

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303) 894-2100 Fax: (303) 894-2109



FOR OGCC USE ONLY

RECEIVED APR 14 2005 COGCC

EARTHEN PIT REPORT / PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days, is required for pits. Submit required attachments and forms.

FORM SUBMITTED FOR:

Pit Report X Pit Permit

Attachment Checklist

Oper OGCC

OGCC Operator Number: 10084 Name of Operator: PIONEER NATURAL RESOURCES USA, Inc. Address: 1401 17th STREET, SUITE 1200 City: DENVER State: CO Zip: 80202 Contact Name and Telephone: GERALD JACOB No: 303-298-8100 Fax: 303-298-7800

Table with 2 columns: Attachment Checklist, Oper, OGCC. Rows include Detailed Site Plan, Topo Map with Pit Location, Water Analysis (Form 25), Source Wells (Form 26), Pit Design/Plan & Cross Sect, Design Calculations, Sensitive Area Determination, Mud Program, Form 2A.

API Number (of associated well): 05-071-07970 OGCC Facility ID (of other associated facility): Pit Location (QtrQtr, Sec, Twp, Rng, Meridian) NENW, SEC. 9, T32S, R66W, 6TH P.M. Latitude: N/A Longitude: N/A County: LAS ANIMAS Pit Use: X Production \_\_\_ Drilling (Attach mud program) \_\_\_ Special Purpose (Describe use): Pit Type: \_\_\_ Lined X Unlined Surface Discharge Permit: X Yes \_\_\_ No Offsite disposal of pit contents: \_\_\_ Injection \_\_\_ Commercial Pit/Facility Name: Chevelle 21-9 Onsite Pit/Facility No: Form 25 to provide Produced Water Analysis results. See COA

Existing Site Conditions

Is the location in a "Sensitive Area"? \_\_\_ Yes X No Attach data used for determination. Distance (in feet) to nearest surface water: 250' ground water: 865' water wells: 3200' LAND USE (or attach copy of Form 2A, if previously submitted for associated well) Select one which best describes land use: Crop Land: \_\_\_ Irrigated \_\_\_ Dry Land \_\_\_ Improved Pasture \_\_\_ Hay Meadow \_\_\_ CRP Non-Crop Land: \_\_\_ Rangeland X Timber \_\_\_ Recreational \_\_\_ Other (describe): Subdivided: \_\_\_ Industrial \_\_\_ Commercial \_\_\_ Residential Form 2A Attached SOILS (or attach copy of Form 2A, if previously submitted for associated well) Soil map units from USNRCS survey: Sheet No: GULNARE Soil Complex/Series No: GA Soils Series Name: Horizon thickness (in inches): A: 0' 0" B: E: 2-5 C: B+I: 5-13 Soils Series Name: Horizon thickness (in inches): A: B: Attach detailed site plan and topo map with pit location. GULNARE-AlLENS PARK COMPLEX

Pit Design and Construction

Size of pit (feet): Length: 70 Width: 30 Depth: 6 Calculated pit volume (bbls): 2,244 Daily inflow rate (bbls/day): UNKNOWN Daily disposal rates (attach calculations): Evaporation 3 bbls/day Percolation: 153 bbls/day Type of liner material: NONE Thickness: N/A Attach description of proposed design and construction (include sketches and calculations). Method of treatment of produced water prior to discharge into pit (separator, heater treater, other): SEPARATOR Is pit fenced? \_\_\_ Yes X No Is pit netted? \_\_\_ Yes X No

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

Print Name: GERALD JACOB

Signed: [Signature] Title: ENVIRONMENTAL & REGULATORY MANAGER Date: 4/13/05

OGCC Approved: [Signature] Title: ENV. PROT. SPECIALIST Date: 5/13/05

CONDITIONS OF APPROVAL, IF ANY:

Representative water sample to be provided within sixty (60) days of first gas sales.

