formation sands and other solids from saltwater storage tanks or vessels and saltwater pits;
 - f. Solid waste from gas dehydration and sweetening (spent filters and filter media, molecular sieves, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber sludge);
 - g. Liners and bottoms from reserve pits;
 - h. Liners and bottoms from washout pits; and
 - i. Contaminated soils from crude oil spills, pipelines and saltwater spills from production operations.
2. RCRA non-exempt wastes under the jurisdiction of the Commission may be accepted and processed at the facility if analytical results demonstrate that the waste is characteristically non-hazardous.
3. This permit does not authorize the reclamation of crude oil from oil and gas waste. A request for authorization under Statewide Rule 57 must be submitted to and approved by Technical Permitting in Austin prior to any reclamation activities at the referenced facility.
4. No oil and gas NORM (Naturally Occurring Radioactive Material) waste, as defined in 16 TAC §4.603, 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 this facility.

5. Waste may only be received at the facility if it is a waste under the jurisdiction of the Railroad Commission of Texas. No hazardous waste as defined by the U.S. Environmental Protection Agency in 40 CFR Part 261 or industrial waste may be received at the facility.

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 or American Society for Testing Materials method.
3. For the purposes of this permit, a representative sample of incoming waste is defined as a composite sample composed of one grab sample from each 50 cubic yards of waste material from each job (e.g., from each well, pit, spill location.)
4. Each load of incoming waste, other than water base drilling fluid and the associated cuttings, or oil base drilling fluid and the associated cuttings, must be scanned for the presence of naturally occurring radioactive material (NORM) using a scintillation meter with a sodium iodide detector. Any load with a maximum reading of 50 microroentgens 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.
5. Prior to receipt at the site, representative samples of waste from commercial oil and gas facilities must be analyzed and may not exceed the limit for the following parameter:

| <u>PARAMETER</u> | <u>LIMITATION</u> |
|-----------------------------|-------------------|
| TOX (Total Organic Halides) | 100 mg/kg |

III. RECORDKEEPING REQUIREMENTS

- A. 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, or gas ID, or API Well Number; and
 - c. County;
 2. Name of transporter;
 3. Volume of waste material (barrels); and
 4. A description of the type of waste material, including:

- a. Fluid-to-Solid ratio; and
 - b. Detailed description of the type of waste including any analysis required by Condition II.B. above.
- B. The permittee must maintain the following records on each load of outgoing waste sent from the referenced facility to an authorized disposal facility for a period of three (3) years from the date of shipment:
1. Description of the facility to where the waste is sent to for disposal, including:
 - a. Disposal operator name;
 - b. Disposal permit number; and
 - c. County;
 2. Name of transporter;
 3. Volume of waste material (barrels); and
 4. A detailed description of the type of waste material.
- C. The permittee must maintain the following records for a period of three (3) years from the date of the inspection regarding the monthly facility inspection required by Condition IV.K.:
1. The results of the monthly inspection of concrete slabs underlying the Process Area 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 process equipment, tanks, and roll-off boxes for evidence of deterioration or leakage, and a description of corrective action taken, if any.
 3. The results of the monthly inspection of waste levels of process equipment, tanks, and roll-off boxes, and a description of corrective action taken, if any.
 4. The results of the monthly inspection of the 10 feet of grade surrounding the Process Area for evidence of deterioration or contact storm water run-off, and a description of corrective action taken, if any.
- D. A report of all records required by Conditions III.A., III.B., and III.C. above, as well as a summary of waste receipts including the cumulative volume of each type of material received and cumulative volume of each type of waste that leaves the facility for disposal on a monthly basis must be submitted to Technical Permitting in Austin and the appropriate District Office as part of the Quarterly Report required in Condition I.I. of this permit.

