

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAIL ROOM

Sundry Notices and Reports on Wells

3/11/96 PM 1:07

1. Type of Well
GAS

2. Name of Operator
MERIDIAN OIL

3. Address & Phone No. of Operator
PO Box 4289, Farmington, NM 87499 (505) 326-9700

4. Location of Well, Footage, Sec., T, R, M
1090' FSL, 990' FWL, Sec.15, T-30-N, R-10-W, NMPM

5. Lease Number
SF-078208
6. If Indian, All. or
Tribe Name
7. Unit Agreement Name
8. Well Name & Number
Sunray B #1
9. API Well No.
30-045-09449
10. Field and Pool
Blanco Mesaverde
11. County and State
San Juan Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment

Type of Action

☐ Abandonment

☐ Recompletion

☐ Plugging Back

☐ Casing Repair

☐ Altering Casing

☒ Other - Pay add

☐ Change of Plans

☐ New Construction

☐ Non-Routine Fracturing

☐ Water Shut off

☐ Conversion to Injection

13. Describe Proposed or Completed Operations

It is intended to add pay to the Mesaverde formation of the subject well according to the attached procedure and wellbore diagram.

RECEIVED
MAR 19 1996

OIL CON. DIV.
DIST. 3

14. I hereby certify that the foregoing is true and correct.

Signed [Signature] (JAS5) Title Regulatory Administrator Date 3/11/96

(This space for Federal or State Office use)

APPROVED BY _____ Title _____

CONDITION OF APPROVAL, if any:

Date

APPROVED

MAR 13 1996

DISTRICT MANAGER

NMOCD

Sunray B #1(Mesaverde)
Mesaverde Payadd & Restimulation
Section 15, T30N-R10W
San Juan County, New Mexico
Lat. 36.808044 Long 107.876877

*** COMPLETION PROCEDURE (3/04/96) ***

Basic Equipment Requirements:

9 frac tanks & 1 rig tank (if location size permits), 4600' of 3-1/2" (turned down collars) fracstring, 240' of 2-7/8" buttress fracstring, 7-5/8" fullbore stimulation packer, 5-1/2" packer, immediate flowback manifold, 4 additional joints of 2-3/8" work string/production tbg., 5-1/2" Mountain States Scab Liner Packer (SLP), 4-5 joints of 2-7/8" buttress scab liner tubing, 2-XO sub's from scab liner to 2-7/8" buttress tubing

