610 REILLY AVE. • P. O. Box 840

FARMINGTON, NEW MEXICO 87499

September 19, 1990

Mr. David Catanach NMOCD P. O. Box 2088 Santa Fe, NM 87501

Re: Administrative Order PMX-158
Pressure Maintenance Project Expansion
Media Entrada Unit #3
Sandoval County, New Mexico

Dear Mr. Catanach:

The subject administrative order calls for setting a 4-1/2" liner to depth of 5300' in the Media Entrada Unit #3 and reperforating the Entrada from 5220'-5230' for injection. We request your approval to alter these plans. We would now like to cover the current Entrada perforations (5206'-5254') with sand, set the 4-1/2" liner at 5200' and cement back to surface, and then clean out and use the existing Entrada perforations for injection. Attached is a wellbore schematic depicting our planned final completion.

If you have any questions, please contact me at 505-327-9801.

Sincerely,

MERRION OIL & GAS CORPORARTION

George F. Sharpe Reservoir Engineer

GFS/11s

cc: MEU #3 Well File Media Unit SWD File

Attachment

MEDIA ENTRADA UNIT NO. 3 FUTURE WELLBORE SKETCH 8/3/89

1980 FSL 330 FWL Sec 14, 19N, 3W Sandoval Co NMZ

KB-6842'

)10-3/4", 40#/ft cmt'd w/ 140 sx

7", 20 and 23#/ft, cmt'd w/ 300 sx (bottom 601' is 23#)

1,786' - 1,817' csg leak sqz'd $W/_150$ sxs Cl "G" + 6% gel (247 ft³) and 150 sx Cl "G" $W/_1$ D65 + 1% CaCl (163 ft³)

2 Sqz holes @ 2,240'

TOC @ 3,340'

23/8" P.L. +ba@5225"

Lockset Retrievable Phr

Cunt w/ 7005x 6

4 1/2" 10.5 " c5q@5200" 17 : 559 MA! W1. 75% D-65 4 2 */sk gilsomite

Frac Sand from 5230'-5300' Calseal plug @ 5300'.

Open Entrada Perts: 5206-5230

Entrada perfs -5,206' - 54' (96 noles)

PBTD @ ± 5230

7" @ 5,340' TD @ 5,351'

41/2" capacity = . 0895 ft //ft 41/2"-7" annulus = . 1106 ft3/ft

MEDIA ENTRADA UNIT NO. 3

CONVERSION TO INJECTION

LOCATION: 19

1980' FSL & 330' FWL

ELEVATION:

6842' KB

Section 14, T19N, R3W

6825' GL

Sandoval County, New Mexico

PREPARED BY:

George Sharpe

DATE

6/19/90

- 1) MIRU. NU BOPs. PU and RIH with ± 5300' of Plastic Lined 2-3/8", 4.7#, EUE tubing. Tag PBTD at 5300'.
- Pull to 5150'. Circulate in 170 gal of frac sand and let fall to bottom (103' in 7" casing). RIH and tag sand at ± 5200'. POOH.
- Pick up and RIH with 1 10' pup joint of 4-1/2" casing, a latch down baffle, and \pm 5190' of 4-1/2", 10.5#, J-55 casing. Land casing just above sand. (7" ID = 6.241", 4-1/2" casing coupling = 5.93", annular capacity = .1106 ft³/ft).
- Establish circulation. Cement liner with 600 sx Class "G" (25% excess over required annular volume) with 0.75% D65 friction reducer and 2#/sk gilsonite lcm (15.6 ppg, 1.19 cu.ft./sk). Drop latch down wiper plug and displace with ± \$\mathbb{G}2\$ bbl water. Shut in 4-1/2" and squeeze 100 sx cement down 4-1/2"-7" annulus to 500 psi. WOC.
- 5) RIH with 3-7/8" bit and 4-1/2" casing scraper on 2-3/8" PL tubing. Drill out end of 4-1/2" casing.
- 6) Circulate out sand to 5220'. Establish pump in rate into Entrada at 500 psi. If can't pump in, circ out sand to 5230' and repeat pump in test. Continue cleaning out sand in 10' increments until can pump in greater than 2000 BPD at 500 psi. POOH.
- 7) RIH with dump bailer and spot 5 gal "Calseal" plug (± 3' in 7" casing) on top of sand. POOH.
- 8) RIH with 2-3/8" mule shoe, XN nipple, 2 jts 2-3/8" tbg, & 4-1/2" Lockset retrievable packer on 2-3/8" PL tubing. Set packer at \pm 5160' (Tbg tail should be \pm 5' above PBTD).