IV. GENERAL SITE CONSTRUCTION AND MAINTENANCE REQUIREMENTS

- A. The general layout and arrangement of the facility must be consistent with the "PROCESS AREA PLAN" figure dated May 29, 2012, which is attached to and incorporated as part of this permit as **Permit Appendix A**, and the "GROUNDWATER MONITORING WELL LOCATIONS" figure dated November 6, 2012, which is attached to and incorporated as part of this permit as **Permit Appendix B**.

- 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 inches in height.
- C. The facility must consist of the following storage vessels, located in the following areas:

1. Shaker Area:

- a. One 500-bbl Shaker;
- b. Two 150-bbl roll-off boxes

2. Receiving Area (R/A):

- a. Six 1,000-bbl Receiving Tanks;
- b. Three 500-bbl Mix / Feed Tanks;
- c. One 400-bbl Contact Stormwater Tank.

3. Clarification Process Area (C/P):

- a. One 5-bbl Centrifuge;
- b. One 5-bbl Centrifuge;
- c. One 120-bbl Process Acid Tank;
- d. Two 120-bbl Process Polymer Tanks;
- e. Two 120-bbl Process Polymer Tanks;
- f. One 120-bbl Process Water Tank;

4. Filter Feed/Process Area (FFP):

- a. Two 500-bbl Cascade Tanks;
- b. Four 1,000-bbl Decanting Tanks;
- c. Four 500-bbl Mix / Filter Feed Tanks;
- d. One 500-bbl Oil Discharge Tank;
- e. Two 500-bbl Oil Sales Tanks;
- f. One 250-bbl Premix / Blowdown Tank;
- g. Two 1,000-bbl Saltwater Tanks.

No additional storage vessels may be added to the site without prior approval by Technical Permitting. A request for any additional storage vessels must be submitted in writing to Technical Permitting for review.

- D. Any pits or buried tanks must be permitted in accordance with Statewide Rule 8.
- E. No waste, treated or untreated, may be placed on the ground, or on the concrete slab underlying the facility. All untreated and treated waste must be stored in steel tanks or steel roll-off boxes.

- F. All reclaimed oil must be stored in steel tanks.
 - G. All storage, tanks, and roll-off boxes must be maintained in a leak-free condition.
 - H. Any spill of waste, chemical, or any other material must be collected and cleaned up within 24 hours, and processed through the treatment process or disposed of in an authorized manner.
 - I. All operational areas of the facility, including any area used for storage or treatment of oil and gas waste, must be underlain by a concrete slab at least 6-inches thick.
 - J. Slab A and Slab B, comprising the Shaker Area and the Clarification/Processing Area, must be covered.
 - K. The perimeter of the facility must be surrounded with a berm at least one and a half feet above grade and a fence suitable to prohibit unauthorized access. The site is to be attended by personnel continuously or secured to prohibit unauthorized access when unattended.
 - L. Each month an inspection must of the facility must be performed of all equipment and storage on site. Records of each inspection must be kept on site and submitted to Technical Permitting in accordance with Condition III. of this permit.
 - M. Any waste treated or untreated received at the facility must leave the facility within 90 days of receipt for disposal at an authorized oil and gas waste disposal facility. Reclaimed oil may be stored at the facility until the total volume reaches 1,500 barrels.
 - N. Operation of the facility must be in accordance with Spill Prevention, Control and Countermeasure plan in the permit application dated June 7, 2012.
 - O. This facility must comply with all Texas Commission on Environmental Quality (TCEQ) air quality rules and regulations.
- V. MONITOR WELLS
- A. Four (4) monitor wells must be installed and numbered as represented on **Permit Appendix B**.
 - 1. Monitor wells must be completed in accordance with 16 TAC Part 4, Chapter 76 (Water Well Drillers and Water Well Pump Installers).
 - 2. Monitor wells must be completed in 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 the top of groundwater.
 - 4. Provision must be made to protect the well heads from damage by vehicles and heavy equipment.
 - 5. Monitor wells must be maintained in good condition and in a way that prohibits unauthorized access.
 - 6. Monitor wells must be able to provide a sample of groundwater 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 Commission.

