



**Marathon  
Oil Company**

P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106

March 2, 1995

Operations Department  
Yates Petroleum Corporation  
105 South Forth Street  
Artesia, NM 88210

**RE: TIN CUP MESA  
WSW CONVERSION TO DISPOSAL  
SECTION 25, T-38S, R-25E  
SAN JUAN COUNTY, UTAH**

This letter hereby notifies Yates Petroleum of Marathon's proposal to convert the Tin Cup Mesa Water Supply Well No. 1 to a Water Disposal Well. An application for the conversion has been filed with the Division of Oil, Gas and Mining in the State of Utah. The conversion is targeted for low pressure disposal which would allow for reduced operating expenses, and thereby lengthening the producing life, and significantly reducing environmental exposure. Our records indicate Yates Petroleum has acreage within a ½ mile radius of the proposed conversion.

If you have any question, please feel free to call me in Hobbs, New Mexico at (505) 393-7106 ext 212.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Rod J. Prosceno'.

Rod J. Prosceno  
Northwest Operations  
Operations Engineer

RJP/9512/kc



P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106

March 2, 1995

Operations Department  
UMC Petroleum Corp  
1201 Louisiana No. 1000  
Houston, TX 77002

RE: **TIN CUP MESA**  
**WSW CONVERSION TO DISPOSAL**  
**SECTION 25, T-38S, R-25E**  
**SAN JUAN COUNTY, UTAH**

This letter hereby notifies UMC Petroleum of Marathon's proposal to convert the Tin Cup Mesa Water Supply Well No. 1 to a Water Disposal Well. An application for the conversion has been filed with the Division of Oil, Gas and Mining in the State of Utah. The conversion is targeted for low pressure disposal which would allow for reduced operating expenses, and thereby lengthening the producing life, and significantly reducing environmental exposure. Our records indicate UMC Petroleum has acreage within a ½ mile radius of the proposed conversion.

If you have any question, please feel free to call me in Hobbs, New Mexico at (505) 393-7106 ext 212.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rod J. Prosceno'.

Rod J. Prosceno  
Northwest Operations  
Operations Engineer

RJP/9512/kc



**Marathon  
Oil Company**

P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106

March 2, 1995

Operations Department  
Celsius Energy  
1331 17th Street No. 800  
Denver, CO 80202

RE: **TIN CUP MESA  
WSW CONVERSION TO DISPOSAL  
SECTION 25, T-38S, R-25E  
SAN JUAN COUNTY, UTAH**

This letter hereby notifies Celsius Energy of Marathon's proposal to convert the Tin Cup Mesa Water Supply Well No. 1 to a Water Disposal Well. An application for the conversion has been filed with the Division of Oil, Gas and Mining in the State of Utah. The conversion is targeted for low pressure disposal which would allow for reduced operating expenses, and thereby lengthening the producing life, and significantly reducing environmental exposure. Our records indicate Celsius Energy has acreage within a ½ mile radius of the proposed conversion.

If you have any question, please feel free to call me in Hobbs, New Mexico at (505) 393-7106 ext 212.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Rod J. Prosceno'.

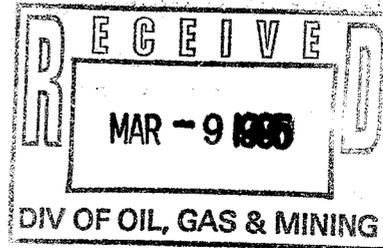
Rod J. Prosceno  
Northwest Operations  
Operations Engineer

RJP/9512/kc



P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106 212

March 2, 1995



State of Utah  
Department of Natural Resources  
Division of Oil, Gas, and Mining  
335 West North Temple  
3 Triad Center, Suite 340  
Salt Lake City, Utah 84108-1203  
(801) 538-5340 (Ph)  
(801) 359-3940 (Fax)

RE: Application for Disposal Well  
Tin Cup Mesa WSW No. 1  
Section 25, T-38-S, R-25-E  
San Juan County, Utah  
Lease No. U-31928

Marathon Oil Company respectfully requests permission to convert the Tin Cup Mesa WSW No. 1 to a disposal well. The Tin Cup Mesa Unit currently produces 105 BOPD, 40 MCFPD, and 2000 BWPD from the Upper Ismay pool; the produced water is re-injected into the Upper Ismay at average pressures of 2500 psig while the Water Supply Well remains shut-in. The Tin Cup Mesa WSW No. 1 is shut-in because of poor economics associated with operating costs.