- 9) Test casing to 1000 psi. Release packer and circulate inhibited packer fluid. Set packer and test casing to 1000 psi for 15 minutes for UIC test. Record results on round chart. (Notify NMOCD 24 hours prior to UIC test.)
- 10) Nipple down BOPs. NU Tree. RDMOL.

GFS/eg

APPROVED: DATE:

OCT 18 '91 Ø9:46 OCD AZTEC NM UNITED STATES November 1983) Formerly 9–331) BUREAU OF LAND MANAGEME SUNDRY NOTICES AND REPORTS	RIOR (Other instructions on re-	orm approved 1004-0135 kpiros August 31, 1985 kpiros August 31, 1985 kpiros August 32, 1985
(Do not use this form for process to drill or to deepen or plus use "APPLICATION FOR PERMIT—" for such	proposits.)	ADDECMENT NAME
2. NAME OF OPERATOR Merrion Oil & Gas Corporation		on the ware
3. ADDRESS OF OFERATOR P. O. Box 840, Farmington, NM 8		•••
4. LOCATION OF WELL (Report location clearly and in accordance with an See also space 17 below.) At surface 990 FSL & 660 PWL	11. 45c.	indesignated Mesaverd L. L. M. OF SEE. AND VEVST OF AREA ec 14, T19N, R3W
14. FEENIT NO 15. SEEVATIONS (Show whether	······································	MYY OR PARISH 13. STATE
6,837' GL	Sand	oval NM
PRACTURE TREAT SHOOT OR ACIDIES REPAIR WELL (Other NTL-2B for Inj of Produced With X 17. Describe proposed or complete operations (Clearly state all perting proposed work. If well is directionally drilled, give substitutes locality this work.)	WATER SHUT-OFF FRACTURE TREATMENT SHOOTING OR ACIDIZING (Other) (NOTE: Report remiks of multiple Completion or Recompletion Report details, and give pertinent dates, including attorns and measured and true vertical depths to	ABANDONMENT* LE COMMISSION ON Well Let and Log form.)
Pursuant to your letter dated point NTL-2B information for the subject well. We received of the NMOCD on 11/1/90 for sa additional paperwork was nece for your information is the Media Entrada Unit #3, the tar	Injection of the produce verbal approval from Mi id injection. Mr. Bush ssary for the NMOCD. A previously approved NTI	ed water from r. Ernie Bush said that no
If you have any questions, pl 9801.	ease contact George Sh	arpe at 327-

OCTI 5 1991.

OIL CON. DIV.

			•		
8. I hereby certify that the foregoing is true and correct SIGNED George P Sharpe	TITLE	Engineer	_ DAT	4/17/91	
(This space for Faderal or State office man)	TITLE	AREA MANAGER RIO PUERCO RESOURCE AREA	_ DATI	OCT 10 19	91
CONDITIONS OF APPROVAL ANT:	•			BLM Well Files	
5	e lostruc	tions on Reverse Side			

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

00T_10_01 EPT 10*47

FEDERAL MEDIO # 1

NTL-2B APPLICATION FOR APPROVAL TO INJECT PRODUCED WATER

PREPARED BY: George F. Sharpe DATE: 4/16/91

1) Injection Well
Media Entrada Unit #3
1980' FSL & 330' FWL
Sec 14, T19N, R3W
Lease: NM12012
NMOCD Permit PMX-158, Order