7. The following information must be submitted after the wells are completed:
 - a. A soil boring log for each 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, total depth, and the top of the first encountered water or saturated soils.
 - b. A well installation diagram for each well.
 - c. A survey elevation for each well head reference point.
 - d. A potentiometric map showing static water levels and the calculated direction of groundwater flow.
- B. The monitor wells must be monitored for the following parameters after installation and quarterly thereafter:
 1. Static Water Level
 2. Total Depth
 3. Benzene
 4. TPH
 5. TDS
 6. pH
 7. Chlorides
 8. Bromides
 9. Nitrates
 10. Carbonates
 11. Sulfates
 12. Magnesium
 13. Sodium
 14. Potassium
 15. Calcium

Copies of the results must be filed with Technical Permitting as part of the Quarterly Report required in Condition I.I. of this permit.

VI. STORMWATER CONTROL

- A. The facility must be designed and constructed to prohibit discharge of contact storm water and run-on of non-contact storm water:
 1. The Process Area or contact storm water designated areas of the facility must be underlain by a concrete slab at least 6-inches thick and surrounded on all sides by a curb at least 6-inches in relief.
 2. The Process Area or contact storm water designated areas of the facility must be sloped inwardly, toward sumps, and away from non-contact storm water designated areas, to facilitate collection of contact storm water.
 3. The non-contact storm water designated areas outside of the facility must be sloped away from the Process Area and contact storm water designated areas.
- B. Any storm water entering the Process Area or contact storm water designated areas of the facility must be collected and cleaned up within 24 hours, and processed through the treatment process or disposed of in an authorized manner.
- C. This permit does not authorize the discharge of any oil and gas waste or any storm water that has come into contact with oil and gas waste.

- D. A discharge permit from the Environmental Protection Agency (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.

VII. CLOSURE OF THE SITE

A. Closure of the facility must proceed as follows:

1. All waste must be processed through the facility or disposed of in an authorized manner. No waste may be permanently disposed of at this facility at any time.
2. The contents of all containment areas, tanks, vessels, or other containers must be disposed of in an authorized manner.
3. All treatment and storage equipment must be removed and salvaged, if possible, or disposed of in an authorized manner.
4. The facility roof must be dismantled and disposed of in an authorized manner.
5. The facility slab must be removed and disposed of in an authorized manner.
6. After waste removal and site excavation are completed, at least 16 representative composite soil samples must be obtained from the first two feet of soil from locations indicated in the "CLOSURE SAMPLE LOCATION PLAN" figure dated August 31, 2012 which is attached to and incorporated as part of this permit as **Permit Appendix C**. Alternate sampling locations may be approved by Technical Permitting upon request at the time of closure. These samples must be analyzed and the following constituent levels must not be exceeded:

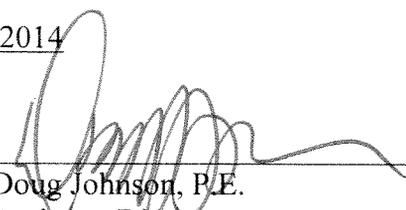
| Constituent (units) | Closure Limit |
|---------------------------------|---------------|
| pH (s.u.) | 6.0 to 10.0 |
| Electrical Conductivity (mmhos) | 4.0 |
| TPH (mass %) | 1.0 |
| BTEX (mg/kg) | 30.0 |
| Metals (mg/kg): | |
| Arsenic | 10.0 |
| Barium | 10,000.0 |
| Cadmium | 10.0 |
| Chromium | 100.0 |
| Lead | 200.0 |
| Mercury | 10.0 |
| Selenium | 10.0 |
| Silver | 200.0 |

7. A map showing the sampling locations with latitude-longitude coordinates and copies of the analysis required by Condition VII.A.6. must be submitted to Technical Permitting in Austin. When acceptable constituent levels have been verified in writing by Technical Permitting, all earthen berms must be leveled to grade. Topsoil must then be contoured and seeded with appropriate vegetation.