The conversion of the Tin Cup Mesa WSW No. 1 to a disposal well will prevent the Tin Cup Mesa Unit from being prematurely abandoned. The costs associated with the current high pressure injection make the field marginally economic. The WSW is targeted for its low pressure disposal which would allow reduced operating expenses thereby lengthening the producing life and significantly reducing environmental exposure.

Upon approval of this application to convert the Tin Cup Mesa WSW No. 1 to a disposal well, the well name should be changed to the Tin Cup Mesa WDW No. 1. Moreover, the following application for disposal will use the proposed name for reference. The attached application is subject to requirements by R649-5-2 (requirements for Class II Injection Wells Including Water Disposal, Storage, and Enhanced Recovery Wells).

Sincerely,

A handwritten signature in black ink, appearing to read 'Rod J. Prosceno'.

Rod J. Prosceno  
Northwest Operations  
Operations Engineer

RJP/9504/kc  
Attachments

Utah Oil and Gas Conservation  
General Rules  
Section R649-5-2  
Requirements for Class II Injection Wells Including Water Disposal,  
Storage and Enhanced Recovery Wells

Proposed: Tin Cup Mesa WDW No. 1 (currently WSW No. 1)  
Section 25, T-38-S, R-25-E  
San Juan County, Utah  
Lease No. U-31928

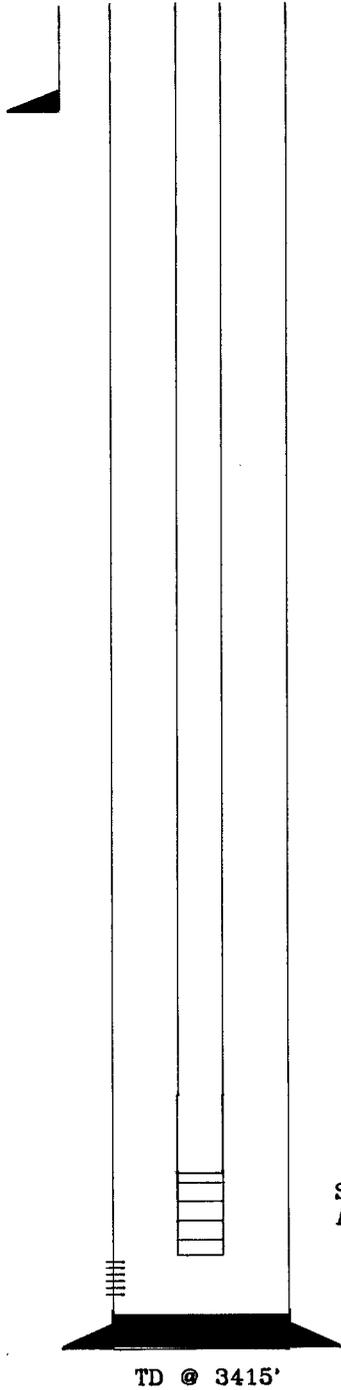
1. The WDW No. 1 will be equipped with a downhole packer set at an estimated depth of 2370' which is 60' above the top Cutler perforation of 2410'. (Attachment 1)
2. UIC Form 1. (Attachment 2)
- 2.1 Plat showing all wells within ½ mile radius of WDW No. 1. (Attachment 3)
  - \* 3 Active producers, 2 active injectors, and 2 abandoned wells on BLM Federal Lands.
  - \* Marathon operates the production and injection wells.
- 2.2 Formation Density - Compensated Neutron Log enclosed.
- 2.3 Cement Bond Log enclosed.
- 2.4 Copies of logs in Sections 2.2 and 2.3.
- 2.5 A retrievable bridge plug will be set above the top Cutler perforation, and the casing will be pressure tested to 500 psig for 30 minutes with produced Ismay water. After the bridge plug has been retrieved and the injection packer has been set, the annulus will again be tested to 500 psig for 30 minutes with corrosion inhibited water.
- 2.6 The type of proposed injected fluid is produced water from the Tin Cup Mesa Unit (Upper Ismay); the estimated fluid injection volumes are 2000 BWPD. The Cutler WSW has contributed 6.7 MMBW into the Tin Cup Mesa Unit. The Unit has produced 4.5 MMBW of combined Upper Ismay and Cutler water.
- 2.7 A laboratory analysis performed in 1983 between the Cutler and Ismay waters revealed no indications of incompatibility. Mixtures covered a wide range (10/90, 25/75, 50/50, 75/25, 90/10) and exhibited no precipitate formation through three weeks time. (Attachments 4 and 5.) A 1995 water analysis also shows no indications of compatibility (Attachment 5A).

