

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other: COAL BED METHANE		5. Lease Serial No. N0G99041348
2. Name of Operator COLEMAN OIL & GAS INCORPORATED		6. If Indian, Allottee or Tribe Name EASTERN NAVAJO
3a. Address FARMINGTON, NM 87499		7. If Unit or CA/Agreement, Name and/or No. NMNM103020
3b. Phone No. (include area code) Ph: 505-327-0356 Ext: 106 Fx: 505-327-9425		8. Well Name and No. MARILYN COM 1S
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 19 T26N R11W SWSE 670FSL 2580FEL 36.468330 N Lat, 108.044166 W Lon		9. API Well No. 30-045-31734-00-S1
		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL
		11. County or Parish, and State SAN JUAN COUNTY, NM

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Coleman Oil & Gas proposes to P&A this well per the attached procedure, Reclamation Plan and Field Sketch.

**BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS**

**SEE ATTACHED FOR CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct. <b>Electronic Submission #354833 verified by the BLM Well Information System For COLEMAN OIL &amp; GAS INCORPORATED, sent to the Farmington Committed to AFMSS for processing by ABDELGADIR ELMADANI on 11/04/2016 (17AE0013SE)</b>	
Name (Printed/Typed) MICHAEL T HANSON	Title ENGINEER
Signature (Electronic Submission)	Date 10/14/2016

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By <u>ABDELGADIR ELMADANI</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>11/04/2016</u>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office <u>Farmington</u>

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

**NMOCD** *AV*

# Coleman Oil & Gas, Inc.

## Final P&A Procedure Basin Fruitland Coal Formation

Thursday, October 08, 2015

**Well:** Marilyn Com #1S  
**SL Location:** 670' FSL & 2580' FEL (SWSE)  
Sec 19, T26N, R11W, NMPM  
San Juan County, New Mexico

**Field:** Basin Fruitland Coal  
**Elevation:** 6042' RKB  
6037' GL  
**Lease:** NOG99041348  
**API#:** 30-045-31734

Basin Fruitland Coal: 1191-1208, Producing.  
Original PBTD at 1304 FT GL  
Original TD at 1340 FT GL

**Procedure:** All cement volumes use 100% excess outside pipe and 50' excess inside. The stabilizing wellbore fluid will be 8.3 ppg, sufficient to balance all exposed formation pressures. All cement will be Class B, mixed at 15.6 ppg with a 1.18 cf/sx yield.  
(Note: This procedure will be adjusted on site based upon actual conditions)

1. Review and Comply with Regulatory Requirements.
2. MIRU Well Service Rig and Equipment.
3. POOH with Rods & Pump.
4. Nipple up BOP equipment. Function test BOP.
5. Tag with Production Tubing. POOH and Tally Tubing.
6. RIH with Cement Retainer on tubing and set at  $\pm$  1141 FT KB.
7. Place Minimum 10 sacks cement on top of retainer. **Might want to combine Plug #1 & Plug #2, due to close proximity of each other.**
8. Plug #2 Cement Fruitland Top from 878'-928' Inside 4 ½" Casing with 12 sacks neat cement. Plug #2 inside plug based on Long String Cement to Surface. **Might want to combine Plug #1 & Plug #2, due to close proximity of each other.**
9. Attempt to pressure test Braden head annulus to 300 psig, note volume to load.
10. Plug #3 Cement Kirtland and Ojo Alamo Top and Surface Casing, 205' to surface. Fill the inside of the 4 ½" casing from 205' to Surface.
11. Cut off well head and top off casing and annulus as necessary with cement.
12. Install dry hole marker, remove production equipment and reclaim location.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries);

38.

**GEOLOGIC MARKERS**

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
Nacimiento	Surface					
Ojo Alamo	35'		ESTIMATED BEHIND SURFACE			
Kirtland	155'		ESTIMATED NOT LOGGED			
Fruitland	928'					
Pictured Cliffs	1212'					
T. D.	1340'					

0274100

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires: November 30, 2000

**SUNDRY NOTICES AND REPORTS ON WELLS**

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE- Other Instructions on the reverse side**

1. Type of Well

☐ Oil Well

☒ Gas Well

☐ Other

2. Name of Operator

Coleman Oil & Gas, Inc.