8. Provisions must be taken to prevent erosion both during and following closure activities.
 9. All monitor wells must remain unplugged and monitoring reporting requirements remain effective until written approval from Technical Permitting in Austin is granted for plugging the monitor wells.
- B. Technical Permitting and the appropriate District Office must be notified in writing at least 45 days prior to commencement of any closure activity so that the Commission can monitor closure to assure compliance with the closure plan. Unless otherwise dictated by this permit, closure activities must be performed in accordance with the information contained in the original application and subsequent information received to date.

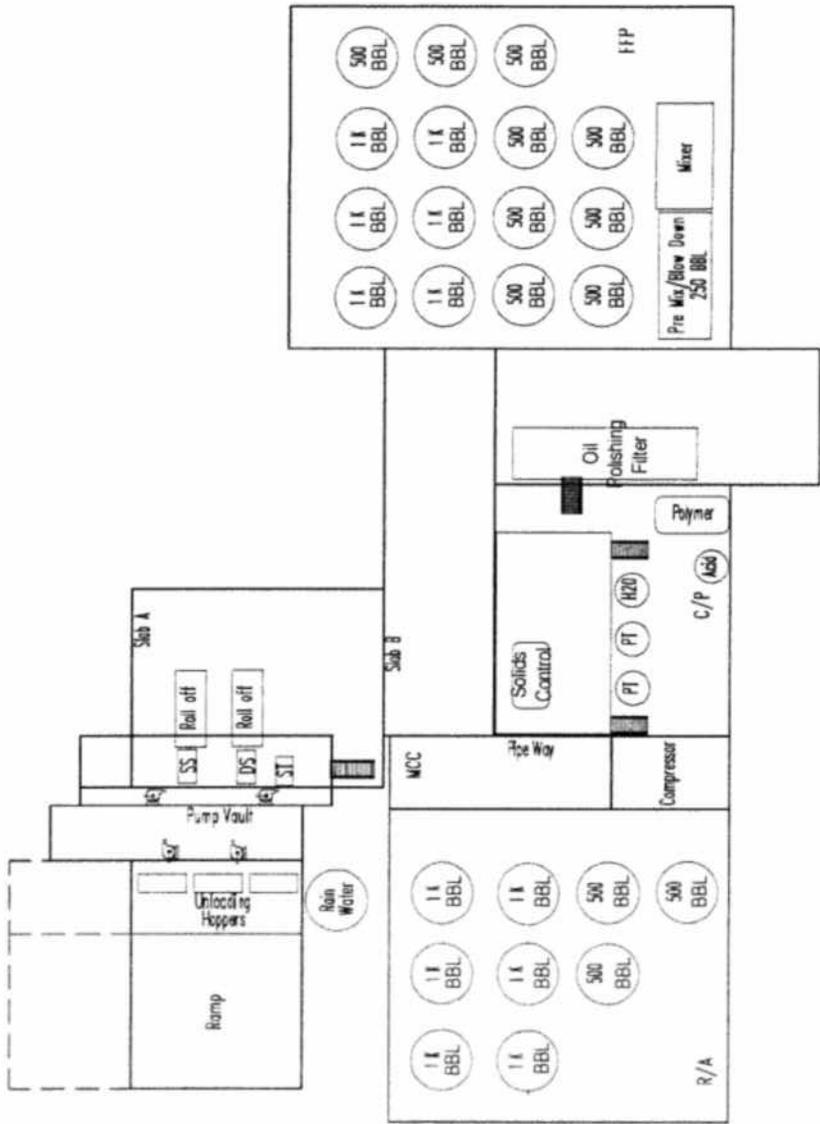
This authorization is granted subject to review and cancellation should investigation show that such authorization is being abused.