NMOCD Permit PMX-158, Order R-5017

2) Proposed Injection Rate: ± 2500 BPD Source: Entrada Produced Water and Menefee Produced Water (Analyses attached)

Production Wells	Location	<u>Lease</u>	<u>Formation</u>
Media Entrada Unit #6 Federal Medio #1	SESE Sec 15 19N3W	NMO-58122	Entrada
	SWSW Sec 14 19N3W	NMO-58122	Menefee

- 3) Injection Formation = Entrada 5220'-30'
- 4) Entrada water analysis attached (TDS = 15132)
- 5) The Morrison Formation at a depth of \pm 4450' and the Mesaverde Formation at a depth of \pm 390' both contain water with a TDS of less than 10,000 ppm. Mesaverde water is produced from one well and is used for ranching in the area. However, neither formation is used as a drinking water source.
- 6) Attached is a wellbore schematic showing the casing and cementing detail for the MEU #3.
- 7) TD = 5351' Current PBTD = 5300'
- 8) The well is completed with 2-3/8" plastic lined tubing and a Baker Lok-set Retrievable packer set θ ± 5160'. The annulus is protected with inhibited fluid. The anticipated operating conditions are:

Average Maximum
Injection Rate (BPD) 2000 3000

Federal Medio #1

-2-

Application for Water

9) Rates and pressures will be monitored daily. The tubing casing annulus and packer were pressure tested prior to commencing injection and will be tested again at least once every 5 years thereafter.

I hereby certify that the above information is true and complete to the best of my knowledge.

George F. Sharpe Petroleum Engineer

11

Date

WELL: MEDIA ENTRADA UNIT #3

WELLBORE SCHEMATIC

MERRION OIL AND GAS CORP.

ENG:GFS

DRFT:MEG

DATE:4-15-91

LOCATION:

1980' FSL & 330' FWL SEC 14, T19N, R3W SANDOVAL COUNTY, N.M.

ELEVATION

GL: 6825' KB: 6842'

FORMATION TOPS:

MESAVERDE 380° GALLUP 2790° DAKOTA 4202° MORRISON 4456° ENTRADA 5218°

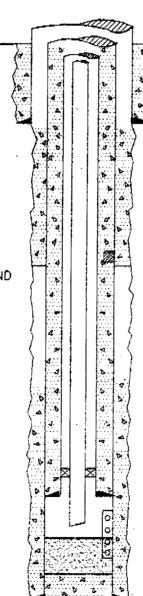
SQUEEZED PERFORATIONS:

2240' - 2 HOLES SQZ. W/150 SX G W/6% GEL AND 150 SX G W/1% D65 & 1% Caci

OPEN PERFORATIONS:

ENTRADA: 5206 - 54' @ 25PF

SAND FROM PBTD TO 5230'



INJECTION STRING:

TBG: 2 3/8", 4.6 #/FT, P.L. DEPTH: 5225'
4 1/2" BAKER LOCKSET PKR @ 5160'

SURFACE CASING:

HOLE SIZE: 15 "
CSG SIZE: 10 3/4", 40 #/FT
DEPTH: 217"
CMT DETAILS: 140 SX

TOC: SURFACE BY: CIRCULATE

PRODUCTION CASING:

HOLE SIZE: 8 3/4"
CSG SIZE: 7", 20#/FT
DEPTH: 5340'
CMT DETAILS: 300 SX

TOC: 3340' .
BY: CALCULATED

LINER

LNR SIZE: 4 1/2" 9.5 #/FT
DEPTH: 5200'
CMT DETAILS: 462 SX G
W/50/50 Poz, 2% GEL,
5#/SK Gils., 0.2% D-65 AND
100 SX G W/5#SK GILS., 0.75%
D-65, SQZ 100 SX G W/3% Cacl
DOWN CASING ANNULUS.