3a. Address

P.O. Drawer 3337, Farmington, NM 87499

3b. Phone No. (include area code)

505-327-0356

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

670' FSL and 2580' FEL SEC 19, T26N, R11W, NMPM

5. Lease Serial No.

NO-G- 9904-1348

6. If Indian, Allottee, or Tribe Name

7. If Unit or CA. Agreement Designation

670' Farmington, NM

8. Well Name and No.

Marilyn Com #1S

9. API Well No.

30-045-31734

10. Field and Pool, or Exploratory Area

Basin Fruitland Coal

11. County or Parish, State

San Juan

NM

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production ( Start/ Resume)	<input type="checkbox"/> Water Shut-off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will be performed or provide the Bond No. on file with the BLM/ BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

SPUD WELL OCTOBER 20, 2003 @ 7:30 AM. DRILLED 8 3/4" HOLE TO 140 FT. GL. RAN 3 JTS OF 7" 20# J-55 ST&C NEW CASING. RAN A TOTAL FOOTAGE OF 126.92 FT. AND LANDED @ 127.92 FT. GL. CEMENTED W/ 75 SACKS CLASS B W/ 3% CALCIUM CHLORIDE AND 1/4# PER SACK CELLOFLAKE. CIRCULATED 4 1/2 BARRELS OF CEMENT TO RESERVE PIT. NIPPLED UP BOP AND MANIFOLD. PRESSURE TESTED BOP, MANIFOLD AND CASING TO 750 PSIG. DRILLED 6 1/4" HOLE TO 1340 FT. GL. TD WELL @ 1340 FT. GL. @ 3:00 PM ON OCTOBER 23, 2003. RAN A TOTAL OF 33 JTS 4 1/2" 10.50#/FT ST&C J-55. LANDED CASING AT 1325.20 FT. GL. CEMENTED W/ 70 SACKS CLASS G W/ 3% D79, 2 % CACL AND 1/4# PER SACK D29. TAILED W/ 65 SACKS CLASS G 50/50 POZ W/ 2% GEL, 5# PER SACK GILSONITE AND 1/4# PER SACK D29. CIRCULATED 10 BARRELS OF CEMENT TO SURFACE.

*Circulated Cement*

*Correction 80 SXS*

NO OPEN HOLE LOGS RAN.

14. I hereby certify that the foregoing is true and correct.  
Name (Printed/ Typed)

MICHAEL T. HANSON

Signature

Title

ENGINEER

Date

October 28, 2003

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

ACCEPTED FOR RECORD

Approved by

Title

Date

NOV 14 2003

Conditions of approval, if any are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

FARMINGTON FIELD OFFICE

Title 18 U.S.C. Section 1001 AND Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

