District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address	2. OGRID Number
Alta Mesa Service, LP 15021 Katy Freeway Suite 400 Houston, TX 77094	295752 ✓
	3. API Number 30-009- 20025
4. Property Code 40260	5. Property Name Pulliam Farms 27 P
	6. Well No. ~~Pulliam Farms 27 P~~ #1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
P	27	8N	35E		±358	SOUTH	±827	EAST	CURRY

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

9. Pool Information

Pool Name	Pool Code
WC-009 G-07 N083527P;PENN	98057

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	O	R	P	4571.0
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
	10,300	PENNSYLVANIAN	AZTEC DRILLING	DECEMBER 30TH, 2013

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water
~300 feet (Ogallala aquifer)	~1630 meters (CC01212)	~2,500 feet (ephemeral earthen pond)

☐ **We will be using a closed-loop system in lieu of lined pits**

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Conductor	24-inch	16-inch	94#	180-feet	NA	Surface
Surface	14.75-inch	11.75-inch	54#	1,700-feet	926 (200%)	Surface
Intermediate	10.625-in	8.625-inch	32#	6,700-feet	267 (150%)	5,200-feet
Production	7.875-in	5.50-inch	20#	10,300-feet	501 (150%)	6,200-feet

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	3,000 psi	2,100 psi	Hydril
Double Ram	3,000 psi	3,000 psi	Shaffer

DEC 02 2013

Attachment A – Pulliam Farms 27-P Drilling & Completion Plan
Attachment A1 – Lithology
Attachment A2 – Preliminary Drilling Program
Attachment A3 – Aztec 730 BOP Stack Diagram
Attachment B – Pulliam Farms 27-P Surface Use Plan
Attached Maps
Location Photos
Well Location , Pulliam Farms 27-P
Location Layout for Pulliam Farms 27-P (Approximate)

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify that I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☐, if applicable.** Signature: Bridget Helfrich	OIL CONSERVATION DIVISION Approved By:
Printed name: Bridget Helfrich	Title:
Title: Regulatory Coordinator	Approved Date: 11/27/13 Expiration Date: 11/27/15
E-mail Address: bhelfrich@altamesa.net	
Date: 11-19-13 Phone: 281-943-1373	Conditions of Approval Attached

Pulliam Farms 27-P Drilling and Completion Plan

The well will be drilled with potable (TDS<3,000 ppm) water-based fluids from surface to the bottom of the Santa Rosa Formation ("freshwater aquifer"). Surface conductor and surface casing strings will be installed and cemented. Below the Santa Rosa Formation, the well will be drilled with air and foam as the circulating fluid to total depth (TD). Oil-based drilling fluids may be used as a contingency if air drilling is unsuccessful. Additional intermediate strings and production casing will be installed and cemented as prescribed, with contingency casing and cementing solutions approved by the District supervisor. Hydraulic stimulation will be performed in the prospective zones, and gas and water flow testing will be conducted in individual and/or commingled zones.

Drilling Program

- Lithology
  - Tucumcari Basin
    - This area has been the subject of limited oil & gas exploration activity
    - Approximate depths of key geologic formations are shown in table below
  - Prospective formations are in the Pennsylvanian section
- Fluid Bearing Formations
  - Potable water (300 – 1700 feet below ground surface)
  - Brackish water (1700+ feet below ground surface)
  - Natural gas/condensate (~7,000 – 10,300 feet below ground surface)
- Drilling Fluids
  - Air drilling fluids
    - To the extent possible, the well will be drilled below surface casing using air and/or foam as the circulating fluid
  - Freshwater drilling fluids (see Attachment A2)
    - Potable (TDS< 3,000 ppm) water-based, 8.3-8.6 ppg, viscosifiers and LCM additives
  - Oil-based drilling fluids (see Attachment A2)
    - Diesel oil-based fluids, 8.0-9.0 ppg, lime, caustic soda, viscosifiers and LCM additives
  - Lost Circulation Materials (LCM)
    - As needed, LCM consisting of, but not limited to, cedar fibers, mica, drilling paper, graphite, walnut plug, cottonseed hulls and calcium carbonate may be introduced into the well bore
- Wellhead Pressure Control (Blowout Prevention [BOP])
  - Wellhead BOP equipment is standard design for "tight gas" wells, as shown on Attachment A3
    - Maximum pressures for equipment (wellhead A section to be 11" 5,000 psi; wellhead B section to be 11" 5,000 psi; BOP with 11" 3,000 psi annular preventer; and with 11" 3,000 psi ram preventers)
    - Maximum downhole pressures anticipated ~4400 psi
  - BOP testing procedures conducted by third party contractor upon installation
    - Ram preventers to 3,000 psi and 250 psi; Annular preventer to 2100 psi and 250 psi, for 10 minutes and 5 minutes, respectively
- Directional Drilling
  - This well is planned as vertical; inclination added for engineering effort to simulate tortuosity

