

FORM 2A Rev 04/01

State of Colorado Oil and Gas Conservation Commission 1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



Table with 4 columns: DE, ET, OE, ES

Document Number: 400173188

Oil and Gas Location Assessment

[X] New Location [] Amend Existing Location Location#: _____

Submit original plus one copy. This form is to be submitted to the COGCC prior to any ground disturbance activity associated with oil and gas development operations.

Location ID: 424119 Expiration Date: 07/04/2014

[X] This location assessment is included as part of a permit application.

1. CONSULTATION

- This location is included in a Comprehensive Drilling Plan. CDP # _____
This location is in a sensitive wildlife habitat area.
This location is in a wildlife restricted surface occupancy area.
This location includes a Rule 306.d.(1)A.ii. variance request.

2. Operator

Operator Number: 10138 Name: TEXAS AMERICAN RESOURCES COMPANY Address: 410 17TH STREET SUITE 1610 City: DENVER State: CO Zip: 80202

3. Contact Information

Name: Melissa Lasley Phone: (720) 279-6805 Fax: () email: mlasley@texasarc.com

4. Location Identification:

Name: Cass Farms Number: 44-34H County: WELD Quarter: SESE Section: 34 Township: 8N Range: 62W Meridian: 6 Ground Elevation: 4877 Define a single point as a location reference for the facility location. Footage at surface: 290 feet FSL, from North or South section line, and 660 feet FEL, from East or West section line. Latitude: 40.611130 Longitude: -104.299740 PDOP Reading: 1.1 Date of Measurement: 04/12/2011 Instrument Operator's Name: Adam Kelly

5. Facilities (Indicate the number of each type of oil and gas facility planned on location):

Special Purpose Pits: [] Drilling Pits: [1] Wells: [1] Production Pits: [] Dehydrator Units: [] Condensate Tanks: [] Water Tanks: [1] Separators: [1] Electric Motors: [] Multi-Well Pits: [] Gas or Diesel Motors: [] Cavity Pumps: [] LACT Unit: [] Pump Jacks: [] Pigging Station: [] Electric Generators: [] Gas Pipeline: [1] Oil Pipeline: [] Water Pipeline: [] Flare: [1] Gas Compressors: [] VOC Combustor: [1] Oil Tanks: [4] Fuel Tanks: [] Other: _____

6. Construction:

Date planned to commence construction: 01/02/2012 Size of disturbed area during construction in acres: 2.50
Estimated date that interim reclamation will begin: 03/05/2012 Size of location after interim reclamation in acres: 1.50
Estimated post-construction ground elevation: 4875 Will a closed loop system be used for drilling fluids: Yes [X]
Will salt sections be encountered during drilling: Yes [] No [X] Is H2S anticipated? Yes [] No [X]
Will salt (>15,000 ppm TDS Cl) or oil based muds be used: Yes [] No [X]
Mud disposal: Offsite [X] Onsite [] Method: Land Farming [] Land Spreading [] Disposal Facility [X]
Other: _____

7. Surface Owner:

Name: _____ Phone: _____
Address: _____ Fax: _____
Address: _____ Email: _____
City: _____ State: _____ Zip: _____ Date of Rule 306 surface owner consultation: 05/20/2011
Surface Owner: [X] Fee [] State [] Federal [] Indian
Mineral Owner: [X] Fee [] State [] Federal [] Indian
The surface owner is: [X] the mineral owner [X] committed to an oil and gas lease
[] is the executer of the oil and gas lease [] the applicant
The right to construct the location is granted by: [X] oil and gas lease [] Surface Use Agreement [] Right of Way
[] applicant is owner
Surface damage assurance if no agreement is in place: [] \$2000 [] \$5000 [] Blanket Surety ID _____

8. Reclamation Financial Assurance:

[] Well Surety ID: 20090100 [] Gas Facility Surety ID: _____ [] Waste Mgnt. Surety ID: _____

9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes [] No [X]
Distance, in feet, to nearest building: 5280 , public road: 285 , above ground utilit: 623
, railroad: 5280 , property line: 290

10. Current Land Use (Check all that apply):

Crop Land: [] Irrigated [] Dry land [] Improved Pasture [] Hay Meadow [] CRP
Non-Crop Land: [X] Rangeland [] Timber [] Recreational [] Other (describe): _____
Subdivided: [] Industrial [] Commercial [] Residential

11. Future Land Use (Check all that apply):

Crop Land: [] Irrigated [] Dry land [] Improved Pasture [] Hay Meadow [] CRP
Non-Crop Land: [X] Rangeland [] Timber [] Recreational [] Other (describe): _____
Subdivided: [] Industrial [] Commercial [] Residential

12. Soils:

List all soil map units that occur within the proposed location. Attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.gov/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: Renohill fine sandy loam, 0 to 6 percent slopes

NRCS Map Unit Name: _____

NRCS Map Unit Name: _____

13. Plant Community:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes No

Plant species from: NRCS or, field observation Date of observation: _____

List individual species: _____

Check all plant communities that exist in the disturbed area.

- Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- Alpine (above timberline)
- Other (describe): _____

14. Water Resources:

Rule 901.e. may require a sensitive area determination be performed. If this determination is performed the data is to be submitted with the Form 2A.

Is this a sensitive area: No Yes Was a Rule 901.e. Sensitive Areas Determination performed: No Yes

Distance (in feet) to nearest surface water: 280, water well: 4100, depth to ground water: 344

Is the location in a riparian area: No Yes Was an Army Corps of Engineers Section 404 permit filed No Yes

Is the location within a Rule 317B Surface Water Suppl Area buffer zone:

No 0-300 ft. zone 301-500 ft. zone 501-2640 ft. zone

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: No Yes

15. Comments:

30-day Notice waived per SUA. Closest water well information attached

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: _____ Date: 06/09/2011 Email: mlasley@texasarc.com

Print Name: Melissa Lasley Title: Senior Operations Analyst

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: _____

David S. Neslin

Director of COGCC

Date: 7/5/2011

CONDITIONS OF APPROVAL, IF ANY:

All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

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Attachment Check List

Att Doc Num	Name
2613735	ACCESS ROAD MAP
2613745	REFERENCE AREA PICTURES
400173188	FORM 2A SUBMITTED
400173423	WELL LOCATION PLAT
400173424	HYDROLOGY MAP
400173425	LOCATION DRAWING
400173430	LOCATION PICTURES
400173433	SURFACE AGRMT/SURETY
400173446	NRCS MAP UNIT DESC
400173459	PROPOSED BMPs
400173558	OIL & GAS LEASE
400173561	OTHER
400173562	ACCESS ROAD MAP

Total Attach: 13 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Attached Reference Area Pictures and Map from operator; Ready to Pass 7/1/2011.	6/23/2011 10:52:01 AM
OGLA	Attached revised access road map from operator; changed closed loop drilling to no.	6/17/2011 10:51:54 AM

Total: 2 comment(s)

BMP

<u>Type</u>	<u>Comment</u>
Storm Water/Erosion Control	<p>Erosion Control</p> <p>Four “very effective” erosion control techniques that can be implemented are Interceptor Swales, Erosion Dikes, Vegetation, and Mulching. Interceptor Swales are small v-shaped or parabolic channels, and can be used to direct either sediment or clean water runoff around disturbed areas. They may be lined with either grass, matting, stone or concrete. Interceptor swales serve as a first defense against erosion. Diversion Dikes can also be used to direct runoff. These are usually made of a compacted soil mound, earthen berm, or waddle used to direct offsite water flow to a desired location (sometimes a sediment basin or protected inlet) before erosion takes place. The use of natural Vegetation is another highly effective method of erosion control and is used in either temporary or permanent situations. In temporary uses, vegetation can be used to stabilize stockpiles or barren areas, or in permanent situations it can stabilize soils in runoff areas and provide for some water absorption. The use of vegetation may not be appropriate for areas with heavy pedestrian or vehicle traffic, and a cost/benefit analysis should be done as initial seeding may be expensive. Mulching of organic materials can be used to protect newly seeded areas. Mulch will protect soils from erosion or desiccation, giving vegetation a chance to establish for further erosion control. All four of these erosion control techniques can be used in conjunction with one another, depending on the project needs.</p> <p>Sediment Loss Prevention</p> <p>In order to prevent sediment loss, Texas American implements four “effective” techniques; the use of Silt Fence, Straw Bales, Check Dams, and Sandbag Berms. Silt Fence consists of a geotextile fabric; part of which is secured in the ground. The fence is supported by poultry netting and is stretched between wooden or metal posts. The fence forms a sediment filter, and also allows for a reduction in runoff velocity. The silt fence is most effective with course to silty soil types. It is an economical means of sediment control because it can be relocated for use in future projects; however, it may lead to minor local flooding as runoff may collect upstream of the fence in pools. Straw Bale Dikes are simply straw bales fastened to the surface with wooden posts. Straw bales serve as sediment filters, and can act as a dam/dike to manipulate runoff flow direction. These are for temporary use only as they have a tendency to degrade, and should be replaced every three months. Check Dams consist of various materials including straw bales, rock, or earth berms placed across drainage swales or ditches. They are effective in reducing sediment erosion in areas where vegetation may not be present. Used in conjunction with other sediment control techniques, check dams can reduce the initial runoff velocity and provide for some sediment reduction; making other downstream erosion control techniques more effective. They are usually used for long linear construction projects such as roadways. Minor pooling may occur between and upstream of check dams. The final listed sediment loss control technique is the utilization of Sandbag Berms, which are ideal for construction projects in creeks, channels, or any other watercourse with a high/consistent flow of water. These berms consist of bags of sand, but also contain overflow pipes on top of the berm to direct water flow once sedimentation has occurred. They can be used to direct stream flow as check dams, but can also be used to form small sedimentation ponds while constructing a detention basin. Sandbag berms are ideal in that they can be moved to accommodate changing needs; however they are labor intensive and not suitable for areas with low flow. Sandbag berms should be inspected daily, with silt removed after it reaches six inches.</p>