**OPERATOR**

**COLEMAN OIL GAS, INC.  
MARILYN COM #1S PRODUCING**

**SURFACE CASING**  
7" 20# J-55 LT&C @ 128 FT GL  
CEMENTED WITH 75 SXS  
CLASS B W/ 2% CAL CL 1/4 #/SX

**PRODUCTION CASING**  
4-1/2" 10.50# J-55 LT&C @1325 FT GL  
CEMENTED WITH 80 SXS LITE  
TAIL WITH 65 SACKS REG.

**CEMENT CIRCULATED TO SURFACE  
ON SUFACE & PRODUCTION CASING**

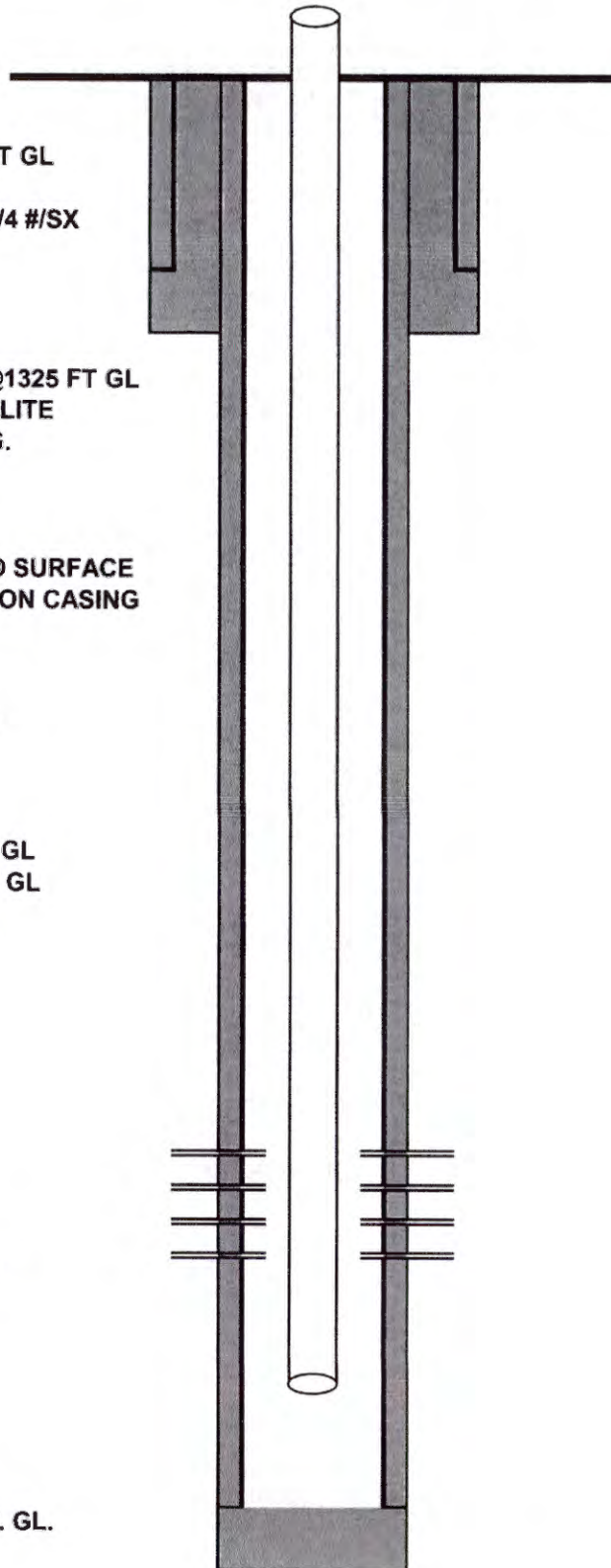
**TUBING STRING**  
37 JTS 2-3/8 TBG 1224 FT  
**SEATING NIPPLE**  
1 JT 2-3/8 MA 32.72 FT.

Seating Nipple @ 1224 FT GL  
Bottom of TBG @ 1257 FT GL

Retainer @ ± 1141

Fruitland Coal  
Perforations @ 1191-1208

PBTD @ 1304' FT. GL.  
PIPE LANDED @ 1325' FT. GL.  
T.D. @ 1340' FT. GL.



**COLEMAN OIL GAS, INC.  
MARILYN COM #1S PROPOSED P&A**

**SURFACE CASING**

7" 20# J-55 LT&C @ 128 FT GL  
CEMENTED WITH 75 SXS  
CLASS B W/ 2% CAL CL 1/4 #/SX

Plug #3 0-205  
7" Set @ 128 FT GL  
50 Sacks Cement

**PRODUCTION CASING**

4-1/2" 10.50# J-55 LT&C @ 1325 FT GL  
CEMENTED WITH 80 SXS LITE  
TAIL WITH 65 SACKS REG.

CEMENT CIRCULATED TO SURFACE  
ON SUFACE & PRODUCTION CASING

Plug #2 878-978  
Fruitland Top @ 928'  
12 Sacks Cement

Retainer @  $\pm$  1141

Plug #1 1091-1141  
Fruitland Coal Perforations  
10 Sacks Cement

Fruitland Coal  
Perforations @ 1191-1208

PBTD @ 1304' FT. GL.  
PIPE LANDED @ 1325' FT. GL.  
T.D. @ 1340' FT. GL.

**Schlumberger**Company: **COLEMAN OIL & GAS**Well: **MARILYN COM #1S**Field: **BASIN FRUITLAND COAL**County: **SAN JUAN**State: **NEW MEXICO****CEMENT BOND****GAMMA RAY****COLLAR LOG**

670 FSL &amp; 2580 FEL

Elev.: K.B. 6044 ft

G.L. 6040 ft

D.F.