TOC: SURFACE BY: ANNULUS SQUEEZE

DEPTHS

TPBTD: 5300'

13, 1990





WATER ANALYSIS for Merrion Oil

A Baker Hughes company

Date of Analysis: NOVEMBER 13, 1990

Company:

Merrion Oil

State:

New Mexico Media Entrada

Lease: Oil (bbl/day):

N/D

Type of Water: Sample Source: produced wellhead

Representative:

Mike Jones

Analysis #:

Company Address:

3 Farmington

Field:

N/D

Well #:

.6 .

Water (bbl/day):

N/D

Temp.,C:

21

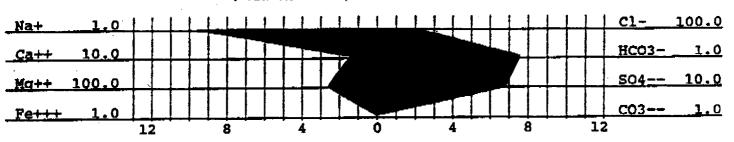
Date of Sampling: Analysis By:

NOVEMBER

Ken Hake

WATER ANALYSIS PATTERN

(number beside ion symbol indicates me/L scale unit)



DISSOLVED SOLIDS

DISBOLVED GASES

CATIONS Total Mardness :	me/l 280.00	mg/l	Hydrogen sulfide: 45.20 mg/l Carbon dioxide: 3.28 mg/l
Calcium, (Ca++):	15.00	300.72	Oxygen : N/D mg/1
•••• Jee / / / / / / / / / / / / / / / / /	265.00	3220.12	
Iron, (Fe+++):	0.06	1.10	PHYSICAL PROPERTIES
Barium, (Ba++) :	0.00	0.00	
	9.79	225.28	рн : 7.30
Manganese, (Mn++):	0.00	0.00	Spec Grav. : 1.015
			TDS (calc.) : 15131.81
ANIONS	•		
Chloride, Cl- :	211.30	7500.89	<u>SCALE STABILITIES</u>
Sulfate, SO4 :	70.75	3400.00	Temp., C CaCO3 CaSO4 BaSO4
Carbonate, CO3:	0.00	0.00	18.0 -0.25 2986 0
Bicarbonate, HCO3-:	7.80	475.90	21.0 -0.20 3033 0
Hydroxyl,OH- :	0.00	0.00	24.0 -0.14 3072 0
Sulfide, S :	0.00-	0.00	Max entity, (calc.) 1025 0
TOTAL SOLIDS (quant.		0.00	RESIDUAL HYDROCARBONS: N/D

N/D = not determined

13, 1990





WATER ANALYSIS for Merrion Oil

A Baker Hughes company

Date of Analysis: NOVEMBER 13, 1990 Analysis #:

Company:

Merrion Oil

state:

New Mexico

Lease:

Media Mesa Verde N/D

0.00

:

Oil (bbl/day):
Type of Water:

produced

Sample Source: Representative:

wellhead Mike Jones

Farmington Company Address:

Field:

N/D

Well #:

N/D

Water (bbl/day):

21

Temp.,C:

Date of Sampling:

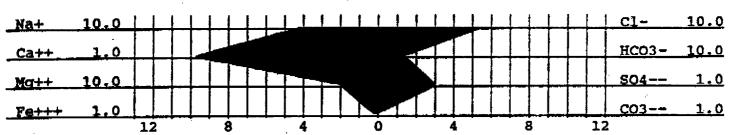
NOVEMBER

Analysis By:

Ken Hake

WATER ANALYSIS PATTERN

(rumber beside ion symbol indicates me/L scale unit)