General Housekeeping	<p>Waste Management</p> <p>Two “very effective” BMPs for general housekeeping in construction projects are Solid Waste Management and Hazardous Waste Management. Large amounts of Solid Waste are produced in construction projects; including paper, cardboard, Styrofoam, wood cuttings, etc... To manage solid waste, employees should be educated in practicing proper disposal techniques, keeping waste off the ground in order to reduce storm water contamination. Emphasis should be on minimizing production of solid wastes, but also the responsible segregation and timely disposal of wastes in a licensed landfill. Non-hazardous wastes should always be kept separate from hazardous wastes. In Hazardous Waste Management, wastes such as paint, solvents, stains, fuels, or other toxic chemicals pose a special threat to environmental health. Hazardous waste disposal and safety training is a top priority. Limiting the use of hazardous materials is ideal, but when it is necessary, disposal should be done in clearly marked containers. A regular hazardous waste disposal schedule should be created to minimize on-site storage. Disposal should only be done by reputable, licensed hazardous waste haulers. For a more complete list of disposal specifications, along with specifics for all topics listed in this document, please refer to the Texas American Resources Best Management Practices (BMP) Manual.</p>
Construction	<p>Introduction</p> <p>This document serves as a basic summary of the Texas American Resources Best Management Practices (BMPs) Manual. The techniques listed herein consist of temporary and permanent solutions to reduce erosion and pollution at construction sites. These practices have a rating of either “effective or “very effective.” Specific construction and design parameters for these techniques go unmentioned; however, this document provides a complete list of erosion control BMPs and general guidelines for selecting an appropriate BMP for a project. For more detailed information, and specifics on construction and design, please refer to the full BMP manual.</p> <p>General Construction BMPs</p> <p>Texas American Resources currently enlists BMPs rated as “very effective” during three types of construction; Well Site Construction, Road and Access Way Construction, and Pipeline Construction. In addition, Drainage and Drainage Structure BMPs are considered “very effective” and are implemented during construction projects. During Well Site Construction, sites should be determined based on their topographic features. Sites should be placed on level surfaces relatively close to an access road, with steep slopes avoided or properly mitigated. Consideration of Road and Access Way Construction guarantees the engineering and environmental success of a road construction project. Before road construction, the roadway speed limits, travelway width, road gradient limits, water drainage, and other design parameters all ensure a road that can be easily maintained with minimal environmental impacts. When planning for Pipeline and Flowline Construction, the manual’s construction guidelines provide for minimal surface disturbance, reduced impact to natural resources, and adequate clearance for wildlife, livestock, or debris. When placing a pipeline or flowline, the guidelines state that steep terrain or watercourses should be avoided, under story vegetation should remain along the pipeline or flowline route, and soils should be stockpiled to the side of trenches in order to maintain reclamation potential for the site. In order to best minimize soil erosion during construction, Drainage and Drainage Structures are properly constructed; promoting the long-term success of the construction site. Both surface and subsurface drainage needs are identified and properly constructed to allow for adequate movement of silt and debris, as well as to mitigate potential buildup of water in undesired areas.</p>

Total: 3 comment(s)