Permanent Datum: GROUND LEVEL

Elev.: 6040 ft

Log Measured From: KELLY BUSHING

4.0 ft above Perm. Datum

Drilling Measured From: KELLY BUSHING

API Serial No.

30-045-31734

Section

19

Township

26N

Range

11W

Logging Date	29-Oct-2003
Run Number	1
Depth Driller	1304 ft
Schlumberger Depth	1305 ft
Bottom Log Interval	1305 ft
Top Log Interval	300 ft
Casing Fluid Type	WATER

Salinity	
Density	8.4 lbm/gal
Fluid Level	0 ft

BIT/CASING/TUBING STRING

Bit Size 6.250 in

From

To

Casing/Tubing Size 4.500 in

Weight 10.5 lbm/ft

Grade

From

To

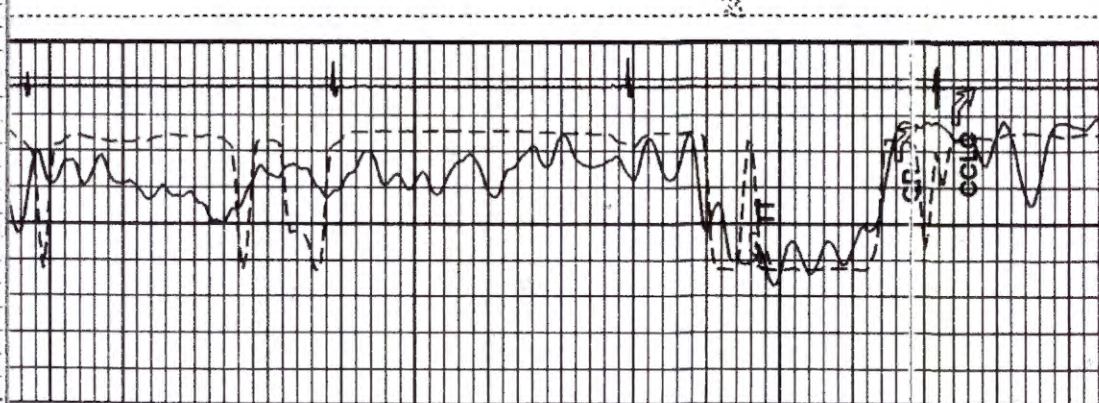
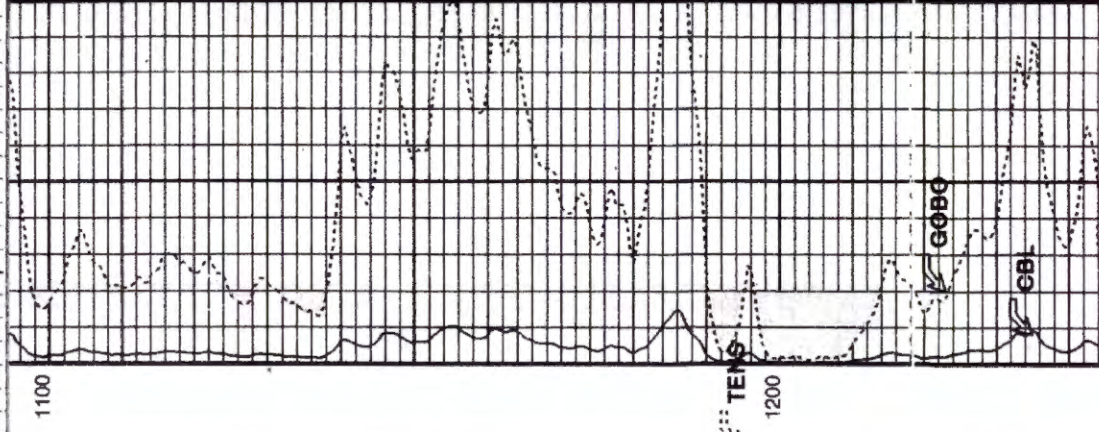
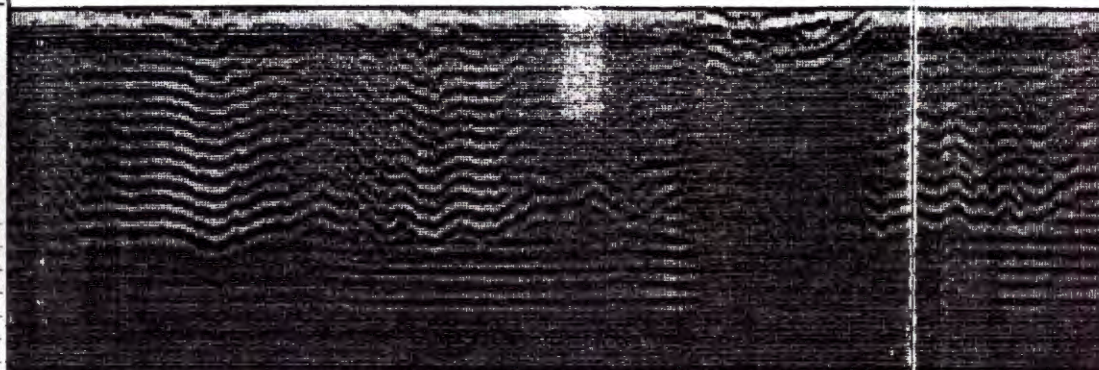
Maximum Recorded Temperatures

