2·28·95

MERIDIAN OIL

OIL CONSERVATION DIVISION
RECEIVED
'95 FEB 9 AM 8 52

January 31, 1995

New Mexico Oil Conservation Division
Attn: Mr. Bill LeMay
P.O. Box 2088
310 Old Santa Fe Trail
Santa Fe, New Mexico, 87501

RE: San Juan 28-5 Unit #235
Unit K, Section 28, T28N, R05W
Rio Arriba County, New Mexico
Downhole Commingling Request

Dear Mr. LeMay: TAPACITO BASIN

Meridian Oil Inc. is applying for an administrative downhole commingling order for the referenced wells in the Pictured Cliffs and the Fruitland Coal fields. The ownership of the zones to be commingled is common. Meridian is the operator of all offsetting sections. The Bureau of Land Management has received notification of this downhole commingle.

The Fruitland Coal and Pictured Cliffs producing wells in this area operated by Meridian and others are marginally productive. Based on offset production in this area, drilling of separate wells and dual completions to produce the Fruitland Coal and Pictured Cliffs are not economically justified. The only economical way to recover the Fruitland Coal and Pictured Cliffs reserves in this drill block is to downhole commingle production from both zones in this well.

It is proposed to complete the Pictured Cliffs formation and test its production. It is then proposed to set a bridge plug above the Pictured Cliffs, perforate and stimulate the Fruitland Coal, and test its production. The bridge plug will then be removed, and both zones produced through a single string of tubing. The reservoir characteristics of each of the subject zones are such that underground waste will not be caused by the proposed commingling. Neither producing interval makes oil, and only minimal amounts of similar water are produced in the offset wells. The shut-in pressure for the Fruitland Coal and Pictured Cliffs are **1100** and **1080** psi, respectively.

The allocation of the commingled production will be calculated using the attached allocation formula. This formula is based on offset Pictured Cliffs production performance (material balance) and volumetrics, and uses accepted Reservoir Engineering methods to allocate the Pictured Cliffs reserves. This addresses the Fruitland Coal producing characteristics of early life inclining production rates.

Approval of this commingling application will allow for the prevention of wasted resources and the protection of correlative rights. Included with this letter are plats showing ownership of offsetting leases for both the Pictured Cliffs and Fruitland Coal, a copy of the letter to the BLM, and an allocation formula.

Sincerely,

Scott H. Lindsay
Senior Production Engineer

SHL/rjp

Attachments

xc: Frank T. Chavez - NMOCD/Aztec
BLM - Farmington
Peggy Bradfield

c:\windows\sjdhcom

MERIDIAN OIL

January 31, 1995

Bureau of Land Management
Attn: Mr. D. Spencer
1235 La Plata Highway
Farmington, NM 87401

RE: San Juan 28-5 Unit #235
Unit K, Section 28, T28N, R04W
Rio Arriba County, New Mexico
Downhole Commingling Request

Dear Mr. Spencer:

Meridian Oil, Inc. is in the process of applying for a downhole commingling order for the San Juan 28-5 Unit #235, in Rio Arriba County, New Mexico, in the Pictured Cliffs and the Fruitland Coal fields.

The purpose of this letter is to notify you of such action. If you have no objections to the proposed commingling order, we would appreciate your signing this letter and returning it to this office.

Your prompt attention to this matter would be appreciated.

Sincerely,

Scott H. Lindsay
Sr. Production Engineer

SHL/rjp

The above downhole commingling request is hereby approved:

_____

Date:_____

c:\windows\sjdhcom

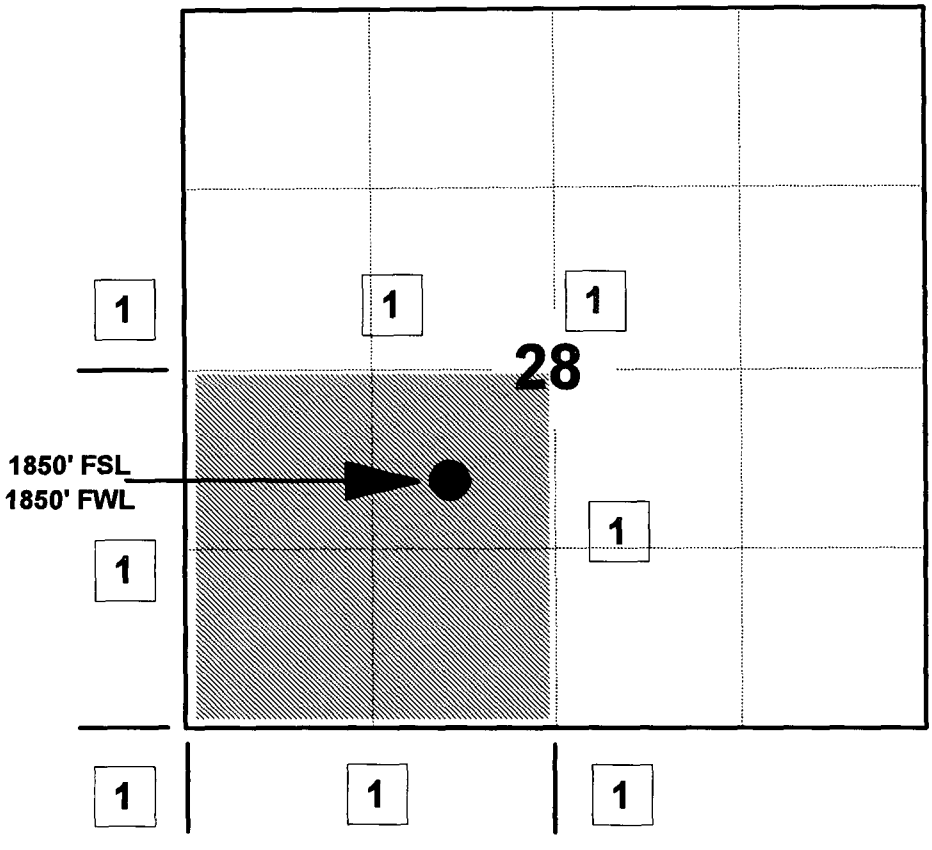
MERIDIAN OIL INC

SAN JUAN 28-5 UNIT #235

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Fruitland Coal Formations Commingle

Township 28 North, Range 5 West



1) Meridian Oil Inc

Pictured Cliffs Formation

Exhibit "A"

S.J. 28-5 UNIT #235

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

Qt = Qftc + Qpc

WHERE: Qt = TOTAL MONTHLY PRODUCTION (MCF/MONTH)

Qftc = FRUITLAND COAL (FTC) MONTHLY PRODUCTION
Qpc = PICTURED CLIFFS (PC) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR Qftc:

Qftc = Qt - Qpc

ANY PRODUCTION RATE OVER WHAT IS CALCULATED FOR THE PICTURED CLIFFS (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

Qpc = Qpci * e^{-(Dpc)*(t)}

WHERE: **Qpci** = INITIAL PC MONTHLY FLOW RATE (CALCULATED FROM FLOW TEST)

Dpc = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM:
Dpc = (Qpci-Qpcabd)/Np(pc)
See Determination of Qpci and PC Estimated Ultimate Recovery (EUR)
Qpcabd = 300 MCF/M

WHERE: **Np(pc)** = PICTURED CLIFFS ESTIMATED ULTIMATE RECOVERY (EUR)
P*x 0.55 MMCF/PSI x Rf**
P* = INITIAL RESERVOIR PRESSURE (7 DAY SIBHP)
RF = RECOVERY (FIELD ANALOGY): = 0.95
** DETERMINED FROM MATERIAL BALANCE (FIELD ANALOGY) AND VOLUMETRIC RESERVES (LOG ANALYSIS)

By calculating PC EUR FROM SIBHP and determining PC initial flow rate, Dpc can then be estimated utilizing the previously described parameters

THUS: **Qftc = Qt - Qpci * e^{-(Dpc)*(t)}**

WHERE: **(t) IS IN MONTHS**

REFERENCE: Thompson, R. S., and Wright, J. D., "Oil Property Evaluation", pages 5-2, 5-3, 5-4.

S.J. 28-5 UNIT #235

DETERMINATION OF Qpci:
(INITIAL PICTURED CLIFFS MONTHLY PRODUCTION)

Qpci = Qt(1) X Qpc(p) / {Qpc(p) + Qftc (p)}

WHERE:

Qt(1) = FIRST MONTH TOTAL PRODUCTION (MCF)

Qpc(p) = FINAL PICTURED CLIFFS FLOW TEST (MCFPD)

Qftc(p) = FINAL FRUITLAND COAL FLOW TEST (MCFPD)

S.J. 28-5 UNIT #235

EXAMPLE DETERMINATION OF:

(a) Np(pc)	PC EUR
(b) Qpci	INITIAL PC MONTHLY FLOW RATE
(c) Dpc	PC MONTHLY DECLINE RATE

(a) DETERMINATION OF Np(pc)

Np(pc) = 0.55 (MMCF/PSI) X P*(PSI) X Rf

P* = 1100 PSI (FROM 7 DAY SIBHP)

Np(pc) = 0.55 MMCF/PSI X 1100 PSI X 0.95

Np(pc) = 575 MMCF

(b) DETERMINATION OF Qpci

Qpci = Qt(1) X {Qpc(p)/(Qpc(p) + Qftc(p))}

Qt(1) =	15,000 MCF	1ST MONTH TOTAL PRODUCTION
Qpc(p) =	500 MCF/D	PC FLOW TEST
Qftc(p) =	400 MCF/D	FTC FLOW TEST

Qpci = 15,000 MCF/M X {500 MCF/D/(500 MCF/D + 400 MCF/D)}

Qpci = 8,333 MCF/M

(c) DETERMINATION OF Dpc

Dpc = (Qpci - Qpcabd)/Npc

Qpcabd = 300 MCF/M

Dpc =(8,333MCF/M - 300MCF/M)/(575,000MCF)

Dpc = 0.014/M

THUS: Qftc = Qt(MCF/M) - 8,333(MCF/M) X e^{-(0.014(1/M)) X t(M)}