Casing and Cementing Program

- All casing run and set will be new and unused. Details are included below:
- *Surface Casing*
  - 14.75-inch diameter well bore, drilled to 1700 feet.
  - 11.75-inch diameter casing installed and cemented to surface
- Intermediate Casing
  - 10.625-inch diameter well bore, drilled to 6700 feet.

- 8.625-inch diameter casing installed and cemented to 5200 feet
- Production Casing
  - 7.875-inch diameter well bore, drilled to 10,100 feet.
  - 5.50-inch diameter casing installed and cemented to 6200 feet

Well Completion

- Casing Perforation
  - Perforate casing in prospective sand zones, using six shots per foot (spf), 60 degree, phased perforating guns
- Hydraulic Fracturing
  - Treat prospective sand zones with ceramic and/or sand proppant materials during hydraulic fracturing

Logging and Testing

- Lithologic Logging
  - Mudlogging (00' to TD); Selective coring (side-wall cores likely with wireline)
- Wireline-Logging, including but not limited to:
  - Gamma Ray, Resistivity, Porosity, Neutron and Sonic data collection
  - Spectroscopy, Sigma, and NMR
- Flow Testing
  - Flow individual production zones for up to 3 days
  - Flow entire well for up to 120 days

Lithology

Wellsite elevation is 4571'

Significant Formation Tops	Drill Depth	Subsea Depth
Santa Rosa	1200	3371
San Andres	3348	1223
Glorietta	3668	903
Tubb	5054	-483
Abo	5526	-955
Wolfcamp	6483	-1912
Pennsylvanian	7530	-2959
Mississippian	9963	-5392
Basement	10113	-5542
PTD	10300	-5729

The nearest offset well, *Terry and Pamela Stovall Partnership 13-1*, was logged with electron capture spectroscopy, as well as traditional logging tools. No salt was indicated by these open-hole logs or by the mud logger.

Preliminary Drilling Program

Lease and Well Name:
Pulliam Farms 27-P

Location:

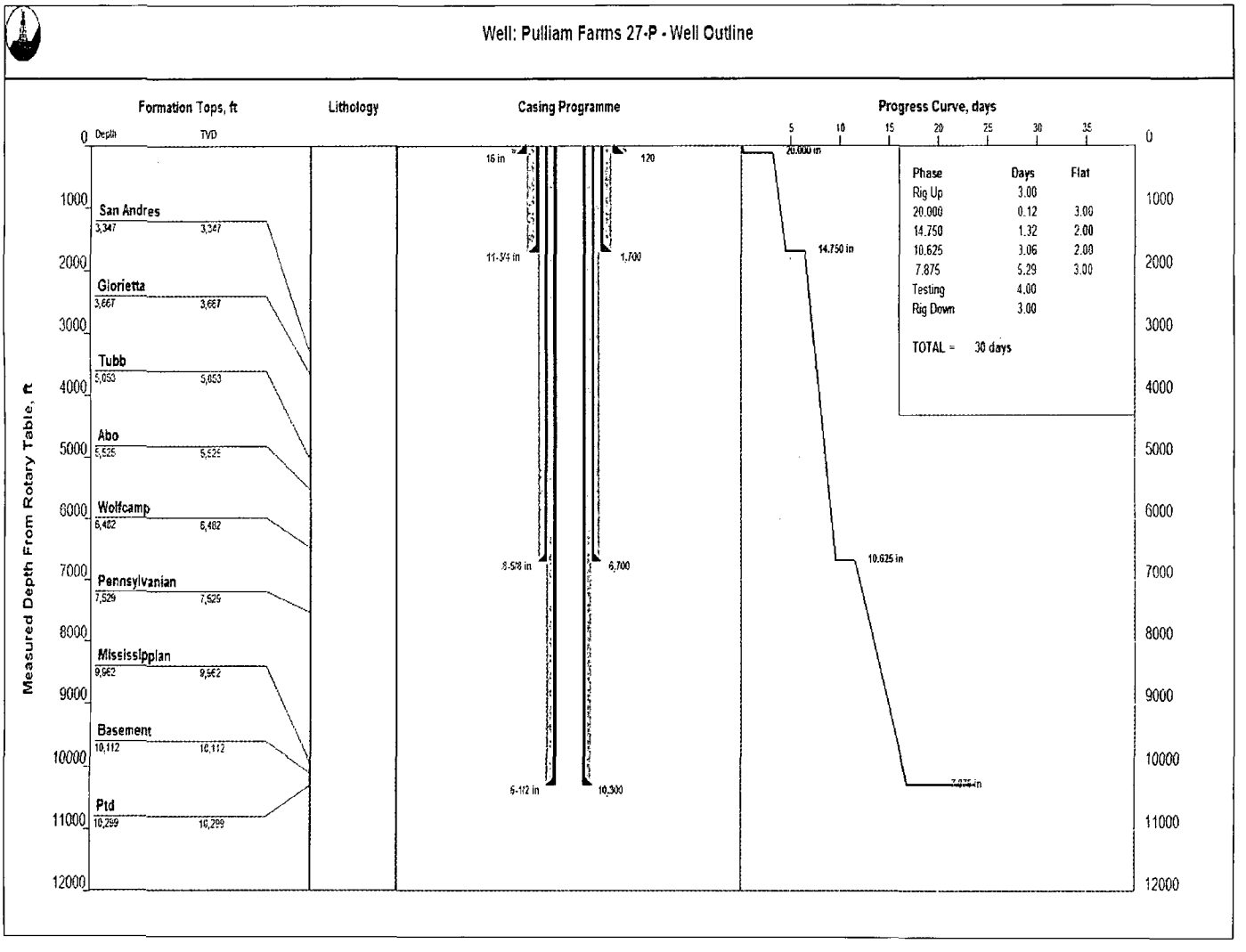
Broadview, NM	34° 49' 10.11"N 103° 12' 48.87"W
Lease Entrance	34° 52' 49.33"N 103° 12' 50.22"W
Well Site	34° 52' 49.34"N 103° 12' 59.95"W

Directions:

From Tucumcari, take Interstate 40 East. Take Exit 356 toward San Jon. Keep right at the fork and merge onto NM-469 (South 4th St). Go 14.9 miles and turn left onto NM-275. Go 7.9 miles and turn right on NM-275 (Curry Road K). Go 2.9 miles and entrance will be on the right.

From Clovis, take NM-209 North. Go 28.1 miles and continue on Curry Road K. Go 4.2 miles and entrance will be on the left.