1. RU Safety Company for H2S monitoring. Anticipate 40 ppm H2S levels. Calculation at 100 ppm H2S concentration yields a radius of exposure of 37 feet. Hold safety meeting. MIRU. Comply with all MOI, BLM and NMOC rules and regulations. Install 9 frac tanks and 1x400 bbl rig tank. Fill each frac tank with 3#s of biocide and filtered (25 micron) 1% KCl water.
2. Obtain and record all wellhead pressures. ND WH, NU BOP. TOOH w/ 2-3/8" tubing set at 5298'. Replace bad tubing as necessary.
3. PU a 5-1/2" 15.5# casing scraper on 2-3/8" tbg (a 7-5/8" scraper run may be needed if tubing has significant scale). TIH and run scraper to new PBTD @ 5349'. Blow hole clean w/ air. Spot 200 gallons of inhibited 15% HCL acid across Lower P.L. for underbalanced perforating. TOOH.
4. RU wireline & lubricator for underbalanced perforating. Run GR/Collar log (for perforation tie-in) from PBTD to 4600'. Perforate the Lower P.L. interval using 3-3/8" csg gun (HSC-2125-306T) w/ 12 gram charges and 0.30" diameter holes, 4 SPF. Inspect guns to ensure all perforations fired. RD wireline. **5332' - 5342' 10' interval**
5. PU 5-1/2" Fullbore Packer w/ 7 jts 2-7/8" Buttress stinger (+/- 210') and 4470' of 3-1/2" (turned down collars) tbg. and TIH. Set pkr @ 4680'. Pump 50 bbls 1% KCL down backside. RU WSI flowback manifold w/ a 1/8" and 1/4" positive choke. RU Stimulation Company. Pressure test manifold and stim. lines to 7000 psi.
6. Hold safety meeting. **Max allowable surface treating pressure is 6000 psi @ 30 Bbls/min.** Pressure test surface lines to 7000 psi. (1000 psi over maximum treating pressure but less than the working pressure of the lines.) Fracture stimulate the entire Point Lookout interval (upper is being re-stimulated) @ +/- 30 BPM w/ 35# XL gel and 7000 SCF/M N2, with 40/70 Arizona, 20/40 Arizona and 20/40 resin coated. If possible, shut down during pad and record ISIP for flush volume determination. Hold and monitor 500 psi on backside. 3#, 4# and 5# sand stages will be tagged w Ir-192. Drop 100 balls at the end of the 4 PPG stage and evaluate rates and pressures to potentially drop an additional 50 balls in the 5# stage. Cut N2 during 5 PPG resin coated stage and flush w/ 1% KCL water to more accurately determine flush volume and help with sand fallout. Flush volume begins when sand concentration drops to 4-1/2 #/gal. Reduce rate during flush to determine if well will be on a vacume. Under flush by 20 %. Shut in well immediately after completion and flowback within 1 minute on a 1/8" to 1/4" choke until well dies.
Release Stimulation Crew to the house.
7. Flow back well immediately through 1/8" positive choke to reverse gravel pack. If well is not dead after 2 hours, slowly open well wide open until pressure falls to zero. Accurately record sand volume and gel/water coming back.

8. Bleed off pressure. Release packer. TOOH and stand back fracstring. Check and inspect packer.
9. PU 4-3/4" bit and 2-3/8" tbg and TIH. Clean out to 5342'. When sand returns are acceptable. TOOH.
10. RU wireline. Set 5-1/2" CIBP @ +/- 5170'. Load hole w/ 1% KCL water.
11. PU 5-1/2" pkr on 2-3/8" workstring and TIH. Set pkr @ 4700' and pressure test csg and CIBP to 3200 psi for 15 minutes. Bleed off pressure and unseat pkr. Unload hole with air and TIH to 5160'. Unload hole @ 5160'. Spot 600 Gallons of 15% inhibited HCL for underbalanced Menefee/Lower Cliffhouse perforating. TOOH and LD pkr. Check and inspect packer.

When CIBP and casing test, Call out Stimulation Crew.

12. RU lubricator for underbalanced perforating. Perforate the Lower Cliffhouse/Menefee top down using 3-1/8" HSC guns with 12 gram charges and 0.31" diameter holes. 1 SPF. Inspect guns to ensure all perforations fired. Record pressures if any. RD wireline.

Lower Cliffhouse: 4704, 4712, 4717, 4732, 4744, 4749, 4754

Menefee: 4874, 4882, 4911, 4920, 4927, 4955, 4960,
4968, 5022, 5048, 5056, 5094, 5104, 5113, 5120

