

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42 B1424.

5. LEASE DESIGNATION AND SERIAL NO.

Contract 236

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Jicarilla Apache

7. UNIT AGREEMENT NAME

East
Puerto Chiquito Mancos

8. FARM OR LEASE NAME

9. WELL NO.

19 (H-25)

10. FIELD AND POOL, OR WILDCAT

East
Puerto Chiquito Mancos

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

Sec. 25, T-27N, R-1W

12. COUNTY OR PARISH 13. STATE

Rio Arriba New Mexico

1. OIL WELL ☐ GAS WELL ☐ OTHER ☐ Water injection well

2. NAME OF OPERATOR

Benson-Montin-Greer Drilling Corp.

3. ADDRESS OF OPERATOR

221 Petroleum Center Building, Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

1815' FNL, 825' FEL, Sec. 25, T-27N, R-1W

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

7235' RKB

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF ☐

PULL OR ALTER CASING ☐

WATER SHUT-OFF ☐

REPAIRING WELL ☐

FRACTURE TREAT ☐

MULTIPLE COMPLETE ☐

FRACTURE TREATMENT ☐

ALTERING CASING ☐

SHOOT OR ACIDIZE ☐

ABANDON* ☐

SHOOTING OR ACIDIZING ☐

ABANDONMENT* ☐

REPAIR WELL ☐

CHANGE PLANS ☐

(Other) ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

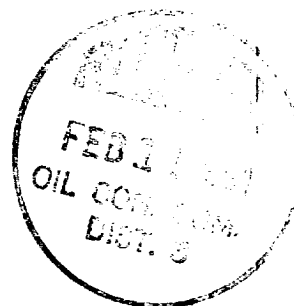
(Other) Re-complete ☒

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Operator proposes to commence water injection at slow rate. Will truck water to wellsite and store in storage tank, inject into formation with hydrostatic pressure. No surface disturbance beyond present drillsite location will be involved. Accordingly, no pipelining will be involved during initial phase of water injection.

NTL-2B Section II information attached hereto.

Xerox copy of approval for water injection into the subsurface by the New Mexico Oil Conservation Division attached hereto.



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

SIGNED

TITLE

Vice-President

DATE Jan. 5, 1981

(This space for Federal or State office use)

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

APPROVED

FEB 11 1981

JAMES F. SIMS
DISTRICT OIL & GAS SUPERVISOR

NMOCC

*See Instructions on Reverse Side

SUNDRY NOTICE ATTACHMENT
NIL-2B SECTION II INFORMATION

1. East Puerto Chiquito Mancos Unit #19 (H-25) well located 1815' FNL, 825' FEL, Section 25, Township 27 North, Range 1 West, Rio Arriba County, New Mexico. Jicarilla Tribal Contrct 236.
2. Approximately 100 barrels water per day will be injected. (Essentially "fresh" water will be injected at first.)
3. Injection formation and interval: Niobrara formation Zone B perforated interval 3705' to 3750'.
4. Fluids in the subsurface injection level are oil, gas and water. Water analysis by Core Laboratories:

Density	1.016 at 52° F
Resistivity	0.276 at 52° F
pH	7.5
Chloride	16,472 mg/L
Sulphate	400 mg/L
Bicarbonate	5,124
Sodium	12,512
Calcium	240
Magnesium	12

Total Solids 34,760

5. There are no recognized useable water aquifiers in the area.

6. Casing in well:

Surface casing:
96' 10-3/4" 32.75# H-90 set in 14" hole cemented with 100 sacks from shoe to surface.

Long string:
3196' 7" 20# J-55 set in 8-3/4" hole cemented with 300 sacks from shoe to 2500'.

7. Total depth 3817'. Perforated from 3705' to 3750'.

8. Proposed method of completing well for injection:

Tubing string as follows:

2 joints 2-3/8" EUE Fiberglass tubing (as tail pipe - open ended)
1 4-1/2" Baker Model R packer
118 joints 2-3/8" EUE 4.75# J-55 tubing (internal plastic coated)

61'
8'

3635'

3704'

NIL-2B SECTION II INFORMATION

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8. Continued:
Packer set at 3655'
Anticipated initial injection pressure zero psig.
Annulus between 2-3/8" tubing and 7" casing and 4-1/2" liner will be loaded with lease crude oil.
9. Monitoring to assure that injection is confined to injection interval as follows:
Packer sealing will be monitored by checking volume of oil required to maintain 2-3/8" x 7" annulus full of oil. Pressure gauge will be maintained on casing head to indicate any failure between 7" and 8-3/4" hole.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6944
Order No. R-6448

APPLICATION OF BENSON-MONTIN-GREER
DRILLING CORPORATION FOR A PRESSURE
MAINTENANCE PROJECT, RIO ARRIBA
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 9, 1980,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 26th day of August, 1980, the Division
Director, having considered the testimony, the record, and the
recommendations of the Examiner, and being fully advised in the
premises,

FINDS:

(1) That due public notice having been given as required
by law, the Division has jurisdiction of this cause and the
subject matter thereof.