Well Outline



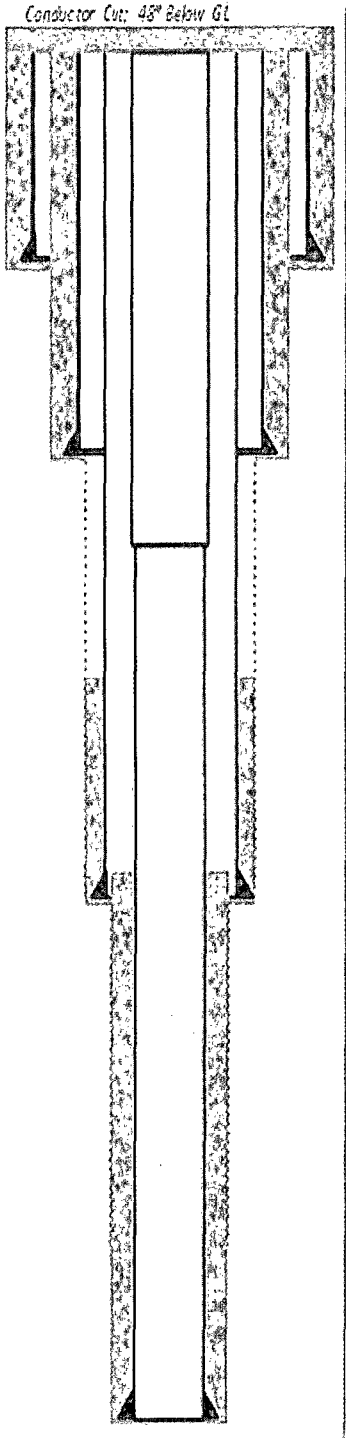
Wellbore Schematic

REV 2.0
Prepared by: Alexis Husser
October 28th, 2013

Alta Mesa Services, LP
Lobo– Curry County, NM
Pulliam Farms 27-P – *Proposed* Wellbore Schematic

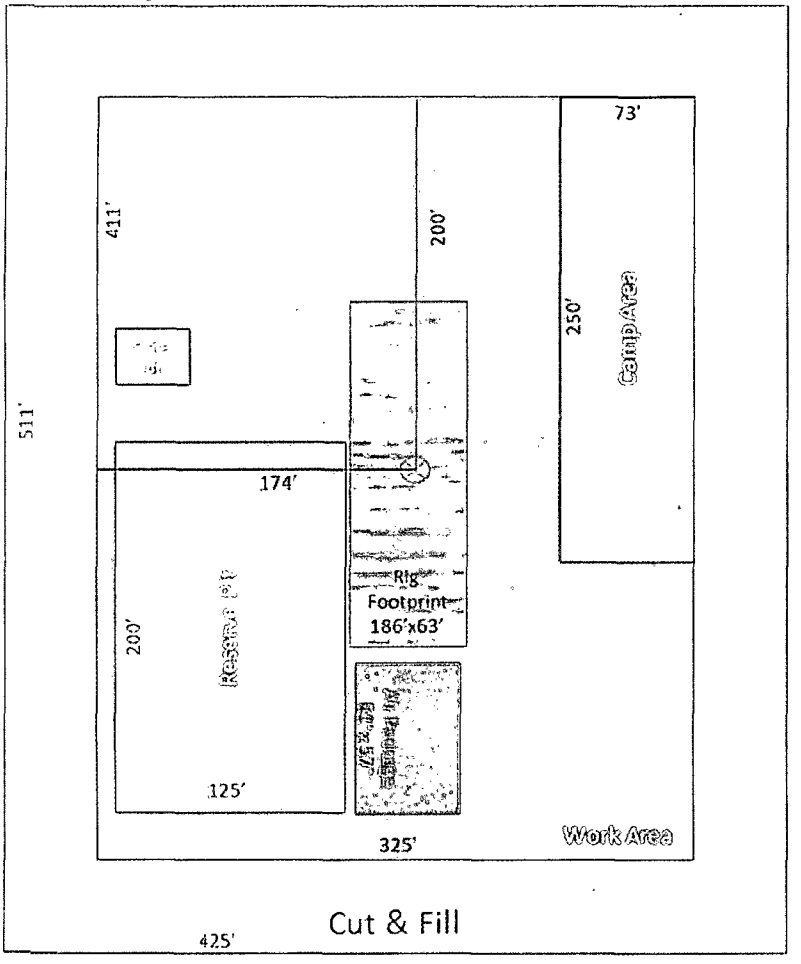
Depth Reference: Drill Floor
Drill Floor above GL: 15'
GL Elevation above MSL: 4571.0'