Facility Number: 277982

## Form 15-Additional Information

### Raton Basin

#### 1. *Contacts*

##### Primary Contact Person:

Gerald Jacob  
Pioneer Natural Resources USA, Inc.  
1401 17<sup>th</sup> Street, Suite 1200  
Denver, Colorado 80202  
303-298-8100  
303-298-7800 (FAX)

##### Local Contact Person:

Elton Smith  
Pioneer Natural Resources USA, Inc.  
11318 County Road 53.5  
Trinidad, Colorado 81082  
719-846-7898  
719-846-1657 (FAX)

2. *Purpose of this application.* Pioneer has submitted this application to convert the existing drilling reserve pit on the wellsite to an unlined earthen pit for the storage, evaporation and disposal of produced groundwater. Produced water will be piped directly from the wellhead to the converted reserve pits via a surface line. This unlined earthen pit is located within the confines of the existing wellsite. The reserved pits proposed for use as unlined earthen pits are constructed such that the water level will not be above the elevation of the original ground level, thereby reducing the possibility of seepage through the berm. Any excess water production will be trucked or piped to the nearest permitted multi-well unlined earthen pit or disposed of in an existing Class II injection well. In the future, Pioneer could discharge from this unlined earthen pit under a CDPHE surface discharge permit.

3. *Sensitive area determination.* This area has been determined to be located in a non-sensitive area because the proposed unlined earthen pit is located in an upland area outside of any arroyos or drainage. Depth to groundwater is shown on the attached Form 15.

4. *Well site survey and color map.* The proposed pit is located on the well site and is shown on the attached color map.

5. *Water quality testing.* Pioneer has a policy of testing the produced water from its wells on a regular basis. However, no representative groundwater sample was available at the time of this application as the well is only in the preliminary stages of production testing. As soon as a representative sample of the produced water can be obtained, approximately 60 days from the date of first gas sales, a representative sample will be taken and the analysis forwarded to COGCC.

*6. Calculations:*

Surface area = length x width = 70 feet x 30 feet = 2,100 sq. feet

Storage capacity = length x width x depth = 70 feet x 30 feet x 6 feet = 12,600 cubic feet.  
12,600 cubic feet x 1 barrel/5.615 cubic feet = 2,244 barrels

**Daily evaporative loss.** Based on climatic data and a conversion table provided by COGCC, evaporation loss for this area (Las Animas County) averages 45 pan inches/year = 3 barrels/day for 2,100 square feet of pit surface.

**Percolation rate.** Based on soil survey data and maps provided by the United States Department of Agriculture, the soil type/series found at/near this location has an unknown permeability at the depth of the pit bottom. Rates from shallower soils range from 0.00 to 2 inches per hour. This calculation assumes a lower range permeability of 0.2 inch/hour. Given this already low rate and the presence of clays in this soil at depths below 14 inches, no additional reduction in permeability due to siltation of the pit bottom, clay swelling or inclusions of less permeable soils is assumed.