APPROVED AND ISSUED ON January 31, 2014



Doug Johnson, P.E.
Assistant Director
Technical Permitting

APPENDIX A



NOTE: SEE TABLE 2-2 FOR CONSTRUCTION MATERIALS AND CAPACITIES OF TANKS AND VESSELS.
 SOURCE: PROCESS AREA PLAN, CCS MIDSTREAM SERVICES, LLC, 2/17/2012.

FOR PERMIT APPLICATION
 NOT FOR CONSTRUCTION



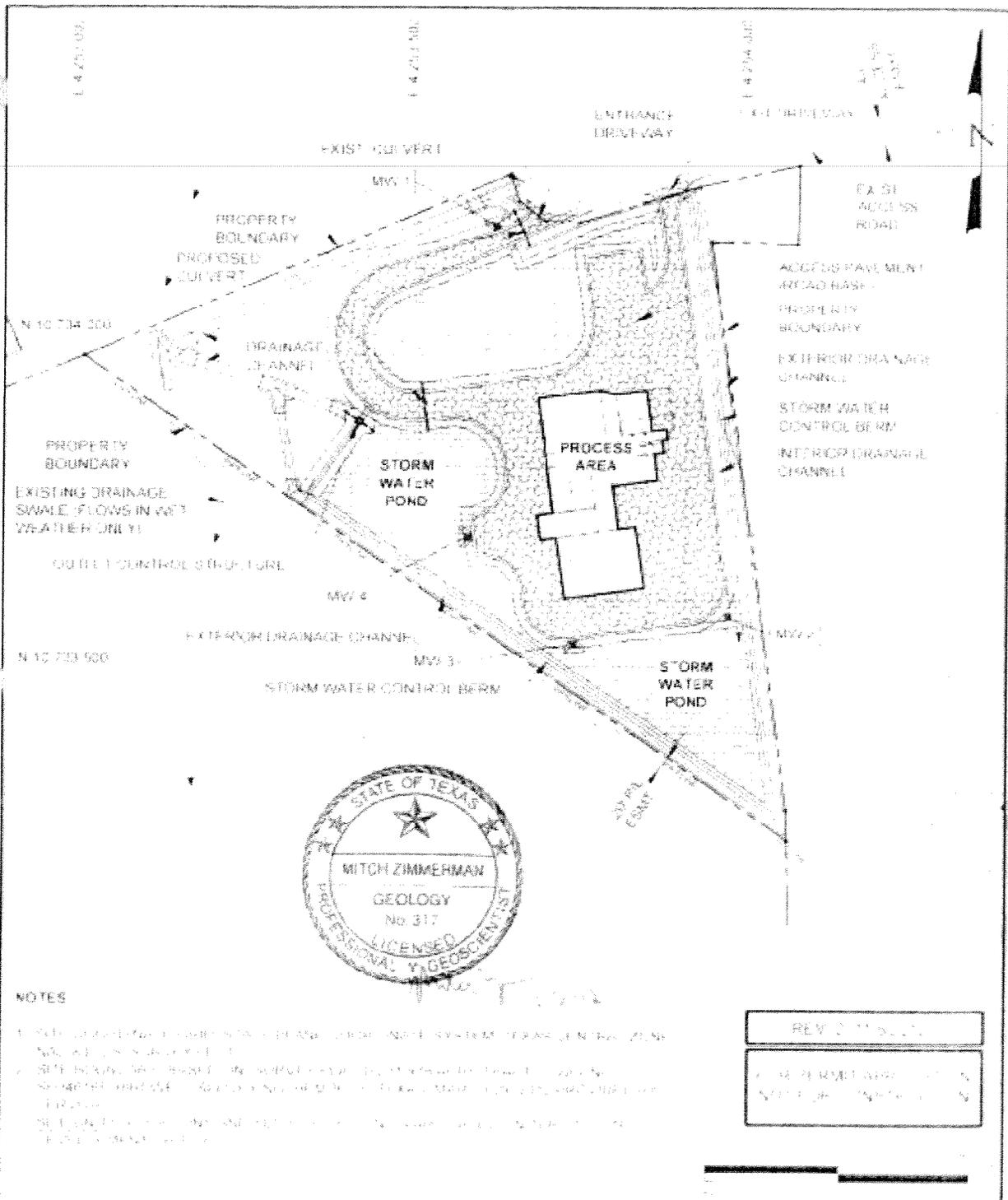
FIGURE 2-2
 PROCESS AREA PLAN
 RRC Permit Application
 CCS Joaquin Waste Separation Facility
 CCS Midstream Services, LLC
 Shelby County, Texas