Bit & Directional	Evaluation	PP / FG
		PPG
24" Auger Vertical	None	8.4 / 8.9
14 ¾" Insert Bit Vertical Drilled To: 1,700' / 1,700'	None	8.4 / 11.5
10 5/8" Hammer Drill Vertical Hold Drilled To: 6,700' / 6,700'	MWD: GR WL: PEX ECS	
7 7/8" Hammer Drill Vertical Hold Drilled To: 11,000' / 11,000'	MWD: GR WL: PEX ECS Sonic Scanner	

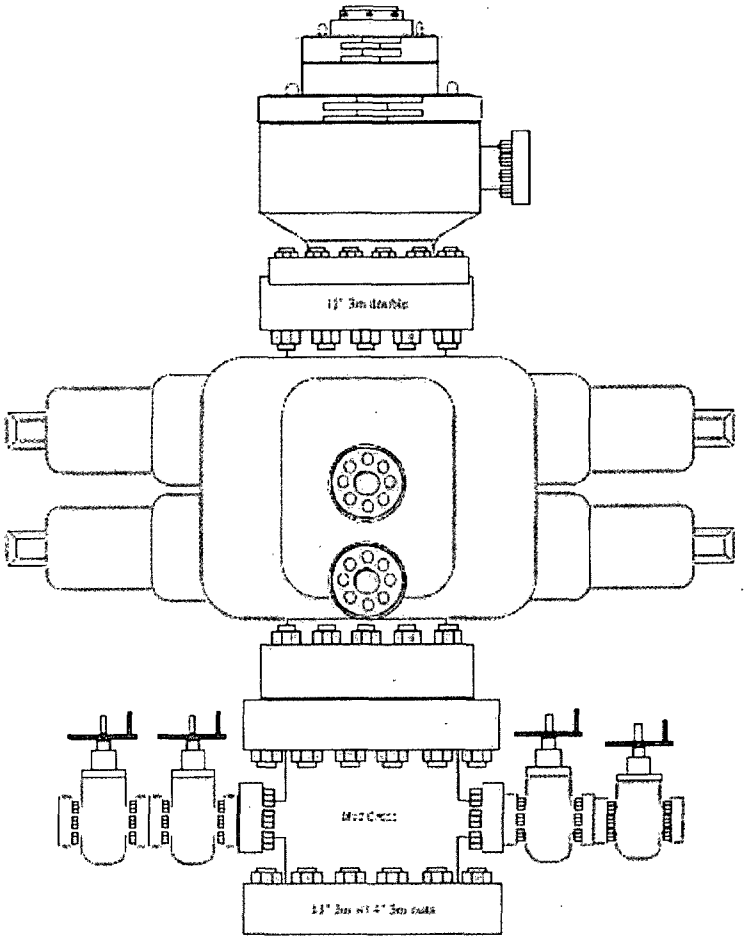


Drilling Fluid	Casing	Cement
Dry	16" Conductor 180' / 180'	Class A
Spud Mud 8.5 – 9.0ppg	11 ¾" 54# J-55 STC Set @: 1,700' / 1,700'	Econocem 12.8 ppg to Surface HalCem 14.8 ppg to 1,200'
Air and Foam Set @: 6,700' / 6,700'	8-5/8" 32# J-55 LTC @ 4,000' 8-5/8" 32# C-95 LTC	Econocem 12.0ppg to 5,200' VersaCem 13.2ppg to 6,200'
Air and Foam Set @ 11,000' / 11,000'	5½" 20# P110 BTC	Tuned Light 11.0ppg to 6,200' HalCem-H 15.8ppg to 9,100'