- 2.8 The average and maximum injection pressures will be determined based on initial injection tests. Preliminary estimates are average injection pressures of 50 psig and maximum injection pressures of 500 psig.
- 2.9 Data from initial injection tests to determine fracture confinement.
- 2.10 Geologic data. (Attachment 6)
- 2.11 Wellbore review with ½ mile radius.

<u>WELL NAME</u>	<u>WELL TYPE</u>	<u>OPERATOR</u>	<u>CEMENT TOP</u>	<u>CUTLER TOP</u>
TCM 1-25	Inj.	Marathon	1520'	2384'
TCM 1-23	P & A'd	Marathon		
TCM 5-26	Prod.	Marathon	2225'	2460'
TCM 4-26	Inj.	Marathon	Surf.	2316'
TCM 6-26	Prod.	Marathon	Surf.	2467'
TCM 2-25	Prod.	Marathon	664'	2305'
TCM 1-25	P & A'd	Celsius Energy		

- 2.12 Copies of letters were sent notifying all operators, owners, and surface owners within ½ mile radius of proposed TCM WDW. (Attachment 7)
- 2.13 Additional information upon request.

# WELL DATA SHEET



FIELD: TIN CUP MESA

LEASE & WELL NO.: TIN CUP MESA WSW NO.1

LOCATION: SECTION 25, T-38-S, R-25-E  
1888' FNL & 745' FWL, Unit Letter E

COUNTY AND STATE: SAN JUAN COUNTY, UTAH

WELL STATUS: SHUT-IN

TD: 3415'    PBD: 3315'    GL: 4988'    KB: 5001'

SURFACE CASING: 9 5/8", 40#, set @ 1489'.  
Cmt w/610 sx.

PRODUCTION CASING: 7", 23#, set @ 3414'.  
Cmt w/429 sx.

PRODUCTION METHOD: Electric Submersible Pump

TUBING AND PUMP ASSEMBLY:

- 3 1/2", 9.3#, J55, 8rd, EUE @ 2775' (88 jts)
- Tubing is internally plastic coated.
- 87 jts 3 1/2" Tubing
- Bleeder Check.
- 1 jt 3 1/2" Tubing
- Pump Head
- 25 stg GN4000
- 66 stg GN4000
- Shroud
- Pump Intake
- Protector
- Motor 125 hp (72A)
- Fluid Intake @ 2834'
- Bottom of motor 2864'

Sub Pump  
Assembly

COMPLETION INTERVAL: Cutler    2410-24  
2438-50  
2458-66  
2914-24  
2932-46  
3001-36  
3188-96  
3246-58

PBD @ 3315'

