

State of New Mexico ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT Santa Fe, New Mexico 87505

OIL CONSERVATION DIVISION



ADMINISTRATIVE ORDER DHC-1081

Meridian Oil Company P.O. Box 4289 Farmington, New Mexico 87499-4289

Attention: P.M. Pippin

DECEIVED N FEB - 1 1995

Huerfanito Unit Well No.82 Unit L, Section 25, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico. Basin Dakota (Prorated Gas) and Blanco Mesaverde (Prorated Gas) Pools

Dear Mr. Pippin:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion and required separation of the two zones is hereby placed in abeyance.

In accordance with the provisions of Rule 303-C-4., total commingled oil production from the subject well shall not exceed 30 barrels per day, and total water production shall not exceed 60 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated pool as printed in the Division's San Juan Basin Gas Proration Schedule.

In accordance with the provisions of Rule 303-C, the supervisor of the Aztec District Office of the Oil Conservation Division shall determine the proper allocation of production from the subject well following its completion.

FURTHER: The operator shall notify the Aztec District Office of the Division upon implementation of the commingling process.

VILLAGRA BUILDING - 406 Galistoc

Forestry and Resources Conservation Division P.O. Box 1948 87504-1948 827-5830 Park and Recreation Division

Park and Recreation Division P.O. Box 1147 87504-1147 827-7465 2040 South Pacheco

Office of the Secretary 827-5950

Administrative Services 827-5925

Energy Conservation & Misnagement 827-5900

> Mining and Minerals 827-5970

Oil Conservation 827-7131 Pursuant to Rule 303-C-5, the commingling authority granted by the order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Approved at Santa Fe, New Mexico on this 27th day of January, 1995.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY

Director

SEAL

WJL/BES

cc: Oil Conservation Division - Aztec

Bureau of Land Management - Farmington

Ernie Busch

DI+C-108/

From:

Ernie Busch

To:

David Catanach

Subject:

MERIDIAN OIL INC (DHC)

Date:

Tuesday, December 20, 1994 3:26PM

Priority:

High

HUERFANO UNIT #82 MV/DK

25-27N-09W

RECOMMEND: APPROVAL

ENERGY AND MINERALS DEPARTMENT STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

REVISED 3-2-84
GAS WELL SHUT-IN PRESSURE REPORT Form C-125

P.O. BOX 2088 SANTA FE, NEW MEXICO 87501

ST SAN JUAN		PSIA	172	182	187	167	187	147	152	152	0	152	157
	S.I. PRESSURE	PSIG (DWI)	160	170	175	155	175	135	140	140	0	140	145
POOL KUTZ PICTURED CLIFFS, WEST	M	HRS./MIN.	4 DAYS	30+DAYS	4 DAYS	4 DAYS							
POOL KUTZ PICTU	DATE PRESS.	RUN	09-12-94	09-12-94	09-12-94	09-12-94	09-12-94	09-12-94	09-12-94	09-12-94	09-12-94	09-12-94	09-12-94
87499		RGE.	12W										
N, NM	LOCATION	TWP.	29N										
MINGTO	LOCA	SEC.	16	11	17	18	18	19	19	19	20	20	20
977 FARMINGTON, NM		TINO	н	Ą	υ	0	E	н	E4	O	×	н	Q
ADDRESS P.O. BOX 9		WELL NO.	909	505	504	503	502	300	288	75	73	301	507
OPERATOR BHP PETROLEUM (AMERICAS) INC.	0 0 0 0 0	LEASE	GALLEGOS CANYON UNIT										

OPERATIONS SUPERINTENDENT Date December 19, 1994 I hereby ceritify/that/the above information is true and complete to the best of my knowledge and belief. SEE RULE 402 Signature

MERIDIAN OIL

December 5, 1994

Mr. William J. LeMay
N. M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87501-2088

Re: Huerfanito Unit #82 MV/DK

1550' FSL; 990' FWL Section 25, T27N R09W San Juan County, N. M.



0[L CON. DIV. dist. 3

Dear Mr. LeMay:

Meridian Oil Inc. is applying for an administrative downhole commingling order for the referenced well in the Basin Dakota and Blanco Mesaverde fields. Meridian Oil operates all the acreage surrounding the referenced well. We therefore wave the 30 day notice requirement and request that the NMOCD consider this application as expeditiously as possible. The Bureau of Land Management will receive notification of this proposed downhole commingling.

Meridian's ownership in the Dakota and Mesaverde is not common. However, we have approval to commingle these zones administratively in the Huerfanito Unit as per NMOCD Order No. R-9887. The MOI GWI-NRI in the Dakota is 95.14%-77.48% and 87.85%-73.20% for the Mesaverde.