Soil percolation rate at pit bottom = 0.017 ft/hr

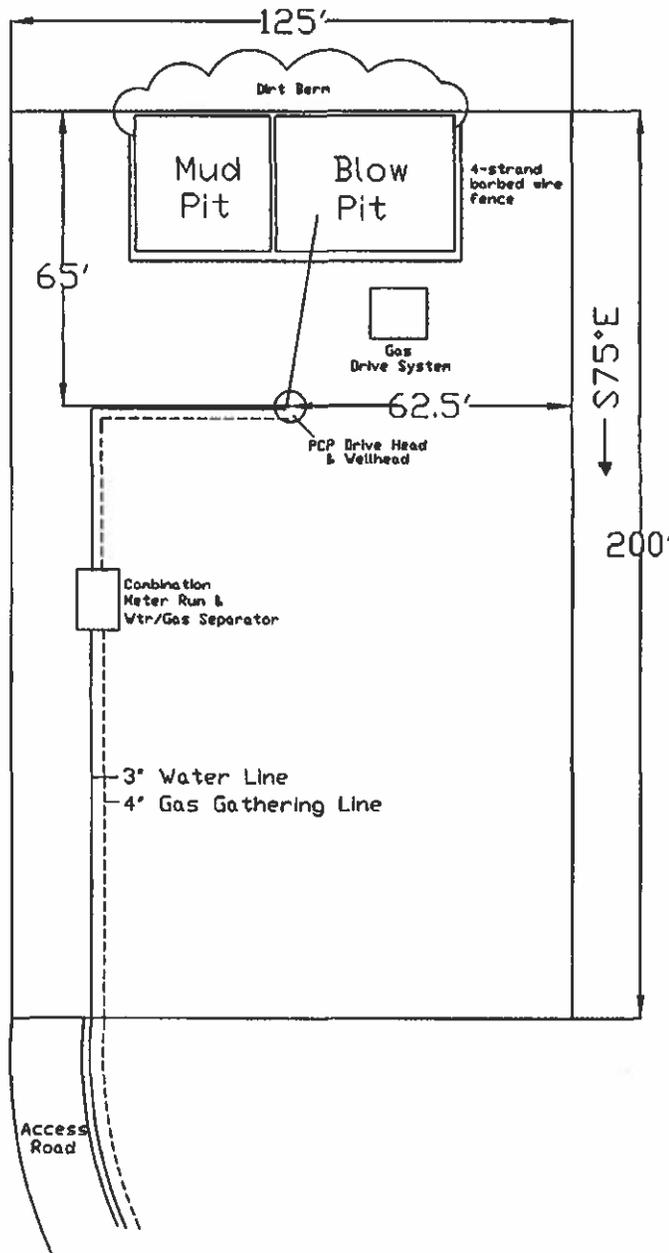
Estimated percolation rate for pit = 0.017 ft/hr (2,100 ft<sup>2</sup>) (1 bbl/5.615 ft<sup>3</sup>) = 6.4 bbls/hr (24hr/day) = 153 bbls/day. Therefore the pit should be able to contain expected inflow.

*7. Water wells within 1/8 mile* Known, permitted water wells (based on State records) within a one-mile radius are shown on the attached map.

*8. Inspection and reporting.* Typically, water production and/or the unlined earthen pit is monitored at least once a day by Pioneer field personnel. All spills and/or releases will be reported in accordance with COGCC and CDPHE regulations.

EVERGREEN OPERATING CORP.  
 WELLSITE/PRODUCTION EQUIPMENT LAYOUT  
 CHEVELLE #21-9  
 NENW Section 9, T32S-R66W  
 Las Animas County, Colorado

Note: Mud & Blow Pits will be converted to unlined evaporation pits for production