Total: 22 intervals, 22 holes

13. PU 5-1/2" Scab Liner Packer (SLP) w/ 4 jts (+/- 120') of 2-7/8" buttress tbg between packers on 2-3/8" workstring and TIH (see attached information sheet). Set Scab Liner to overlap the existing Upper Cliffhouse perforations @ 4564' to 4640' (76 ft between top and bottom perf). **Bottom packer element set @ 4670' and top element @ 4550' +/- 10'. TOOH**
14. PU SLP test tool and TIH. Test top packer element of SLP and casing to 3200 psi for 15 minutes. Release pressure and TOOH.
15. TIH w/ 7-5/8" fullbore packer and 2 joints of 3-1/2" tbg. Set packer & hold 500 psi on backside. RU WSI flowback manifold. RU BJ. Pressure test manifold and BJ lines to 4000 psi.
16. Hold safety meeting. **Max allowable surface treating pressure is 3000 psi @ 30 Bbls/min.** Pressure test surface lines to 4000 psi. (1000 psi over maximum treating pressure but less than the working pressure of the lines.) Fracture stimulate the Menefee/Lower Cliffhouse interval @ +/- 30 BPM w/ 35# XL gel and 7000 SCF/M N2, with 40/70 Arizona, 20/40 Arizona and 20/40 resin coated. If possible, shut down during pad and record ISIP for flush volume determination. Hold and monitor 500 psi on backside. The 4# and 5# sand stages will be tagged w Ir-192. Cut N2 during 5 PPG resin coated stage and flush w/ 1% KCL water to more accurately determine flush volume and help with sand fallout. Flush volume begins when sand concentration drops to 4-1/2 #/gal. Reduce rate during flush to determine if well will be on a vacume. Under flush by 20 %. Shut in well immediately after completion and flowback within 1 minute on a 1/8" to 1/4" choke until well dies
Release Stimulation Crew to the house

17. Flow back well immediately through 1/8" positive choke to reverse gravel pack. If well is not dead after 2 hours, slowly open well wide open until pressure falls to zero. Accurately record sand volume and gel/water coming back.
18. Bleed off pressure. Release packer and stand back. Check and inspect packer.
19. TIH w/ Scab Liner retrieving tool and bumper sub on 2-3/8" workstring. Wash top of SLP. Recover Scab Liner and TOOH.
20. PU 4-3/4" bit and 2-3/8" tbg and TIH. Clean out to 5120'. When sand volumes are acceptable TOOH.
21. RU wireline. Set 5-1/2" RBP @ +/- 4680'. Spot 5'-10' of sand on RBP w/ bailer. Load hole w/ 1% KCL water.
22. PU 5-1/2" pkr on 2-3/8" workstring and TIH. Set pkr @ 4650' (30' above RBP, 10' below perforations) and test RBP to 3000 psi for 15 min. Release pressure and unseat packer. TOOH to 4500' and set packer. Close pipe rams and test backside to 1500 psi for 15 minutes. Release pressure and unseat packer. Unload hole to 4500' with air. TOOH.

Call back Stimulation Crew once BP pressure tests or sooner if needed.

23. TIH w/ 7-5/8" fullbore packer and 2 joints of 3-1/2" tbg. Set packer & hold 500 psi on backside. RU WSI flowback manifold. RU Stimulation Company. Pressure test manifold and stimulation lines to 4000 psi.
24. Hold safety meeting. **Max allowable surface treating pressure is 3000 psi @ 30 Bbls/min.** Pressure test surface lines to 4000 psi. (1000 psi over maximum treating pressure but less than the working pressure of the lines.) Fracture stimulate the entire Cliffhouse interval (Upper is being re-stimulated) @ +/- 30 BPM w/ 35# XL gel and 7000 SCF/M N2, with 40/70 Arizona, 20/40 Arizona and 20/40 resin coated. Shut down during pad and record ISIP for flush volume determination. Hold and monitor 500 psi on backside. The 4# and 5# sand stages will be tagged w Ir-192. Cut N2 during 5 PPG resin coated stage and flush w/ 1% KCL water to more accurately determine flush volume and help with sand fallout. Flush volume begins when sand concentration drops to 4-1/2 #/gal. Reduce rate during flush to determine if well will be on a vacume. Under flush by 20 %. Shut in well immediately after completion and flowback within 1 minute on a 1/8" to 1/4" choke until well dies.
25. Flow back well immediately through 1/8" positive choke to reverse gravel pack. If well is not dead after 2 hours, open well wide open over 15 minutes until pressure falls to zero. Accurately record sand volume and gel/water coming back.
26. TIH w/ retrieving head and CO to RBP @ 4680' until sand production is minimal. Obtain pitot gauge for upper Cliffhouse interval. Recover RBP and TOOH.
27. PU 4-3/4" bit on 2-3/8" workstring and clean out to CIBP @ 5170'. Obtain pitot gauge from Menefee/Cliffhouse after clean up. Drill CIBP. TIH and cleanout to PBTD @ 5349'. Obtain pitot gauge.
28. When sand volumes are acceptable obtain pitot gauge and TOOH.
29. RU wireline. Run after frac log.