This well has produced since 1965 as a dual well from the Dakota and Mesaverde. The well is presently not a good producer due to poor producing efficiency. It has a producing capacity in 1993 of only 53 MCF/D and 25 MCF/D, respectively. The cumulative production is 1,737 MMCF & 8,765 BO from the Dakota and 2,343 MMCF & 25,807 BO from the Mesaverde, as of January 1, 1994.

The Dakota production is currently being suppressed due to the presence of the well's production packer which limits the Dakota's ability to unload liquid with its small amount of gas volume. We believe that the Dakota has the potential to initially produce 120 MCF/D. We believe that the Mesaverde has the potential to initially produce 160 MCF/D. However, like the Dakota, the Mesaverde does not make sufficient gas to lift the produced liquids. The commingling of the subject well in the twilight of its producing life will result in better producing efficiency for both intervals. We believe that the combined gas volume will be sufficient to lift the produced liquids in the near future. A possible future artificial lift system such as a plunger

will be much more efficient with the intervals commingled. Granting this application will be in the best interest of conservation, the prevention of waste, and the protection of correlative rights.

Commingling should greatly enhance this well's producing life and its reserves from both producing intervals. We plan to commingle this well by pulling the Mesaverde tubing and the Dakota tubing and packer seal assembly. The permanent packer will be extracted and a single string of tubing run to the lower producing interval.

Additional Point Lookout intervals will be opened and stimulated during the workover.

The reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed downhole commingling. The fluids from each zone are compatible and no precipitates will be formed to cause damage to either reservoir. Two other wells commingled in these same fields in 1991 with no detrimental effects are the McClanahan #17E (Sec. 24 T28N R10W) and Reid #20 (Sec 19 T28N R09W). The daily production will not exceed the limit of Rule 303c, Section 1a, Part 1. The shut-in pressures for the Dakota and Mesaverde are 374 psi and 418 psi, respectively. The Dakota and Mesaverde have the ability to produce about 1 barrel of water per day.

To allocate the commingled production to each of the zones, Meridian will consult with the District Supervisor of the Aztec District Office of the Division to determine an allocation formula for each of the productive zones. This will be done using flow tests from the Dakota and Mesaverde during field operations.

Included with this letter are plats showing ownership of offsetting leases for both the Dakota and Mesaverde, wellbore diagrams, production curves, a pertinent data sheet, workover procedure, and maps indicating the offset Dakota and Mesaverde wells in the area.