(2) That the applicant, Benson-Montin-Greer Drilling Corpo-
ration, seeks authority to institute a pressure maintenance
project on its East Puerto Chiquito-Mancos Unit Area in Townships
26 and 27 North, Ranges 1 East and 1 West, NMPM, Rio Arriba County,
New Mexico, by the injection of gas, air, LPG, water, or chemicals
into the Mancos formation through seven wells located in Sections
4, 6, and 7, Township 26 North, Range 1 East, Sections 19, 28, and
29, Township 27 North, Range 1 East, and Section 25, Township 27
North, Range 1 West.

(3) That of the aforesaid seven wells, gas would be injected
into three existing wells located up-structure, being applicants'
Well No. C-2 located in Unit C of Section 28 and Well No. G-29
located in Unit G of Section 29, both in Township 27 North, Range
1 East and Well No. D-4 located in Unit D of Section 4, Township
26 North, Range 1 East, while water and chemicals would be in-
jected into two existing wells located down-structure, being

applicants' Well No. F-6 located in Unit F of Section 6, Township 26 North, Range 1 East, and Well No. H-25 located in Unit H of Section 25, Township 27 North, Range 1 West, and also into two new wells to be drilled down-structure, to be located in Unit G of Section 7, Township 26 North, Range 1 East, and Unit E of Section 19, Township 27 North, Range 1 East.

(4) That although the proposed enhanced recovery injection program will involve the injection of fluids into the reservoir in its present primary state of depletion as a pressure maintenance program and continue on into secondary recovery, it will then, by the addition of so-called "tertiary chemicals," proceed into a tertiary recovery operation to depletion.

(5) That it is expected that the initial gas injection for pressure maintenance will recover some 600,000 barrels of oil not recoverable under primary depletion alone, that the continued gas injection and waterflooding for secondary recovery will recover an additional 400,000 barrels, and that the continued gas injection, water injection, and added tertiary chemicals will result in the recovery of yet another 400,000 barrels, for a total estimated 1,400,000 barrels of otherwise unrecoverable oil, thereby preventing waste.

(6) That prior to placing any well on injection, applicant should test and inspect the casing and cement on such well to ensure the integrity of same, and make such repairs as may be deemed necessary by the supervisor of the Aztec district office of the Division.

(7) That all injection should be through tubing set in a packer, and the casing-tubing annulus should be loaded with sweet oil or other inert fluid.

(8) That the operator should take all steps necessary to ensure that the injected fluids enter only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(9) That there are two wells in the project area, both located within one-half mile of a proposed gas injection well, which should be investigated and re-entered if necessary to perform such remedial or plugging operations as are deemed appropriate by the supervisor of the Aztec district office of the Division prior to commencement of gas injection; said wells are the S & B Drilling Company's Jicarilla 287 Well No. 0-4, located

in Unit O of Section 21, and its Jicarilla 287 Well No. L-3, located in Unit L of Section 28, both in Township 27 North, Range 1 East.

(10) That the water and water/chemical injection wells, or injection pressurization system, should be so equipped as to limit injection pressure at the wellhead to no more than 0.2 psi per foot of depth to the uppermost perforation, or in the case of an open hole completion, to the depth of the casing shoe; that the gas injection wells, or gas injection pressurization system, should be so equipped as to limit gas injection pressure at the wellhead to no more than 500 psi. That the Division Director should have authority to administratively authorize pressure limitations in excess of the above upon a showing by the operator that such higher pressures will not result in fracturing of the confining strata.

(11) That provision should be made for the drilling of additional wells at orthodox and unorthodox locations for production, and for approval of same as injection wells administratively without notice and hearing.

(12) That special rules for the project should be adopted whereby allowables may be transferred from injection wells and shut-in wells to other wells for production.