Logger On Bottom Time 29-Oct-2003

Unit Number Location 310 FARMINGTON

Recorded By DEAN CULP / MEG SOBKOWICZ

Witnessed By MIKE HANSON



United States Department of the Interior  
Bureau of Land Management

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Reclamation Plan

Coleman Oil & Gas, Inc.

Marilyn Com #1S  
Plug and Abandonment Project

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Prepared by

Michael T. Hanson

Coleman Oil & Gas, Inc.  
6540 East Main  
Farmington, New Mexico 87402

September 9, 2016

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U.S. Department of the Interior  
Bureau of Land Management  
Farmington District  
Farmington Field Office  
6251 N. College Blvd., Ste. A  
Farmington, NM 87402  
Phone: (505) 564-7600  
FAX: (505) 564-7608

BLM



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## Reclamation Plan (Procedure A)

Applicant	Coleman Oil & Gas, Inc.
Project Type	Reclamation of a natural gas well site.
Well, Oil and Gas Lease, or Right-of-Way (ROW) Name	Marilyn Com #1S
Legal Location	SWSE Section 19 (670' FSL, 2580' FEL), Township 26 North, Range 11 West, New Mexico Principal Meridian, in San Juan County, New Mexico
Lease Number(s)	NOG99041348

### Introduction

This reclamation plan has been prepared to meet the requirements and guidelines of the Bureau of Land Management (BLM) Farmington Field Office (FFO) Bare Soil Reclamation Procedures (BLM 2013a) and Onshore Oil and Gas Order No. 1.

The Coleman Oil & Gas, Inc contact person for this Reclamation Plan is:

Michael T. Hanson  
Coleman Oil & Gas, Inc.  
6540 East Main  
Farmington, New Mexico 87402  
Phone: (505) 327-0356

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### Vegetation Reclamation Procedure A

Completion of a Vegetation Reclamation Plan in accordance with Procedure A of the BLM/FFO Bare Soil Reclamation Procedures is required for surface disturbing actions, grants, or permits authorized by the BLM/FFO resulting in bare mineral soil **across an area greater than 0.1 acre but less than 1 acre**, not including a BLM/FFO approved working area. Working areas include areas routinely used to operate and maintain facilities or improvements. The FFO makes no distinction between interim and final revegetation processes; revegetation processes and standards are the same for all revegetation activities.

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### Revision of the Reclamation Plan

Coleman Oil & Gas, Inc may submit a request to the BLM/FFO to revise the Reclamation Plan at any time during the life of the project in accordance to page 44 of the Gold Book (USDI-USDA 2007). Coleman Oil & Gas, Inc will include justification for the revision request.