Note:  
 Approx. Scale 1"=40'  
 Water Line —————  
 Gas Line - - - - -

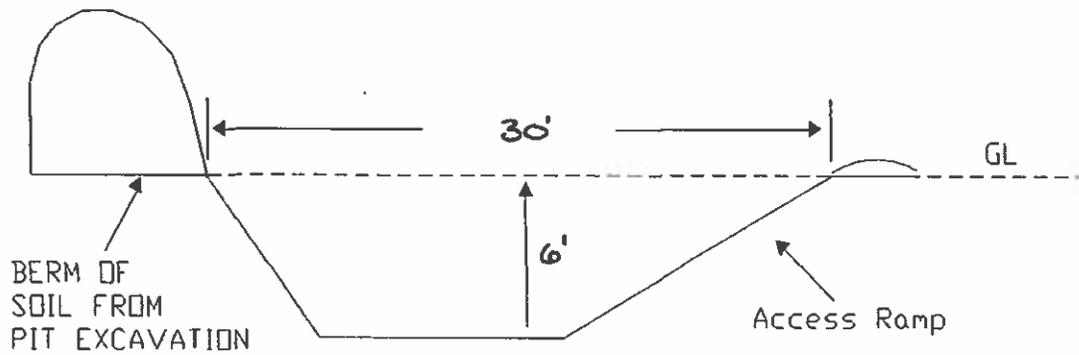
11/4/03

# Unlined Earthen Pit Application

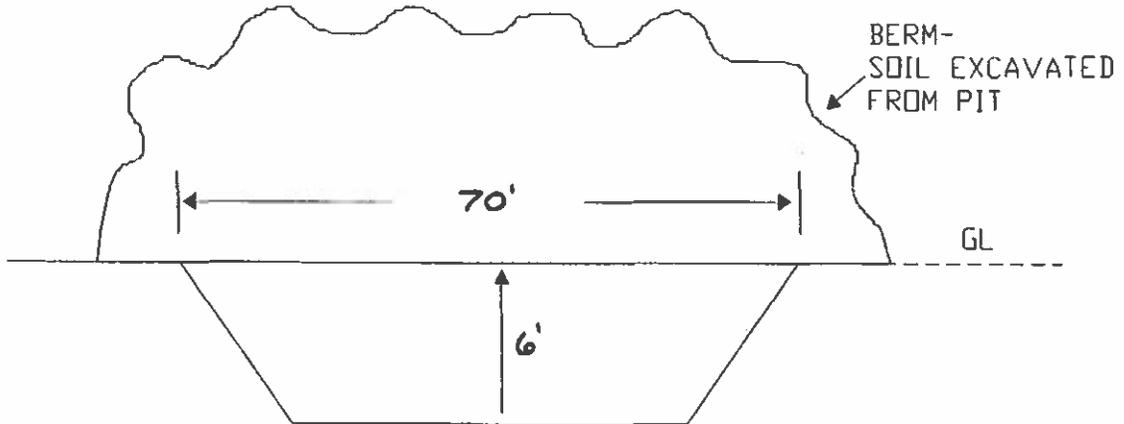
WELL/LOCATION: CHEVELLE 21-9

(B) Section View

(1) Section S/N



(2) Section E/W



(CONVERSION OF RESERVE PIT TO PRODUCTION PIT)

**State of Colorado**  
**Oil and Gas Conservation Commission**  
DEPARTMENT OF NATURAL RESOURCES

FOR OGCC USE ONLY

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**DRILL SITE/ACCESS ROAD RECLAMATION FORM**

This form shall be submitted in duplicate with the application for permit-to-drill (OGCC Form 2) unless a Federal 13 point surface plan is included. Also required are a minimum of two photographs (site and access road). Soil and plant community information from United States Natural Resources Conservation Services (USNRCS).

1. OGCC Operator Number: <b>06385</b>	4. Contact Name & Phone <b>Dennis R. Carlton</b>
2. Name of Operator: <b>Evergreen Operating Corporation</b>	No: <b>(303) 298-8100</b>
3. Address: <b>1401 17<sup>th</sup> Street, Suite 1200</b>	Fax: <b>(303) 298-7800</b>
City: <b>Denver</b> State: <b>CO</b> Zip: <b>80202</b>	6. County: <b>Las Animas</b>
5. Well Name & Number: <b>Chevelle 21-9</b>	7. Location; (QtrQtr, Sec, Twp, Rng, Meridian): <b>NE/NW of Sec 9 Twp 32 South Rng 68 West 6th P.M.</b>

Complete the  
Attached Checklist

	Oper	OGCC
Drillsite and access photographs	X	
COE Section 404 documentation		

**Pre-Drilling Information**

**Current Land Use**

8. Crop Land:  Irrigated  Dry Land  Improved Pasture  Hay Meadow  CRP

9. Non-crop land:  Rangeland  Timber  Recreational  Other (describe)

10. Subdivided:  Industrial  Commercial  Residential

\* Attach color photographs of drill site and access road; identify each photo by date, well name and location.