30. TIH with one joint of 2-3/8", 4.7#, J-55 tubing w/ expendable check, an F-nipple, then the rest of the original tubing plus one (1) additional joint and one (1) 8' or 10' pup joint. Land tubing at approximately 5337'.
31. ND BOP's, NU WH. Pump off expendable check. Run swab to FN. Obtain final pitot. RD and MOL. Return well to production.

Approval: P. J. B. 3/8/96
Drilling Superintendent

Approval: Ronald P. Zick 3-8-96
Northwest Basin Team Leader

Engineers -

James A. Smith
Office - (326-9713)
Home - (327-3061)
Pager - (324-2420)

Mary Ellen Lutey
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Home - (325-9387)
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Mark Byars
Pager - (327-8470)
Mobile - (320-0349)
Home - (327-0096)

Mike Martinez
Pager - (599-7429)
Mob - (860-7518)
Home - (326-4861)

VENDORS:

CASED HOLE:
STIMULATION:
SCAB LINER:
RA TAGGING:
AFTER FRAC LOG:
H2S SAFETY
MANIFOLD:

SERVICE COMPANY

Petro
BJ Services
Mountain States
ProTechnics
Petro
Safety Alliance, Inc.
WSI

PHONE NUMBER

326-6669
327-6222
326-5141
326-7133
326-6669
325-7233
327-3402

Pertinent Data Sheet

SUNRAY B#1

Location: Unit M SW/4 SW/4, Section 15, T30N, R10W, 1090' FSL, 990' FWL,
Lat. 36.808044, Long. -107.876877 by TDG
San Juan, NM

Field: Blanco Mesaverde

Elevation: 6344' GL
KB: 6355'

TD: 5390'
COTD: 5349'

Spud Date: 12-12-57

Completed: 01-02-58

DP No: 49976A

Prop. No: 072022200

Casing/Liner Record:

| <u>Hole Size</u> | <u>Csg Size</u> | <u>Wt. & Grade</u> | <u>Depth Set</u> | <u>Cement</u> | <u>Top/Cement</u> |
|------------------|-----------------|------------------------|------------------|---------------|-------------------|
| 12½" | 10¾" | 32.75# S.W. | | | |
| | | surface casing | 174' | 200 sx | to surface |
| 9 7/8" | 7 5/8" | 26.4# J-55 | 3188' | 250 sx | TOC 2640' (TS) |
| 6¾" | 2 3/8" | 4.7# J-55 tubing | 5298' | | |
| | 5½" Liner | 15.5# J-55 | 5390' | 300 sx | TOC 3125' |

Tubing Record: 2 3/8" 4.7# J-55 tubing set at 5298'. Seating Nipple one joint off bottom.

Formation Tops:

| | | | |
|------------|---------|------------------|-------|
| Nacimiento | surface | Pictured Cliffs: | 2965' |
| Ojo Alamo: | 1616' | Cliff House: | 4558' |
| Kirtland: | 1727' | Menefee: | 4769' |
| Fruitland: | 2552' | Point Lookout: | 5218' |

Workover History: 12/95 - Remove scale with 1000 gallons acid. Pressure tested casing from 4340' to surface to 750#.