(13) That the proposed project should be known as the BMG East Puerto Chiquito-Mancos Enhanced Recovery Project, and should be governed by the provisions of Rules 701, 702, and 703 of the Division Rules and Regulations not inconsistent herewith.

(14) That the proposed project is in the interest of conservation, will prevent waste and protect correlative rights, and should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Benson-Montin-Greer Drilling Corporation, is hereby authorized to institute an enhanced recovery project on its East Puerto Chiquito-Mancos Unit Area, East Puerto Chiquito-Mancos Oil Pool, Rio Arriba County, New Mexico, by the injection of fluids into the Mancos formation as follows:

Gas Injection:

<u>Well No.</u>	<u>Unit Letter</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>
D-4	D	4	26N	1E
C-2	C	28	27N	1E
G-29	G	29	27N	1E

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Water and/or Chemical Injection:

<u>Well No.</u>	<u>Unit Letter</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>
F-6	F	6	26N	1E
H-25	H	25	27N	1W
To be drilled	G	7	26N	1E
To be drilled	E	19	27N	1E

(2) That said project shall be known as the BMG East Puerto Chiquito-Mancos Enhanced Recovery Project.

(3) That Special Rules and Regulations governing the BMG East Puerto Chiquito-Mancos Enhanced Recovery Project are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
BMG EAST PUERTO CHIQUITO-MANCOS
ENHANCED RECOVERY PROJECT

RULE 1. The project area shall consist of all those proration units within the boundary of the East Puerto Chiquito-Mancos Unit Area upon which is completed a well in the East Puerto Chiquito-Mancos Oil Pool.

RULE 2. The project area shall receive a project area allowable, and said project area allowable shall be equal to 320 times the number of developed 160-acre proration units in the project area.

RULE 3. The project allowable may be produced from the wells in the project area in any proportion.

RULE 4. The Division Director shall have authority to approve, without notice and hearing, the drilling of wells at unorthodox locations anywhere within the boundary of the East Puerto Chiquito-Mancos Unit Area, provided however, no unorthodox location shall be closer than ten feet to a quarter-quarter section line, and provided further that no such unorthodox location shall be closer than 330 feet to the outer boundary of the unit area unless such well is covered by a lease-line agreement with the operator of lands offsetting the well, and a copy of the lease-line agreement accompanies the application for such unorthodox location, or unless such operator has waived objection to the proposed unorthodox location in writing, and his waiver accompanies the application.

RULE 5. Application for approval of additional wells to be drilled for or converted to injection shall be filed in accordance with Rule 701 of the Division Rules and Regulations, and may be approved by the Division Director without notice and hearing.

RULE 6. Injection of any medium into any injection well shall be through tubing, and the tubing shall be set as near as is practicable to the uppermost perforation in the injection zone, or, in the case of an open-hole completion, as near as is practicable to the casing shoe.

RULE 7. The casing-tubing annulus of each injection well shall be loaded with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

RULE 8. Water/chemical injection wells or the injection pressurization system for same shall be so equipped as to limit injection pressure at the wellhead to no more than 0.2 psi per foot of depth to the injection zone; gas injection wells, or the gas injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 500 psi. The Division Director may authorize higher injection pressures upon satisfactory showing that such pressures will not result in fracturing of the confining strata.

RULE 9. The operator shall immediately notify the supervisor of the Division's Aztec district office of the failure of the tubing, casing, or packer in any injection well, the leakage of water, oil, or gas from or around any producing well, or the leakage of water, oil, or gas from or around any plugged and abandoned well, anywhere in the project area, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

RULE 10. No injection well shall be placed on active injection until it has been inspected and tested to ensure the integrity of the well's casing and cementing program. If such casing and cementing program is found to be defective in any proposed injection well, such repairs as may be deemed necessary by the Supervisor of the Aztec district office of the Division shall be made before placing the well on injection.

RULE 11. The operator shall file reports for this project on Division Form C-115 in accordance with Rule 704(1) of the Division Rules and Regulations and may later be required to file additional information in accordance with Rule 704(5).

(4) That prior to commencement of gas injection, applicant shall investigate and re-enter if necessary to perform such remedial or plugging operations as are deemed appropriate by the Supervisor of the Aztec district office of the Division the following two wells: S & B Drilling Company's Jicarilla 287 Well No. D-4 located in Unit D of Section 21, and its Jicarilla 287 Well No. L-3, located in Unit L of Section 28, both in Township 27 North, Range 1 East.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



JOE D. RAMEY
Director

S E A L

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