DISSOLVED SOLIDS

DISSOLVED GASES

Max entity, (calc.) 213

RESIDUAL HYDROCARBONS: N/D

CATIONS	me/l	mg/1	Hydrogen si	ulfide:	0.00	mg/l
Total Hardness :	30.00		Carbon dio	zide :	3.68	mg/1
Calcium, (Ca++) :	10.00	200.48	Oxygen	:	N/D	mg/1
Magnesium, (Mg++):	20.00	243.03				
Iron, (Fe+++) :	0.27	5.00	PHYSICAL P	ROPERTIE	<u>:s</u>	
Barium, (Ba++) :	0.00	0.00	*			
Sodium, Na+(calc):	43.95	1010.91	pн	:	7.70	
Manganese, (Mn++):	0.00	-0.00	Spec Grav.	:	1.01	0
•			TDS (calc.)) :	4525.79	
anions						
Chloride, Cl- :	56.30	1998.58	SCALE STAB	ILITIES		
Sulfate, SO4 :	3.12	150.00	Temp.,C	CaCO3	CaSO4	Ba804
Carbonate, CO3:	0.00	0.00	18.0	1.00	2098	0
Bicarbonate, HCO3-:	14.80	902.99	21.0	1.05	2122	0
Hydroxyl,OH- :	0.00	0.00	24.0	1.11	2141	. 0

0.00

4510.48

N/D = not determined

Sulfide, S--

TOTAL SOLIDS (quant.):

	U OF LAND MANAGEMEN ICES AND REPORTS THE TO STATE OF THE PERMIT OF THE P	ON WELLS	MM 12012 6 IF INDIAN. ALLOTTER OR TRIBE
NELL THE WELL OFFER			Maja Entra Di
Merrion Oil & Gas	S Corporation		8. FARM OF LEASE HAME Media Entrada Unit
DOUGHS OF OFFICE	بىيىسىدىن بىرىدى دىدىنى كەر چوپىكىكى يىلىسىدىد	· ·	S. WELL NO.
O. Box 840, Farmington oration or will (Report location el- ier aim apper 17 below.) It surface		State requirements.	10. PIBLO AND POOL. OR WIEDCAT
00' PSL and 330' PWL			Sec 14, T19N, R3W
FRAIT NO.	15. BLEVATIONS (Show whether as	. NT. GE etc.)	12 COUSTY OF PARISE: 13 STATE Sandoval NM
Check App	ropagte Box To Indicate N	ature of Notice, Report, a	Other Date
HOTELE OF LETENT		•	SQUEST LIVES OF:
TOT WATER REGIONS	LL OR ALTER CARING	ATES SHCI-OFF	EXPAIRING WHILE
BACTI'RE THEAT	LTIPLE COMPLETE	PEACTURE TREATMENT	Trasting Cyaling
HINT OR ACIDISE	ANDON*	SHOOTING OR AUDITING	ARANOUM MRHIT®
	ANGE PLANF	(Other)	its of maltiple completion on Well
EPAIR WELL CH		. HEIDSTEING OF SECON	aptetted separt the Log form.)
EPAIR WELL CH	rt to Injection.	defails, and give pertinent day	



. I hereny certify manufact topefoling in true and correct		
SIGNED George P Sharpe	TITLE Reservoir Engineer	DATE May 29, 1990
APPROVED BY APPROVAL, IF ANY ALLOW	AREA MANAGER TITEBRIO PUERCO RESCURCE AREA	JUNF 5 1990

OPERATOR

.*See instructions on Reverse Side

Title to U.S.C. Section 1711, makes it a drime for any person knowingly and willfully to make to any department or agency of the Control has be any placed. Intitle of translations of recompeniations as to any matter within its remodulum.

MEDIA ENTRADA UNIT NO. 3

NTL-2B APPLICATION FOR APPROVAL TO INJECT PRODUCED WATER

LOCATION:

1980' FSL & 330' FWL

ELEVATION:

6842' KB

Section 14, T19N, R3W

6825' GL

Sandoval County, New Mexico

PREPARED BY:

George F. Sharpe

DATE:

5/25/90

1) Injection Well
Media Entrada Unit #3
1980' FSL 330' FWL
Sec. 14, Tf19N, R3W
Lease: NM 12012

2) Proposed Injection Rate: ± 2500 BPD Source: Entrada Produced Water (Analysis Attached)