Preliminary Site Plan



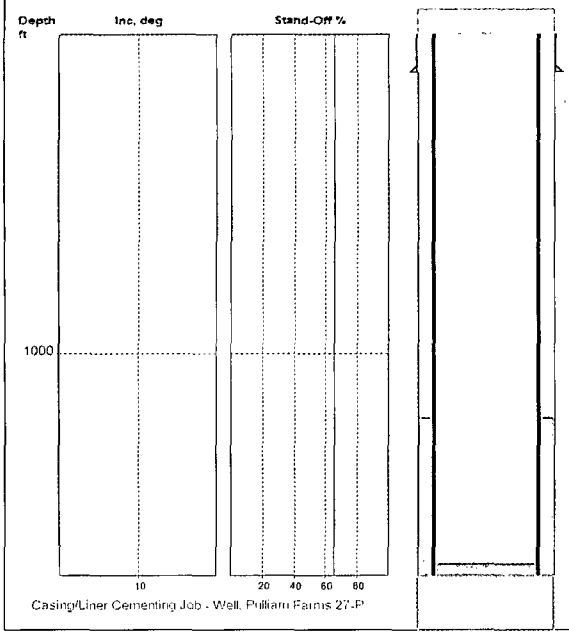
BOP Diagram



Casing and Cementing Details

Surface Hole

Set Depth	Top (RTE)	Size	Weight	Grade	Conn	Drift	Burst	Collapse	Tension
1700'	15'	11 ¾"	54#	J-55	STC	10.724"	3560 psi	2070 psi	568 kips



CASING/LINER CEMENTING JOB

Shoe Depth : 1700.00 ft
Shoe TVD : 1700.00 ft
OH Size : 14.750 in

CASING From Bottom to Top
1700 ft Casing OD:11.750in ID:10.878in W: 54.00lb/ft

1) Displacement : 190.6 bbl

2) Static Fluid Pressure at End of Job
Inside Pressure : 807 psi
Annulus Pressure : 1171 psi
Final Differential Pressure : 364 psi

3) Pumping Schedule

1 Spacer1	0.00 mn	0.0 bbl	@ -580.00 ft
2 Spacer2	0.14 mn	1.7 bbl	@ -80.00 ft
3 Lead Slurry	22.85 mn	91.4 bbl	@ 20.00 ft
4 Tail Slurry	10.81 mn	43.2 bbl	@ 1200.00 ft
5 Mud	15.44 mn	185.6 bbl	@ 43.38 ft
6 Slow Displacement	9.97 mn	5.0 bbl	@ 0.00 ft

TOTAL PUMPING TIME = 59 mn

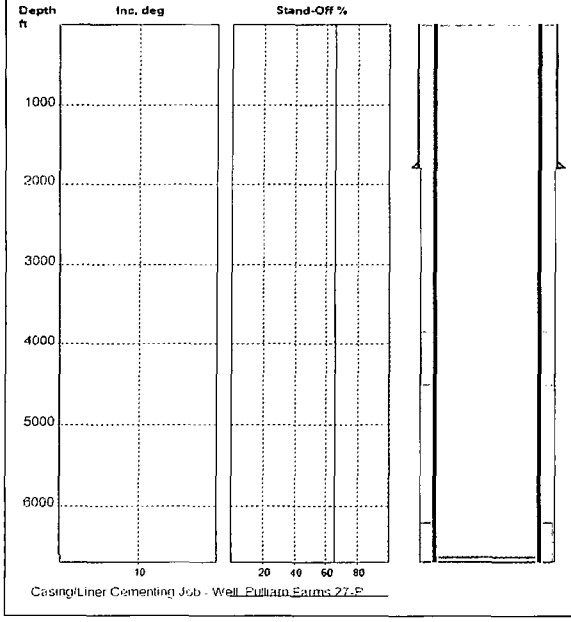
4) Cement Slurries

LEAD SLURRY 281 sacks
Volume : 91.4 bbl
Density : 12.80 ppg
Mix Water : 63.6 bbl
Cement Weight : 28363 lbs

TAIL SLURRY 182 sacks
Volume : 43.2 bbl
Density : 14.80 ppg
Mix Water : 27.4 bbl
Cement Weight : 17031 lbs