RECEIVED
 RRC OF TEXAS
 JUN 03 2012
 O&G
 AUSTIN TX

Environmental Resources Management

| | | |
|---|----------------|----------|
| DESIGN EDM | DRAWN RLM | CHKD EDM |
| DATE 5/29/2012 | SCALE AS SHOWN | REV |
| W.O. NO. H1DWGE120116880A7.dwg 5/29/2012 4:02:47 PM | | |

APPENDIX B



110
 0312
 0314

Environmental Resources Management

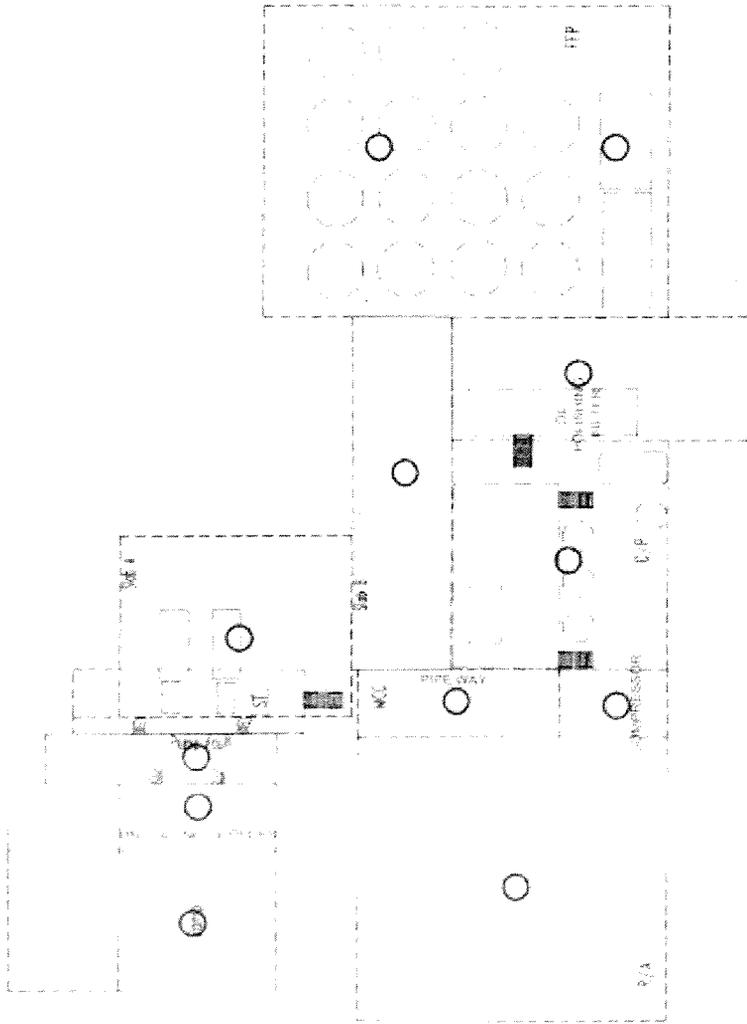
FIGURE E-1
 GROUND WATER MONITORING WELL LOCATIONS
 RRC Permit Application
 Joaquin Waste Separation Facility
 Terata LLC
 Shelby County, Texas