## Project Description

Coleman Oil & Gas, Inc plans to plug and abandoned the Marilyn Com #1S wellbore. Location, access and associated portion of pipeline will be reclaimed. This location is located on Navajo Allotted surface managed by the BLM southwest of Bloomfield, NM. The access well pad and road are utilized by locals. The pipeline is owned and operated by Coleman. Meter tube, markers and risers will be removed from the location. Main access and portions of well pad will remain for surface owner use. Surface owner has agreed gravel on access and well pad to remain.

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## Estimated Total Area of Disturbance

The Marilyn Com #1S well pad is approximately 105-foot by 135- location and does not have much elevation change. Total surface disturbance as a result of well pad would be approximately **0.28 acres** on lands managed by the BLM.

## Site Visit

The pre-disturbance site visit occurred on July 21, 2016. The following persons were present at the site visit.

Table 1.

Name	Affiliat	Contact Info
Robert K. Switzer	BLM/FFO	505-564-7709 rswitzer@blm.gov
Bruce Taylor	Coleman Oil & Gas, Inc.	505-486-3427
James Hellekson	Consolidated	505-320-0049

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## Vegetation Community

Based on observations made during the pre-disturbance site visit, it has been determined that the vegetation community which best represents the proposed project area is Sagebrush Community. This community is comprised primarily of Wyoming big sage with lesser amounts of basin big sage and minor areas of black sage. It is found on all aspects from about 5,000 to 7,200 feet but is most common on southerly and western aspects. Soils vary from clayey to fine sandy loam to loamy in texture with loamy sites being more pervasive.

## Proposed Reclamation Seed Mix

Disturbance will be re-contoured and topsoil will be redistributed and prepared for seeding by the construction contractor. Ripping, disking, and seeding of the site will be done by Consolidated using the BLM-approved seed mix, which is shown in Table 2. The proposed reclamation seed mix takes into account the existing vegetation on the proposed project site.

Table 2. Sagebrush Community Seed Mix

Common Name	Scientific Name	Variety	Season	Form	PLS lbs/acre <sup>1</sup>
Fourwing saltbush	<i>Atriplex canescens</i>	VNS	Cool	Shrub	2.0
Winterfat	<i>Krascheninnikovia lanata</i>	VNS	Cool	Shrub	2.0
Indian ricegrass	<i>Achnatherum hymenoides</i>	Paloma or Rimrock	Cool	Bunch	4.0
Blue grama	<i>Bouteloua gracilis</i>	Alma or Hachita	Warm	Sod-forming	2.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	VNS	Warm	Bunch	0.5
Bottlebrush squirreltail	<i>Elymus elymoides</i>	Tusas or VNS	Cool	Bunch	3.0
Small burnet	<i>Sanguisorba minor</i>	Delar	Cool	Forb	2.0
Lewis flax	<i>Linum lewisii</i>	Apar	Cool	Forb	0.25

<sup>1</sup>Based on 60 pure live seeds (PLS) per square foot, drill seeded; double this rate (120 PLS per square foot) if broadcast or hydroseeded; "lbs" refers to pounds.

**\*\* Seed Mix is a recommended upgrade from what was required in the original reclamation plan on the approved APD.**

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## Vegetation Reclamation Standards

Requirements for determining reclamation and if it is successfully completed for the selected vegetation community are determined by the reclamation percent cover standards for the community, as outline in Table 3. These standards must be met during post-disturbance monitoring procedures in order for the BLM/FFO to sign off on the attainment of vegetation reclamation standards.

Table 3. Reclamation Goal for Sagebrush/Grass Community Cover

Functional Group	Percent (%) Foliar Cover	Common Species
Trees/Shrubs/Grasses/Forbs	≥35	Utah Juniper, pin on pine; big sagebrush, four-wing saltbush, antelope bitterbrush, alkali sacaton, Western wheatgrass, Indian ricegrass, galleta, sand dropseed, scarlet globemallow, wooly Indianwheat, fleabane, Penstemon sp., buckwheat, threadleaf groundsel
Invasive/undesirables 10% allowed toward meeting standard of 35%.	≤10	Plants that have the potential to become a dominant species on a site where its presence is a detriment to revegetation efforts or the native plant community. Examples of invasive species include cheatgrass, Russian thistle, and kochia.

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## Weed Survey

During the site visit, the proposed action area was surveyed for noxious weeds listed on the New Mexico Department of Agriculture's Class A and Class B list. During the survey, no noxious weeds were documented within the proposed action area.

