

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE*

(See other In-
structions on
reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DEW ☐ Other _____
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. REVS. ☐ Other _____

5. LEASE DESIGNATION AND SERIAL NO.

NM - 43746

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal Invader

9. WELL NO.

#1

10. FIELD AND POOL, OR WILDCAT

Gavilan Mancos

11. SEC. T. R. M., OR BLOCK AND SURVEY OR AREA

D, 1-24N-2W, N.M.P.M.

12. COUNTY OR PARISH

Rio Arriba

13. STATE

N.M.

2. NAME OF OPERATOR

Mesa Grande Resources, Inc.

3. ADDRESS OF OPERATOR

1200 Philtower Building, Tulsa, Ok. 74103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 850 FWL and 1040 FNL

At top prod. interval reported below same as above

At total depth same as above

BUREAU OF LAND MANAGEMENT
FARMINGTON RESOURCE AREA

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED 1-20-86 16. DATE T.D. REACHED 2-7-86 17. DATE COMPL. (Ready to prod.) 5-23-86 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 7347 KB, 7335 GR 19. ELEV. CASINGHEAD 7335 GR

20. TOTAL DEPTH, MD & TVD 8104' 21. PLUG, BACK T.D., MD & TVD 8057' 22. IF MULTIPLE COMPL., HOW MANY* NA 23. INTERVALS DRILLED BY ROTARY TOOLS surf---T.D. CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* Sanostee-Lower Mancos 7379' - 7494' Gallup/Mancos 6724' - 7146' 25. WAS DIRECTIONAL SURVEY MADE Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN

IEL, SDL, DSN, and Frac. Finder

27. WAS WELL CORED

NO

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	AMOUNT PULLED
9 5/8"	36#/ K-55	508'	12 1/4"	265sx(313ft ³) Class D, 2% CaCl ₂ . Circ. to surface.
5 1/2"	17#/ K-55	8095'	8 5/8"	- see attachment - 1600

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 7/8"	7508'	

31. PERFORATION RECORD (Interval, size and number) all 0.38" d.

6724'- 6732': 4 shots

6805'- 6991': 56 shots

7000'- 7146': 20 shots

7379'- 7494': 36 shots

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
- see attachment -	

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)					
3-22-86	Pump	SI					
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
5/24/86	6 hrs		→	55	41	1	745:1
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
	840 psi	→	210	164	4	41 (est)	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

vented, fuel

TEST WITNESSED BY

D. Blandford

35. LIST OF ATTACHMENTS

continuations of #28, and #32.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Gregory N. Phillips

TITLE Vice President

DATE June 2, 1986

*(See Instructions and Spaces for Additional Data on Reverse Side)

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
3115'	3270'		<u>Ojo Alamo</u> - Water bearing sandstone	Ojo Alamo	3115'	3115'
3270'	3305'		<u>Kirkland</u> - Shale	Kirkland	3270'	3270'
3305'	3410'		<u>Fruitland</u> - Sandstone, Shale & Coal sequence, contains both water & gas in the sands.	Fruitland	3305'	3305'
3410'	3534'		<u>Pictured Cliffs</u> - Gas bearing sandstone	Pictured Cliffs	3410'	3410'
3534'	5126'		<u>Lewis</u> - Shale sequence	Lewis	3534'	3534'
5126'	5229'		<u>Cliff House</u> - Water wet sandstone	Cliff House	5126'	5126'
5229'	5593'		<u>Menefee</u> - Sandstone, shale & coal sequence, sandstones could contain one or any combination of oil, gas or water.	Menefee	5229'	5229'
5593'	6070'		<u>Point Lookout</u> - Sandstone sequence containing oil & gas.	Point Lookout	5593'	5593'
6070'	6816'		<u>Mancos</u> - Shale	Mancos	6070'	6070'
6816'	7393'		<u>Gallup</u> - Sandstone, siltstone & shale - contains varying amounts of oil & gas	Gallup	6816'	6816'
7393'	7503'		<u>Sanostee</u> - Siltstone - oil & gas bearing	Sanostee	7393'	7393'
7503'	7705'		<u>Carlisle</u> - Calcareous shale - oil & gas	Carlisle	7503'	7503'
7705'	7780'		<u>Greenhorn</u> - Limestone & shale - oil & gas bearing	Greenhorn	7705'	7705'
7780'	7884'		<u>Graneros</u> - Sandstone & shale - oil & gas bearing	Graneros	7780'	7780'
7884'	TD		<u>Dakota</u> - Sandstone & shale - oil, gas & water	Dakota	7884'	7884'

Attachment to Form 3160-4
Well Completion or Recompletion Report
for the Federal Invader #1, NM-43746
NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 1-24N-2W, N.M.P.M.
Rio Arriba County, New Mexico

#28. Cementing Record

2/08/86 ran 195 joints of 5 $\frac{1}{2}$ " 17# K-55 casing. Guide Shoe @ 8095'.
Float Collar @ 8057'. Bottom DV tool @ 6414'; Top DV tool @ 3884'.
1st Stage: 100 sx. (189 ft³) Class B, LW-3, 10% D-44, $\frac{1}{2}$ #/sx. D-29.
Tailed in w/ 350 sx. (560 ft³) Class H, 10-0 RFC, $\frac{1}{2}$ #/sx. D-29.
Press. tested to 1500#. Held OK.
2nd Stage: 100 sx. (189 ft³) Class B, LW-3, 10% D-44, $\frac{1}{2}$ #/sx. D-27.
Tailed in w/ 600 sx. (960 ft³) Class H, 10-0 RFC, $\frac{1}{2}$ #/sx. D-29.
Press. tested to 3000#. Held OK.
3rd Stage: 450 sx. (850.5 ft³) Class B, LW-3, 10% D-44, $\frac{1}{2}$ #/sx.
D-27. Press. Tested to 3100#. Held OK.

#32. Acid, Shot, Fracture, Cement Squeeze, etc.

7379'- 7494': Acidized w/ 7350 gal. 15% HCl w/ additives. Frac'd
w/ 30637 gal 70 Qual. foam, 3750# 100 mesh sand, 41918# 20/40 sand.
AIR 15 BPM. ATP 5400. ISIP 1600. 5 min. 870; 15 min 770.
6724'- 7146': Acidized w/ 3900 gal. 15% HCl w/ additives. Frac'd
w/ 86940 gal 70 Qual. foam, 4300# 100 mesh sand, 99650# 20/40 sand.
AIR 40 BPM. ATP 2850. ISIP 3000. 5 min. 2400; 15 min. 2300.

3 stages

58	08
180	189
350	560
150	189
600	960
450	851
1500	2749