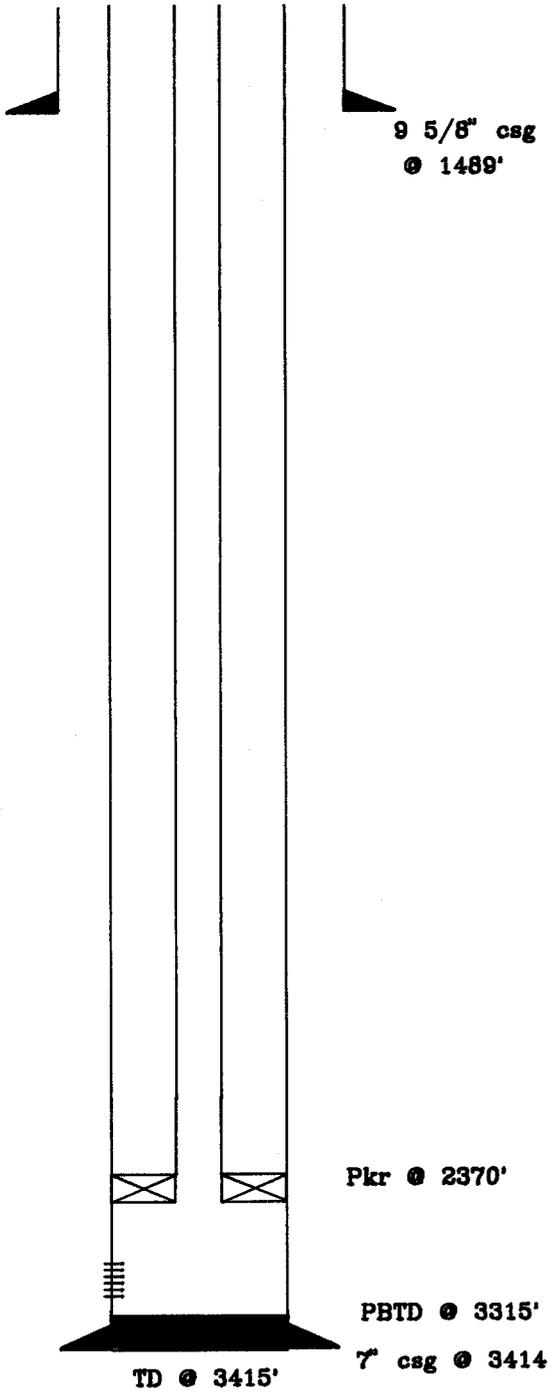
7" csg @ 3414

TD @ 3415'

ATTACHMENT 1

# WELL DATA SHEET

## PROPOSED WELLBORE SET-UP



FIELD : TIN CUP MESA

LEASE & WELL NO. : TIN CUP MESA WSW NO.1

LOCATION : SECTION 25, T-38-S, R-25-E  
1888' FNL & 745' FWL, Unit Letter E

COUNTY AND STATE : SAN JUAN COUNTY, UTAH

WELL STATUS : SHUT-IN

TD : 3415'    PBTB : 3315'    GL : 4988'    KB : 5001'

SURFACE CASING : 9 5/8", 40#, set @ 1489'.  
Cmt w/610 sx.

PRODUCTION CASING : 7", 23#, set @ 3414'.  
Cmt w/429 sx.

TUBING ASSEMBLY :

3 1/2", 9.3#, J55, 8rd, EUE @ 2370'  
Tubing is internally plastic coated.

Pkr @ 2370'

COMPLETION INTERVAL : Cutler    2410-24  
2438-50  
2458-66  
2914-24  
2932-46  
3001-36  
3188-96  
3246-58

PBTB @ 3315'