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## Soil Evaluation

Representative collaboratively decided at the site visit that no soil testing is necessary for the proposed project area.

# **Reclamation Techniques for Successful Revegetation**

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## **Site Clearing**

After the well is plugged the wellhead will be cut-off 3' below ground level and a 4" diameter P&A marker will be welded to the casing stub. All flow lines and anchors will be cut-off at least 3' below ground level or removed completely. Well site will be kept free of debris. All material and possible contaminated soils will be disposed at an approved disposal site. Gravel will be stripped and paced in cut with a minimum of two foot of cover or hauled to an approved disposal site.

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## **Topsoil Replacement**

It is not apparent that any top soil was stockpiled during the original construction of the well pad. Bar ditch will be cleaned out on south side of pad with appropriate water bar turn outs. Areas not utilized for daily production access will be ripped and seeded. An earthen berm and controlled drainage will be installed along the North side of the pad. Coleman (or its contractor) will take care not to mix topsoil with the underlying subsoil horizons.

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## **Water Management/Erosion Control Features**

The BLM/FFO representative and the Coleman representative will work in collaboration to develop site-specific erosion control or water management features and to identify installation locations. Water bars and silt traps will be added as needed to control water management/erosion on location and access slopes.

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## **Seedbed Preparation**

For cut and fill slopes, initial seedbed preparation will consist of backfilling and re-contouring to achieve a configuration as close to pre-disturbance conditions as possible. Areas to be reclaimed will be re-contoured to blend with the surrounding landscape, emphasizing restoration of existing drainage patterns and landform to pre-construction condition, to the extent practicable.

Seedbed preparation of compacted areas will be ripped to a minimum depth of 12 inches, with a maximum furrow spacing of 2 feet. Where practicable, ripping will be conducted in two passes at perpendicular directions. Disking will be conducted if large clumps or clods remain after ripping. Any tilling or disking that occurs along the contour of the slope and seed drills will also be run along the contour to provide terracing and prevent rapid run-off and erosion. If broadcast seeding is used, a dozer or other tracked equipment will track perpendicular to the slope prior to broadcast seeding.

Final seedbed preparation will consist of raking or harrowing the spread topsoil prior to seeding to promote a firm (but not compacted) seedbed without surface crusting.

**\*\* Seedbed preparation is similar to the original reclamation plan on the approved APD.**

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## Soil Amendments

Based on information gathered at the onsite inspection, and as a result of any soil testing conducted for the proposed project area, the Coleman and BLM/FFO representatives have decided collaboratively that no soil amendments will be used during reclamation of the affected environment.

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## Seeding Requirements

The seed mix chosen for this project is listed in Table 2. Seeding will occur in late July or September or as approved by the BLM/FFO.

A Truax seed drill or modified rangeland drill that allows for seeding species from different seed boxes at different planting depths will be used to seed the disturbed areas of the project area. Coleman or its reclamation contractor will ensure that perennial grasses and shrubs are planted at the appropriate depth. Intermediate size seeds (such as wheatgrasses and shrubs) will be planted at a depth of 1 to 2 inches. Small seeds (such as alkali sacaton and sand dropseed) will be planted at a depth of 0.25 inch. In situations where differing planting depths are not practicable using available equipment, the entire seed mix will be planted no deeper than 0.25 inch.

Drill seeding may be used on well-packed and stable soils that occur on gentler slopes and where equipment and drills can safely operate. The reclamation contractor may elect to hand-broadcast seed using a "cyclone" hand seeder or similar broadcast seeder. Broadcast application of seed requires a doubling of the drill-seeding rate. The seed will then be raked into the ground so the seed is planted no deeper than 0.25 inch below the surface.

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## Mulching

Hand seeding with hydro-mulch, excelsior netting, and/or mulch with netting may be required on cut and fill slopes. Mulch should be grass or straw spread at 2,000 to 3,000 pounds per acre, or approximately 1 to 2 inches deep. Mulching will consist of crimping certified weed-free straw or certified weed-free native grass hay into the soil.