Yours truly,

P. M. Pippin

Sr. Production Engineer

attachments

cc: Frank Chavez - OCD

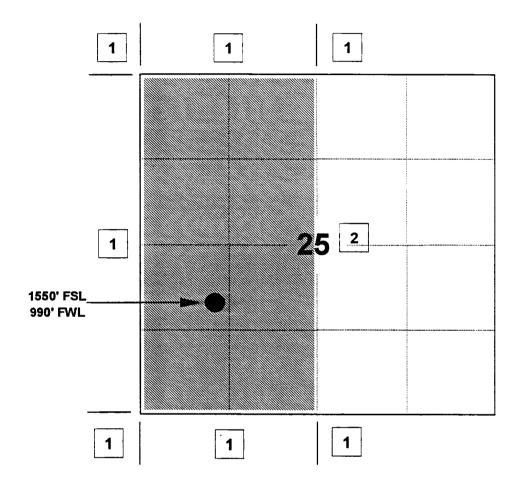
MERIDIAN OIL INC

HUERFANITO UNIT #82

OFFSET OPERATOR \ OWNER PLAT

Mesaverde / Dakota Formations Commingle Well

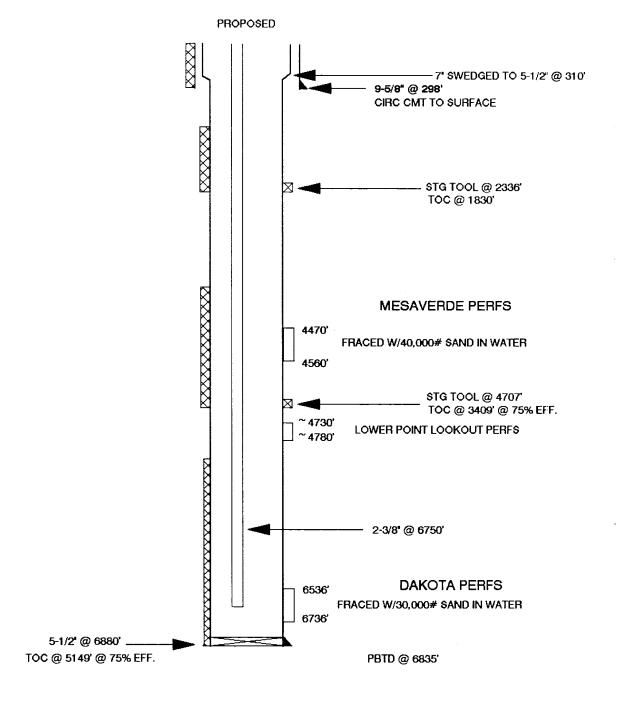
Township 27 North, Range 9 West



1) Meridian Oil Inc	
2) Southland Royalty Company	

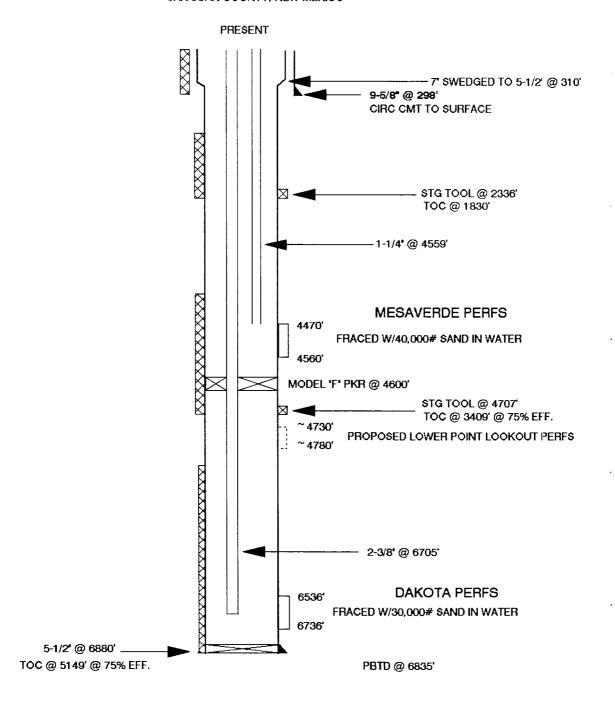
HUERFANITO UNIT #82 MV/DK

UNIT L SECTION 25 T27N R9W SAN JUAN COUNTY, NEW MEXICO



HUERFANITO UNIT #82 MV/DK

UNIT L SECTION 25 T27N R9W SAN JUAN COUNTY, NEW MEXICO



:107 PTRAM

Pertinent Data Sheet - HUERFANITO UNIT #82 MV/DK

Location: 1550'FSL 990' FWL SEC. 25 T27N R09W, SAN JUAN COUNTY, N.M.

Field: Basin Dakota

Elevation: 6270'

<u>TD:</u> 6880'

Blanco Mesaverde

11'KB

<u>PBTD:</u> 6835'

Prop#: 007970500

Lease: I-149-IND-8473

<u>DP#:</u> DK=30047 MV=30028

GWI: MV=87.85% DK=95.14%

Completed: 10-9-65

NRI: MV=73.20% DK=77.48%

Initial Potential:

DK: AOF=2734 MCF/D, Q=2632 MCF/D, SICP=2184 PSI MV: AOF=8200 MCF/D, Q=5899 MCF/D, SICP=1087 PSI

Casing Record:

Hole Size	<u>Csg. Size</u>	<u>Wt. & </u>	<u>Grade</u> <u>I</u>	Depth Set	Cement	Top/Cmt
13-3/4"	9-5/8"	32.4#	H-40	298'	300 cf	Circ. Cmt
7-7/8"	7 11	23#	J-55	(310')		
7-7/8"	5-1/2"	15.5#	J-55	6880'	400 cf	5149'@ 75% Eff.
			DV Tool @	4707'	300 cf	3409'@ 75% Eff.
			DV Tool @	2336'	400 cf	1830' - Survey
Tubing Reco	ord: 2-3/8"	4.7#	J-55	6705'	213 Jts	S.N. @ 6688'
	1	Baker Model	"F" Pkr @	4600'		
	1-1/4"	2.4#	J-55	4559 '	139 Jts	

Formation Tops:

Ojo Alamo	1284'	Gallup	5630'
Kirtland	1423'	Greenhorn	6450'
Fruitland	20201	Graneros	6490'
Pictured Cliffs	2160'	Dakota	י 6598
Cliffhouse	3732'		
Point Lookout	4452'		

Logging Record: Induction, Density

Stimulation: Perf DK @ 6736'-32' w/2 spf & 6708'-16', 6620'-28', 6602'-10' w/1 spf & 6536'-40' w/4 spf & fraced w/30,000# sand in water.