APPENDIX C



Handwritten notes:
Composite Soil Sample Locations
1-10



KEY
○ COMPOSITE SOIL SAMPLE
(FIELD LOCATE AT
REPRESENTATIVE LOCATION)

REV 1 8/30/2012
FOR PERMIT APPLICATION
NOT FOR CONSTRUCTION



SCALE: PROCESS AREA PLAN, CCS MIDSTREAM SERVICES, LLC, 2/17/2012. SEE FIGURE 1-3 FOR EQUIPMENT AND TANK DESIGNATIONS

Environmental Resources Management

FIGURE 16-1
CLOSURE SAMPLE LOCATION PLAN
RRC Permit Application
CCS Joaquin Waste Separation Facility
CCS Midstream Services, LLC
Shelby County, Texas



DATE: 8/30/2012
PROJECT: CCS JOAQUIN WASTE SEPARATION FACILITY
DRAWN BY: [Name]
CHECKED BY: [Name]
APPROVED BY: [Name]

DRAFT

R9 06-1205

READ INSTRUCTIONS ON BACK

| | | | | |
|--|-----------------------------------|--|----------------------------------|--|
| 1. OPERATOR NAME, exactly as shown on P-5, Organization Report Tervita, LLC | | 2. OPERATOR P-5 NO. 844072 | 3. RRC DISTRICT NO. 06 | 4. COUNTY OF PLANT LOCATION Shelby |
| 5. OPERATOR ADDRESS, including city, state, and zip code 10613 W Sam Houston Pkwy, Suite 300 Houston, TX, 77064 | | 6. PURPOSE OF FILING <input checked="" type="checkbox"/> New permit for new facility. Estimated completion date: 10/01/14 <input type="checkbox"/> New permit for existing facility. Name of previous operator: _____ <input type="checkbox"/> One-time renewal of existing permit serial/registration (R-2) no. _____ | | |
| 7. TYPE OF FACILITY <input checked="" type="checkbox"/> Permanent <input type="checkbox"/> Portable | | | | |
| 8. Driving directions from the nearest town (identify town). 2 miles east of Joaquin on US Hwy 84, South on FM 2787 1/3 mile, West on access road | | | | |
| 9. Brief description of treating process. Oil and gas wastes will be received at the site. Water, solids, and oil will be phase separated. Waste water and solids will be disposed of at authorized facility. Oil will be reclaimed or disposed of in an authorized manner. | | | | |
| 10. Material transported to plant in: (see Inst. No. 6) <input type="checkbox"/> vehicles owned by applicant <input type="checkbox"/> for-hire vehicles <input checked="" type="checkbox"/> 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, saltwater disposal facility, tank battery, etc.) | | | | |
| TYPE OF FACILITY | OPERATOR | TYPE OF FACILITY | OPERATOR | |
| Pipeline | Classic Pipeline & Gathering, LLC | (1) well | Graward Operating Inc. | |
| (2) wells | Mayfield | (2) wells | Hunt Petroleum Corp. | |
| (2) wells | Sonat Exploration | (6) wells | XTO Energy Inc. | |
| | | (1) well | Classic Operating Company, LLC | |
| 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. | | SIGNATURE <i>Michael Wood</i> MICHAEL WOOD NAME (print or type) | | TITLE VP-ENVIRONMENT PHONE (409) 234 6917 DATE JAN 30/14 |

TO BE COMPLETED BY RAILROAD COMMISSION PERSONNEL

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

- The above named operator requests cancellation in writing.
- The commission cancels the permit after notice and opportunity for hearing because:
 - the permit 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 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.

RECEIVED
RRC OF TEXAS
JAN 31 2014
O & G
AUSTIN, TX

Serial/registration no. R9 06-1205 is issued/renewed effective 1/31/14 (date)

by *[Signature]* Name (type or print) DOUG JOHNSON Phone No. (512) 463-6760

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)