7" csg @ 3414

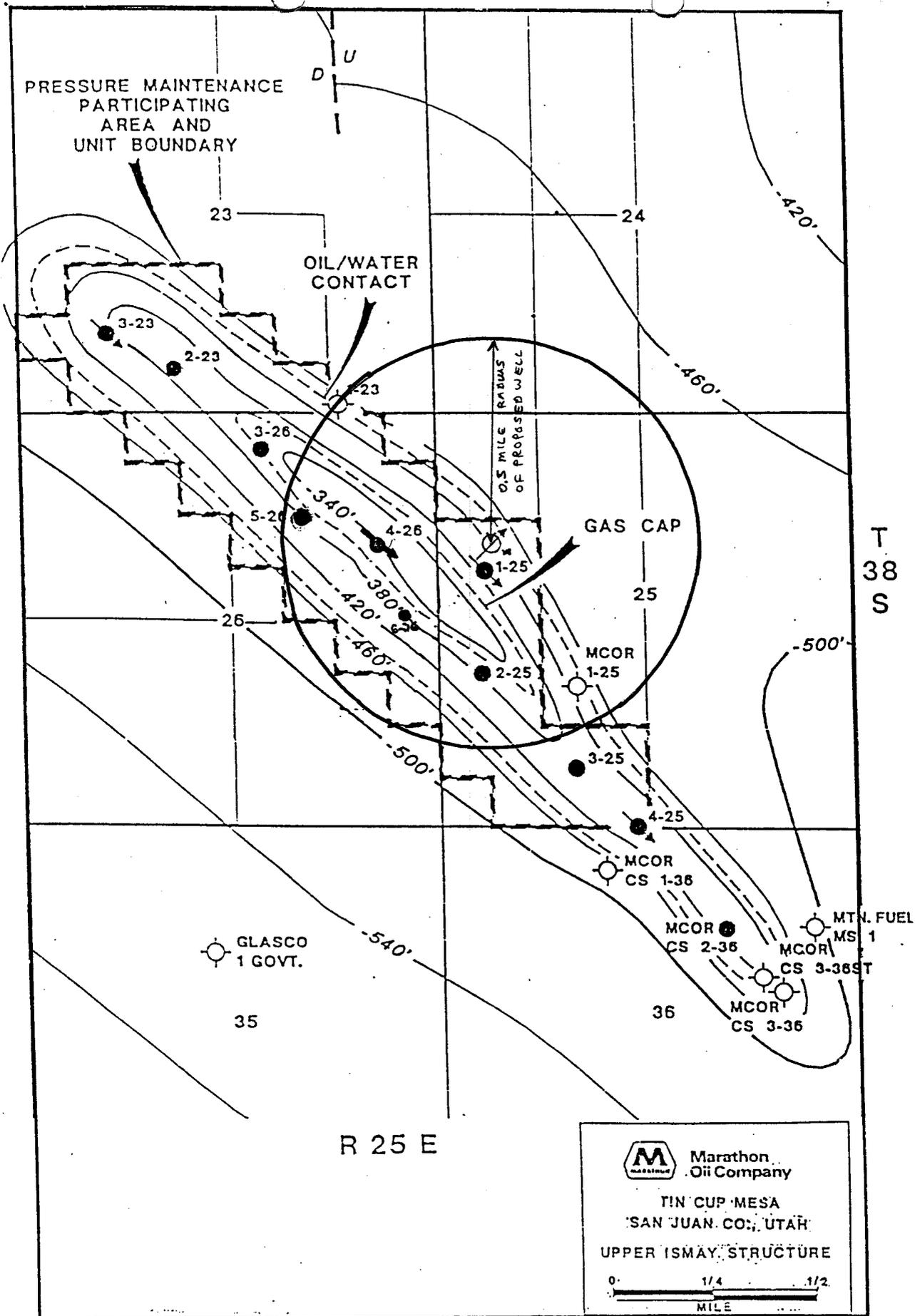
TD @ 3415'

ATTACHMENT 1A

PREPARED BY : R.J. PROSCENO

DATE : January 10, 1985





3

TABLE I: BACTERIA SURVEY

<u>Date</u>	<u>Location</u>	<u>SRB's</u>	<u>Low TDs Aerobes</u>	<u>High TDs Aerobes</u>
11/03/83	Perkins Sec. 30	<1 colony/ml	<1 colony/ml	<1 colony/ml
11/03/83	1/2 mile west of Jackson Ranch	1-10	10-100	<1
11/01/83	Glasco Gov't. #1	10-100	<1	<1
11/01/83	BLM Sec. 28	<1	1-10	10-100
11/02/83	TCM Battery H.T.	1-10	1-10	1-10
11/04/83	TCM Battery H.T.	1-10	1-10	10-100
10/31/83	Cutler Formation	1-10	1-10	1-10

TABLE II: ARTESIAN WELL LOCATIONS

<u>Map Designation</u>	<u>Description of Location</u>
Location I	Richard Perkins Sec. 30. Approximately 1/2 mile to the east of paved highway across Montezuma Creek.
Location II	Located in Section 28. Drive approximately 1/2 mile north on Nancy-Patterson Canyon Road and take left to small pond. (This well is approximately 1/2 mile due west of Jackson Ranch Homestead.)
Location III	Glasco Gov't #1, Sec. 35. Approximately 1 mile southwest of the Tin Cup Mesa main battery.
Location IV	BLM, Sec. 28. Approximately 2 miles north of main dirt road to TCM.