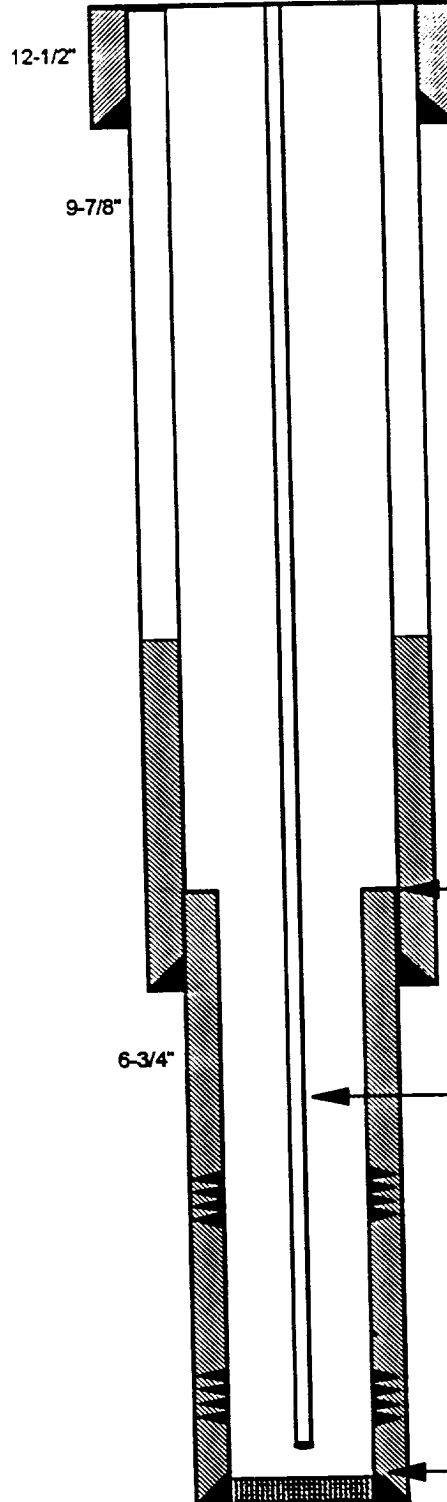
Sunray B #1

Current -- 03/02/96

Spud: 12-12-57
Completed : 01-02-58
Tbg Rpl: 12-95
Elev. GL: 6344'
KB: 6355'

Blanco Mesaverde
DPNO: 49976A
1090' FSL, 990' FWL
Sec. 15, T30N, R10W, San Juan Co., NM
Longitude/Latitude : 107.876877 - 36.808044

Nacimiento @ surface



10-3/4", 32.75#, S.W. Surface casing
set @ 174'. Cmt. w/ 200 sxs cmt.
Circ. cmt. to surface.

Ojo Alamo @ 1616'

Kirtland @ 1727'

Fruitland @ 2552'

Pictured Cliffs @ 2965'

TOC @ 2640' (TS)

Cliff House @ 4558'

TOL @ 3125'

7-5/8", 26.4#, J-55 csg. set @ 3188'. Cmt.
w/ 250 sxs cmt. TOC @ 2640' (TS)

Menefee @ 4769'

2-3/8", 4.7#, J55 tubing set
@ 5298'. SN @ 5267' (1 ft off btm.)

Cliff House Perfs @ 4564-80, 4610-40 (4 SPF)
Frac'd w/37,000# 40/60 sand, 37,000 gal water

Point Lookout @ 5218'

Point Lookout Perfs @ 5220-34, 5268-84, 5296-5304
(4 SPF) Frac'd w/50,000# 20/40 sand, 50,000 water

5 1/2", 15.5# J-55 liner set @ 5390' Cmt.
w/ 300 sxs cmt. TOC @ 3125'

Initial Potential:
AOF: 10,129 Mcf/d
Initial SICP: 1039 psig

Ownership:
GWI: 100%
NRI: 83.67%
SJB: 0%

COTD @ 5349'
TD @ 5390'

Prod. History:
Cum. as of 1995:
Current:

Gas
3.3 Bcf
14 Mcf/d

Oil
10.3Mbo
0.5 bo/d

Pipeline: EPNG