Straw or native grass hay mulch can be applied by hand broadcasting or blowing to a relatively uniform depth of 2 to 3 inches, equivalent to a rate of approximately 2 tons per acre (one 74-pound bale per 800 square feet). When applied properly, approximately 20 to 40 percent of the original ground surface will be visible.

Straw or native grass hay mulch will then be anchored using one of the following methods:

- Hand Punching – a spade or shovel is used to punch mulch into the topsoil at 1-foot intervals until all areas have mulch standing perpendicular to the slope and the mulch is embedded at least 4 inches into the soil.
- Roller Punching – a roller is used to spread mulch over an area; the roller is equipped with straight studs not less than 6 inches long, from 4 to 6 inches wide, and approximately 1 inch thick.
- Crimper Punching – similar to roller punching, a crimper is used over the soil. The crimper has serrated disk blades about 4 to 8 inches apart that force the mulch into the soil. Crimping should be done in two directions with the final pass across the slope.

Mulch applications in extremely clayey soils should be evaluated carefully to avoid developing an adobe mixture. In these cases, a soil amendment may be beneficial.

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## **Noxious and Invasive Weed Control**

Should noxious or invasive weeds be documented after earthwork and seeding activities, the BLM/FFO weed coordinator will provide Coleman with specific requirements and instructions for weed treatments, including the period of treatment, approved herbicides that may be used, required documentation to be submitted to the BLM/FFO after treatment, and any other site-specific instructions that may be applicable.

**\*\* Similar requirement for pesticide/herbicide requirement on the original reclamation plan on the approved APD.**

## Monitoring Requirements

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### Attainment of Vegetation Reclamation Standards

When vegetation on a reclaimed site appears to meet the required percent revegetation standard, Coleman will submit to the BLM/FFO a written request for concurrence that revegetation standards have been attained. The BLM/FFO will review the request and approve or deny the request within 60 days of receipt. If the request is denied, the BLM/FFO may initiate a site inspection within 60 days of the denial to analyze the site and determine if remedy actions may be appropriate.

### References

43 CFR Part 3160, "Onshore Oil and Gas Order No. 1; Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; approval of Operations," 72 Federal Register 44 (March 2007), pp. 10328-10338.

BLM. 2013a. Farmington Field Office Bare Soil Reclamation Procedures. Available at: [http://www.blm.gov/nm/st/en/fo/Farmington\\_Field\\_Office/ffo\\_planning/surface\\_use\\_plan\\_of.html](http://www.blm.gov/nm/st/en/fo/Farmington_Field_Office/ffo_planning/surface_use_plan_of.html). Accessed November 2013.

BLM. 2013b. Updated Reclamation Goals. Available at: [http://www.blm.gov/nm/st/en/fo/Farmington\\_Field\\_Office/ffo\\_planning/surface\\_use\\_plan\\_of/updated\\_reclamation.html](http://www.blm.gov/nm/st/en/fo/Farmington_Field_Office/ffo_planning/surface_use_plan_of/updated_reclamation.html). Accessed November 2013.

U.S. Department of the Interior, U.S. Department of Agriculture (USDI, USDA). 2007. Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development. BLM/VO/ST-06/021+307/REV 07. Bureau of Land Management, Denver, Colorado. 84 pp

Original Approved Reclamation Plan attached to Approved APD. Original APD approved August 01, 1997.

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
FARMINGTON DISTRICT OFFICE  
6251 COLLEGE BLVD.  
FARMINGTON, NEW MEXICO 87402

Attachment to notice of  
Intention to Abandon:

Re: Permanent Abandonment  
Well: Marilyn Com #1s.

CONDITIONS OF APPROVAL

1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Lease."

2. Farmington Office is to be notified at least 24 hours before the plugging operations commence (505) 564-7750.

- a) Set Plug #1 (1260-1141) ft. to cover the Pictured Cliffs perforations and top. BLM picks top of Pictured Cliffs at 1210 ft.
- b) Set Plug #3 (350-0) ft. to cover the Kirtland and Ojo Alamo tops. BLM picks top of Kirtland at 300 ft. BLM picks top of Ojo Alamo at 163 ft.

You are also required to place cement excesses per 4.2 and 4.4 of the attached General Requirements.

Office Hours: 7:45 a.m. to 4:30 p.m.