<u>Production Well</u> <u>Location</u> <u>Lease</u> <u>Formation</u>

Media Entrada Unit #6 SESE Sec 15 19N3W NM0-58122 Entrada

- 3) Injection Formation = Entrada 5220'-30'
- 4) Entrada water analysis attached
- 5) The Morrison Formation at a depth of \pm 4450' and the Mesaverde Formation at a depth of \pm 390' both contain water with a TDS of less than 10000 ppm. Mesaverde water is produced from one well and is used for ranching in the area. However, neither formation is used as a drinking water source.
- 6) Attached are wellbore schematics showing the current and proposed hole, casing and cementing detail for the subject well.
- 7) TD = 5351'
 Current PBTD = 5300'
 Proposed PBTD = 5260'
- 8) The well is to be completed with 2 3/8" plastic lined tubing and a Baker Lok-set Retrievable packer set @ ± 5150 '. The annulus will be protected with inhibited fluid. The anticipated operating conditions are:

 Average
 Maximum

 Injection Rate (BPD)
 1500
 3000

 Tubing Pressure (psi)
 500
 1000

EDT 40.47 1 0 (

Media Entrada Unit #3 Injection

-2-

Application for Water

9) Rates and pressures will be monitored daily. The tubing casing annulus and packer will be pressure tested prior to commencing injection and at least once every 5 years thereafter.

I hereby certify that the above information is true and complete to the best of my knowledge.

George F. Sharpe Petroleum Engineer

Barta

SENDER: Complete items 1 and 2 when additional 3 and 4. Put your address in the "RETURN TO" Space on the reverse from being returned to you. The return receipt fee will provide the date of delivery. For additional fees the following services.	e side. Failure to do this will prevent this card
and check box(es) for additional service(s) requested. 1. □ Show to whom delivered, date, and addressee's an (Extra charge)	ddress. 2. Restricted Delivery (Extra charge)
3. Article Addressed to:	4. Article Number P 565 381 618
Cherry Dental Service, Ltd. 4336 Covington Hiway Suite 203 Decatur, Georgia 30035	Type of Service: Registered Insured COD Express Mail Return Receipt for Merchandise
	Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature Addressee X NATH MARK	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature – Agent	
7. Date of Delivery	
PS Form 3811, Apr. 1989	DOMESTIC RETURN RECEIPT
SENDER: Complete items 1 and 2 when additiona 3 and 4. Put your address in the "RETURN TO" Space on the revers from being returned to you. The return receipt fee will provid the date of delivery. For additional fees the following service and check box(es) for additional service(s) requested. 1. Show to whom delivered, date, and addressee's a	e side. Failure to do this will prevent this card e you the name of the person delivered to and es are available. Consult postmaster for fees ddress. 2. Restricted Delivery
(Extra charge) 3. Article Addressed to:	(Extra charge) 4. Article Number
Lasrich Company 2597 E. Bridge Sandy, Utah 84092	P 565 381 619 Type of Service: Registered Insured COD Express Mail Return Receipt for Merchandise
	Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> .
5. Signature Addressee X 6. Signature Agent X 7. Date of Delivery	8. Addressee's Address (ONLY if requested and fee paid)
PS Form 3811, Apr. 1989	DOMESTIC RETURN RECEIPT
SENDER: Complete items 1 and 2 when additional 3 and 4. Put your address in the "RETURN TO" Space on the reverse from being returned to you. The return receipt fee will provide the date of delivery. For additional fees the following service and check box(es) for additional service(s) requested. 1. Show to whom delivered, date, and addressee's ac (Extra charge)	side. Failure to do this will prevent this card you the name of the person delivered to and s are available. Consult postmaster for fees
3. Article Addressed to:	4. Article Number P 565 381 620
Bureau of Land Management Rio Puerco Resource Area 435 Montano, N.E. Albuquerque, N.M. 87107	Type of Service: Registered Insured COD Express Mail Return Receipt for Merchandise
	Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature — Addressee X 6. Signature — Agent X	8. Addressee's Address (ONLY if requested and fee paid)
7. Date of Delivery	

DOMESTIC RETURN RECEIPT