Perf MV @ 4560'-56', 4523'-27' w/4 sfp & 4496'-4504', 4478'-70' w/2 spf & fraced w/40,000# sand in water.

Workover History: 8-6-82: Pulled 1-1/4" & 2-3/8" tbgs & CO to TD. Reran tbgs & seal assembly.

Production History: MV 1st delivered on 1-1-66. Cumulative: MV=2343 MM.CF & 25,807
BO. DK=1737 MMCF & 8765 BO. MV Tbg=526 psi. MV Csg=549 psi. Bradenhead=0 psi.
DK Tbg = 258 psi. Line=219 psi.

Pipeline: EPNG

PMP

HUERFANITO UNIT #82 MV/DK Recommended Procedure

Open Lower MV & Commingle w/DK

Lat. Long. = 36.542847 - 107.744812 L 25 27 9

- Comply to all NMOCD, BLM, & MOI, rules & regulations. MOL and RU completion rig. Blow well down. NU 7-1/16" 900 series BOP with flow tee and stripping head. Test operation of rams. NU blooie line and 2-7/8" relief line.
- 2. TOH W/139 Jts 1-1/4" tbg & lay down. Set blanking plug in 2-3/8" tbg in S.N. @ 6688' & pressure test to 3000 psi. TOH w/213 Jts 2-3/8" tbg & Baker Model "F" seal assembly @ 4600".
- 3. Run 5-1/2" "CJ" milling tool on tested 2-3/8" tbg & mill (w/air/mist) & retrieve Baker Model "F" pkr @ 4600'. TOH.
- 4. MI Wireline Truck. Set 5-1/2" ret BP @ 4950' & top w/2 sx sand. Run CBL from 4900' to top of cmt and pulsed neutron log from 4900'-3700' & 3300'-3000'. Coorelate to open hole density log. Hot-shot logs to Production Engr Dept. Lower Point Lookout perfs will be picked at this time.
- 5. If unsufficient cmt is across lower Point Lookout 4700'-4800', perf 2 sq holes @ 4800'. W/5-1/2" pkr @ 4600' on 2-3/8" tbg, sq w/100 sx Cl "B" w/2% CACL2 & 3#/SX HI-SEAL for a yield of 1.21 cf/sx (15.6 #/gal). Unseat pkr, reverse out (if possible), reset & repressure. WOC. TCH.
- 6. TIH w/4-3/4" bit on 2-3/8" tbg & drill out cmt to 4850' w/air/mist. TOH. Run CBL from 4850' to top cmt. Resq if necessary.
- 7. When sufficient cmt is across proposed lower Point Lookout perfs, perf w/ 2 spf. Perfs will be a total of about 25' (50 holes) from 4780'-30'. Perf w/Tolson jets.
- 8. Spot and fill 5 400 bbl. frac tanks with 2% KCL water. Filter all water to 25 microns. Four tanks for gel and one for breakdown. Usable water required for frac is 1,231 bbls.
- 9. Run 5-1/2" pkr on 3-1/2" 9.3# P-110 w/shaved collars (4.25" C.D. 2.992" I.D.) rental frac string & set @ 4650'. Breakdown & attempt to balloff w/2000 gal 15% HCL acid & 125 perf balls. Acid to contain 1 gal/1000 gals water of F75N (surfactant) & 10#/1000 of L58 (corrosion inhibitor). Maximum pressure = 4500 psi. Record breakdown pressures. Lower pkr to 4800' to knock off perf balls. Reset pkr @ 4700'.

HUERFANITO UNIT #82 MV/DK WORKOVER PROCEDURE Page 2

10. W/backside open, fracture treat well down rental frac string with 50,000 gals. of 20# gel water and 40,000# Arizona sand. Pump at 35 BPM. Sand to be tagged with 0.4 mCi/1000# Ir-192 tracer. Max. pressure (@ 35 BPM) is 6000 psi and estimated treating pressure is 2500 psi. Frac string friction @ 35 BPM is 1474 psi. Treat per the following schedule:

	Liquid	Sand Vol.
Stage	<u>(Gals.)</u>	<u>(lbs.)</u>
Pad	10,000	
0.5 ppg	10,000	5,000
1.0 ppg	20,000	20,000
1.5 ppg	10,000	15,000
Flush	(1,720)	<u></u>
Totals	50,000	40,000#

Cut flush by 25-30% if frac gradient is less than static water. Treat frac fluid with the following additives per 1000 gallons:

*	4.6 gal J877	(Base 20# Guar Gel)
*	1.0 gal. F75N	(Non-ionic Surfactant)
*	1.0# J134	(Enzyme Breaker)
*	0.35# M275	(Bacteriacide)