Intermediate Hole

Set Depth	Top (RTE)	Size	Weight	Grade	Conn	Drift	Burst	Collapse	Tension
4000'	15'	8 5/8"	32#	J55	LTC	7.875"	3931 psi	2524 psi	452 kips
6700'	4000'	8 5/8"	32#	C95	LTC	7.875"	6788 psi	3278 psi	677 kips



CASING/LINER CEMENTING JOB

Shoe Depth : 6700.00 ft
Shoe TVD : 6700.00 ft
OH Size : 10.625 in

CASING From Bottom to Top
2700 ft Casing OD: 8.625in ID: 7.921in W: 32.00lb/ft
4000 ft Casing OD: 8.625in ID: 7.921in W: 32.00lb/ft

1) Displacement : 403.5 bbl

2) Static Fluid Pressure at End of Job
Inside Pressure : 2872 psi
Annulus Pressure : 3254 psi
Final Differential Pressure : 381 psi

3) Pumping Schedule

1 Spacer1	5.00 mn	25.0 bbl	@ 3850.83 ft
2 Spacer2	5.00 mn	25.0 bbl	@ 4525.41 ft
3 Lead Slurry	5.29 mn	37.1 bbl	@ 5200.00 ft
4 Tail Slurry	3.34 mn	23.4 bbl	@ 6200.00 ft
5 Mud	56.93 mn	398.5 bbl	@ 81.85 ft
6 Slow Displacement	9.98 mn	5.0 bbl	@ 0.00 ft

TOTAL PUMPING TIME = 86 mn

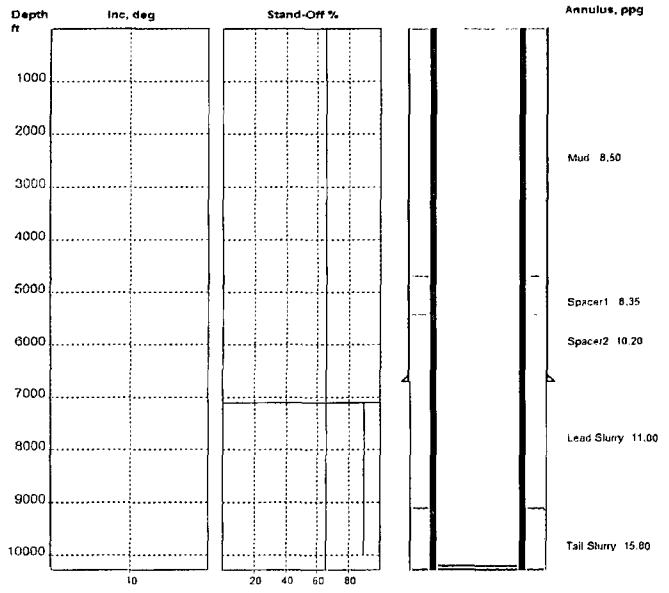
4) Cement Slurries

LEAD SLURRY 86 sacks
Volume : 37.1 bbl
Density : 12.00 ppg
Mix Water : 27.9 bbl
Cement Weight : 8082 lbs

TAIL SLURRY 92 sacks
Volume : 23.4 bbl
Density : 13.20 ppg
Mix Water : 17.7 bbl
Cement Weight : 8600 lbs

Production Hole

Set Depth	Top (RTE)	Size	Weight	Grade	Conn	Drift	Burst	Collapse	Tension
10300'	15'	5 ½"	20#	P110	LTC	4.653	12360 psi	11080 psi	548 kips



Casing/Liner Cementing Job - Well Putnam Farms 27-P

CASING/LINER CEMENTING JOB

Shoe Depth : 10300.00 ft
Shoe TVD : 10300.00 ft
OH Size : 7.875 in

CASING From Bottom to Top
10300 ft Casing OD: 5.500in ID: 4.780in W: 20.00lb/ft

1) Displacement : 226.0 bbl

2) Static Fluid Pressure at End of Job
Inside Pressure : 4431 psi
Annulus Pressure : 5436 psi
Final Differential Pressure : 1005 psi