**Soils**

11. Soil map units from USNRCS survey: Sheet No: **Gulnare** Soil Complex/Series No: **GA**

Soils Series Name: **Gulnare-Allens Park Complex** Horizon thickness (in inches): A: **0-2** ;B: **E: 2-5** ;C: **B11: 5-13**

Soils Series Name: \_\_\_\_\_ Horizon thickness (in inches): A: \_\_\_\_\_ ;B: \_\_\_\_\_ ;C: \_\_\_\_\_

**Plant Community**

\* Complete only if operations are to be conducted upon non-crop land

12. Plant species from:  USNRCS or  Field Observation Date of observation: **11/04/03**

List individual species: **Pine, Pinyon, Scrub Oak**

13. Check one predominant plant community for the drill site:

Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye, Thistle)

Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)

Shrub and Brush Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)

Plains Deciduous Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)

Mountain Conifer Riparian (Spruce, Fir, Ponderosa Pine)

Evergreen Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon)

Aquatic (Bullrush, Sedges, Cattail, Arrowhead)

Tundra (Alpine, Willow, Currant, Raspberry)

Other (describe): \_\_\_\_\_

14. Was an Army Corps of Engineers Section 404 Permit filed?  Yes  No If yes, attach appropriate documentation.

Comments, if any:

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I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road; that I am familiar with the conditions which presently exist, that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name Dennis R. Carlton

Signed *Dennis R. Carlton* Title: President Date: 1-8-04

# WellView Reports - Daily Drilling Report

Well Name: **Chavella 21-S**

Date: **3/23/2004**, Report #: **20**, DFS: **1.73**

Depth Progress: **1,936.0**

Spud Date 3/21/2004 12:00:00 PM	Rig Release Date 3/23/2004	KB Elevation (ft)	Ground Elevation (ft) 7358.00	KB-Ground Distance (ft)
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**Daily Summary**

Weather: \_\_\_\_\_ Road Condition: \_\_\_\_\_ Hole Condition: \_\_\_\_\_

Operations at Report Time  
**Start Drilling 7 7/8 Hole**

Operations This Report Period  
**Drill out 50' of cement, start 7 7/8 open hole 2345, ran OHL and start running 5 1/2.**

Operations Next Report Period  
**running 5 1/2**

AFE No. <b>0504-CPU034</b>	Total AFE Amt (\$)
Daily Cost Total (\$)	Cum. Cost To Date (\$)
Daily Mud Cost (\$)	Mud Cum To Date (\$) <b>0</b>
Depth Start (ftKB) <b>409.0</b>	Depth End (ftKB) <b>2,345.0</b>

**Ops Supervisors**

Tom Beardslee	680-5015
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Start Date	End Time	Dur (hrs)	Code	Activity	Comment
06:00	07:00	1.00	00	Undefined Status	waited for National to get a shipment of 5 1/2" csg
07:00	08:15	1.25	08	Tripping In	Break loose, change bits, TIH, drillout 100' of cmt in surf. csg.
08:15	10:15	2.00	00	Undefined Status	wait for mudloggers
10:15	23:00	12.75	02	Drilling	drilled 7 7/8" hole to 2345', hit small water at 865' and a little more at 2275'. <span style="float: right;">WATER DETECTED</span>
23:00	01:15	2.25	09	Tripping Out	clean hole, TOOH and load equip.
01:15	03:00	1.75	14	Wireline Logs	ran CDL from 2345' to surf csg, ran GR/Neutron from 2345' to surface.
03:00	05:30	2.50	15	Run Casing	Spot csg trailer, prepare to run 5 1/2 csg, when't to meet Nelson to get rabbit and 5 1/2" landing sub.
05:30	06:00	0.50	15	Run Casing	start running 5 1/2 csg, 10 jts in the hole.

**Drill Strings: BHA # <BHA No?> Hammer**

Bit Run Bit 7 7/8in, <Model?>, <SN?>	IADC Bit Dull *****	TFA (incl Noz) (in) ROP (ft/hr) Nozzles (/32")
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Len (ft)	Max OD (in)	String Components					
Depth Start (ftKB) 409.0	Depth End (ftKB) 2,345.0	Cum Depth (ftKB) 1,936.0	Drill Time (hrs)	Cum Dnt Time (hr) 0.00	Int ROP (ft/hr)	Flow Rate (gpm)	
WOB (1000lb)	RPM (rpm)	SPP (psi)	Rot HL (1000lb)	PU HL (1000lb)	SO HL (1000lb)	Drilling Torque	Off Bm Tq