- 11. Open well through choke manifold and monitor flow. Flow @ 20 bbl/hr, or less if sand is observed.
- 12. When well stops flowing, TOH w/frac string & pkr & lay down. TIH w/notched collar on 2-3/8" tbg & C.O. w/air/mist to BP @ 4950'. Take pitot gauges when possible.
- 13. When wellbore is sufficiently clean, TOH and run after frac gamma-ray log from 4950'-4400'.
- 14. TIH w/retrieving tool on 2-3/8" tbg and again CO to 4950'. When wellbore is sufficiently clean, retrieve BP & TOH.
- 15. TIH w/4-3/4" bit on 2-3/8" tbg & CO to 6750' w/air/mist. Take pitot gauges when possible. TOH.
- 16. TIH with 2-3/8" production the with standard seating nipple one joint off bottom to 6750' and again blow well clean. When well is clean, land the @ 6600'. Take final pitot qauges, water & oil samples, and gas samples.
- 17. ND BOP and NU wellhead. Replace any bad valves on wellhead. Rig down & release rig.

HUERFANITO UNIT #82 MV/DK WORKOVER PROCEDURE Page 3

Approved:				
	J.	A.	Howieson	

VENDORS:

Wireline: Blue Jet 325-5584 Frac & Acid: Western 327-6222 RA Tagging: Pro-Technics 326-7133

PMP

HUERFANITO #82 June 01,1994 DAKOTA LEGEND COMPLETION DATE WELL NAME MCF/D-CUM(MMF) BOP/D-CUM(MB0) LOCATION UNIT: L SEC: 25 TWN: 27N RNG: 9W NAME: FORM: _ %z INA 10/66 80LACK B #1 3/215 0/12 (31) INA 10/66 * BOLACK B#4 0/386 0/8 FLORANCE #67 32/372 .3/6 2167 <u>8</u> [13] NAVAJO B #6 38/516 .4/8 6/64 * NAVAJO INDIAN B #5 46/1207 .5/26 NAVAJO B #6M 38/221 .1/1 11/81 " NAVAJO INDIAN B #5M 67/240 1.5/6 10/81 JERNIGAN #3 3/2545 0/26 1NA 2/66 HUERFANITO #78 0/759 .1/12 11/64 • NAVAJO 1 #1 68/1320 .5/10 3/64 3/64 [54] [36] HUERFANITO #82 53/1737 1.5/9 7,65 • #UERFANITO #86 34/1577 .2/11 HUERFANITO #97 105/2498 2/36 HUERFANITO #79 55/1032 .1/12 <u>=</u> P&A 5/65 • HUERFANITO #88 57/1050 0/13 HUERFANITO #98 38/656 [35] .3/12 2/67 10/65 * HUERFANITO #85 1.5/1282 0/26 [3] [56]

HUERFANITO #99 3/430 0/1

11/66

5/65 * HUERFANITO #89 23/1411 0/11

DATE: June 01,1994			FORM: MESA VERDE	LOCATION UNIT: L SEC: 25 TWN: 27N RNG: 9W									#14A		N 27							LEGEND COMPLETION DATE	•	WELL NAME MCF/D-CUM(MMF)	BOP/D-CUM(MBU)	ī
	6/56	FLORENCED LS #12	120/2201 6/15				5/58	BOLACK C LS #14	.1/6		ē	uj 3/86 *	BOLACK C LS #14A	115				9/62	BOLACK C LS #9	92/2146 [31] 2/28						
6/81	*	10 B #6M 31		[61]	4/59	NAVAJO INDIAN B#3 6/824	10.	ā	2/58	NAVAJO INDIAN B #5M		6/64	NAVAJO INDIAN #5	4671 jug 8/13		PLUGED 5/79	* LINDA #1A	237/901 4/94		<u>2</u>			1/70	LINDA#1	0/1472 .5/95	R-8-W
			2/66	JERNIGAN #3 0/583 0/10 1/80	JERNIGAN #3A 3/168 0/2				11/64	=						3/64	HUERFANITO 1/2522	137								R-9-W
8/82	•	HUERFANITO #77A 38/192	0/1	[24]	HUERFANITO #77 12/379 0/3				Ξ.	NAVA	10/	10/65	HUERFANITO #82	25/2343 .3/26		1/80	⋖ _			198)	91/9	HUERFANITO #86	.1/12			
			INA	505 HUERFANITO #88 71517 [23] .213								[26]		A 11/64	HUER			2/67	# HUERFANITO #98	2/440	+7;+· [00]					
														INA 10/65	HUERFANITO #85 0/897 2/36						99/11	HUERFANITO #99	0/11/02			