3) Pumping Schedule

1 Spacer1	5.00 mn	25.0 bbl	@ 4683.34 ft
2 Spacer2	5.00 mn	25.0 bbl	@ 5441.67 ft
3 Lead Slurry	12.91 mn	90.4 bbl	@ 6200.00 ft
4 Tail Slurry	5.66 mn	39.6 bbl	@ 9100.00 ft
5 Mud	31.57 mn	221.0 bbl	@ 225.05 ft
6 Slow Displacement	1.25 mn	5.0 bbl	@ 0.00 ft

TOTAL PUMPING TIME = 61 mn

4) Cement Slurries

LEAD SLURRY 190 sacks
Volume : 90.4 bbl
Density : 11.00 ppg
Mix Water : 68.1 bbl
Cement Weight : 17799 lbs

TAIL SLURRY 144 sacks
Volume : 39.6 bbl
Density : 15.80 ppg
Mix Water : 21.7 bbl
Cement Weight : 13488 lbs

Pulliam Farms 27-P Surface Use Plan

The well location, associated facilities and access roads will be constructed on fee surface, upon approval of the surface owner. Well site and access roads will be constructed to withstand the loads occurring during mobilization, placement and operation of drilling, completion and testing equipment. Construction activities will be conducted to minimize surface disturbances and to readily accommodate reclamation activities on disturbed areas.

Existing Roads

- Access to Location
    - From the town of Broadview, New Mexico
        - Drive north on County Road K, about 4.2 miles
        - Location is on the west side of County Road K

Roads to be Constructed/Maintained

- Improved Roads
    - County Road (maintained by Curry County)
- Two-Track Roads
    - Construct improved 2-Track road segment to access *Pulliam Farms 27-P* location adjacent to existing county road
        - Grade/crown road, placing crushed aggregate as needed
        - Install culverts and/or rock-filled, low water crossings, as needed

Well Site Layout

- Well pad location and associated facilities are shown on Well Location, *Pulliam Farms 27-P*, Topographic Maps
    - The staked well location and proposed access road are shown on Location photos
    - Well location, water well, access roads, lined pits, above-ground tanks and temporary buildings, and storage areas are shown on Location Layout for *Pulliam Farms 27-P*

Water Supply

- See previous section in Drilling and Completion Plan

Existing Oil & Gas Wells

- *Terry Pamela Stovall Partnership 13-1* is located approximately 3.3 miles northeast of the *Pulliam Farms 27-P*
    - Well is permanently abandoned

Existing and/or Proposed Facilities

- Well Site Facilities
    - Located at well site
- Temporary living quarters
    - Located at well site

Storm Water Management Plan

- Storm water management and erosion control practices will be implemented during construction, operations, and reclamations
    - To utilize surface location that minimizes impact on natural storm water flow
    - To use diversion trenches to eliminate flow of storm water onto the location

Waste Management and Disposal

- Drilling fluids and cuttings and other solids will be disposed of on-site in an approved burial
- Other solid wastes will be accumulated and disposed of off-site at permitted landfill

Produced Water Management and Disposal

- Produced water, and hydraulic fracturing fluids will be disposed of off-site; some fluids may be treated and re-used on-site or at other well locations. Concentrated waste fluids will be disposed of off-site at permitted disposal facility

Construction Materials

- Fill material and Aggregate – obtained from local sources
- Top soil – temporarily stockpiled at perimeter of well pad and along construction corridors for subsequent use during reclamation

Reclamation

- Areas temporarily disturbed during construction, and well drilling, completion and testing will be reclaimed to original conditions, as soon as is practical and in consultation with the surface owner
    - Disturbed areas will be re-contoured to match existing topography
    - Topsoil salvaged during construction activities will be spread to a minimum thickness of 6 inches
    - Reclaimed areas will be planted with seed mixture recommended by local Soil Conservation Service and/or BLM staff, and approved by surface owner
- Areas disturbed during construction and subsequent oil & gas production will be reclaimed to original conditions as soon after oil & gas production ceases, as is practical, and in consultation with the surface owner