TABLE III: SCALING TENDENCIES

<u>Sample Designation</u>	<u>Temperature</u>	<u>CaCO<sub>3</sub></u>	<u>CaSO<sub>4</sub></u>	<u>BaSO<sub>4</sub></u>	<u>SrSO<sub>4</sub></u>
Cutler Formation	68°F	Slight	Nil	Nil	Moderate
Ismay Produced Water*	100	Nil	Nil	Nil	Moderate-Severe
10% Cutler/90% Produced	97	Nil	Nil	Nil	Moderate-Severe
30% Cutler/70% Produced	90	Nil	Nil	Nil	Moderate
50% Cutler/50% Produced	84	Nil	Nil	Nil	Moderate
70% Cutler/30% Produced	78	Nil	Nil	Nil	Moderate
90% Cutler/10% Produced	71	Nil	Nil	Nil	Moderate

\*The Ismay produced water was sampled at the battery heater treater. Well #3-23 was the only source of produced water as #3-26 and #2-23 were producing dry oil.

TABLE 1 - TIN CUP MESA

<u>Location</u>	<u>Date</u>	<u>O<sub>2</sub></u> ppb	<u>Total Fe</u> mg/l	<u>pH</u>	<u>Temp.</u> °F	<u>TDS</u> mg/l	<u>TSS</u> mg/l	<u>Ca</u> mg/l	<u>Ba</u> mg/l	<u>Sr</u> mg/l	<u>Na</u> mg/l	<u>K</u> mg/l	<u>HCO<sub>3</sub></u> mg/l	<u>CO<sub>3</sub></u> mg/l	<u>H<sub>2</sub>S</u> mg/l	<u>Cl<sup>-</sup></u> mg/l	<u>SO<sub>4</sub><sup>2-</sup></u> mg/l
Cutler Formation #1-25	10/31/83	< 10	1.7	7.9	68	75,562	<1.0	4,840	<20	170	18,360	78	41	<1	<0.1	39,440	1,380
TCM Battery H.T.*	11/04/83	<100	9.0	6.4	100	256,894	N.A.	11,235	<20	375	67,880	2,864	67	<1	<0.1	147,008	735
TCM Battery H.T.*	11/02/83	<100	7.9	7.2	100	91,380	N.A.	4,213	<20	112	21,350	5,080	185	<1	<0.1	47,480	2,030
<u>Artesian Wells</u>																	
I Perkins Sec. 30	11/03/83	< 10	0.1	7.9	62	547	N.A.	5.0	<0.20	0.6	177	7.2	464	<1	<0.1	9	39
II W. of Jackson Sec. 28	11/03/83	< 10	0.1	8.1	65	527	N.A.	5.2	0.23	0.6	159	7.2	449	<1	<0.1	8	34
III Glasco Gov't #1 Sec. 35	11/01/83	< 10	0.3	7.9	64	847	N.A.	6.7	<0.20	0.7	270	9.5	675	<1	<0.1	67	68
IV BLM Sec. 28	11/01/83	5	0.6	8.1	59	492	N.A.	6.4	<0.20	0.7	116	7.9	318	<1	<0.1	8	42
<u>Producing Well 3-23</u>																	
Sample 1*	11/02/83	N.A.	9.6	N.A.	N.A.	75,142	N.A.	3,723	<20	102	17,000	5,140	N.A.	N.A.	N.A.	40,830	2,160
Sample 2*	11/03/83	N.A.	7.9	N.A.	N.A.	201,764	N.A.	9,135	<20	300	53,600	3,238	N.A.	N.A.	N.A.	118,040	1,010
Sample 3*	11/04/83	N.A.	5.7	N.A.	N.A.	232,123	N.A.	11,565	<20	377	64,940	2,725	N.A.	N.A.	N.A.	146,350	700

\*Note the change in these samples as the KCl brine from the earlier injectivity test is displaced from the formation. The 11/4/83 samples are more representative of the Ismay produced fluids. The TCM Battery H.T. sample taken on 11/4/83 was used for all scaling calculations and compatibility tests.

**TRETOLITE DIVISION**

(915) 682-4301  
 Fax (915) 684-7873

Reply to:  
 P.O. Box 60180  
 Midland, TX 79711-0180

**WATER ANALYSIS REPORT**

Company : MARATHON OIL COMPANY      Date : 2-7-95  
 Address : CORTEZ, COLORADO      Date Sampled : 1-17-95  
 Lease : TIN CUP      Analysis No. : 1214  
 Well : WSW #1  
 Sample Pt. :

ANALYSIS		mg/L		* meq/L
1. pH	6.2			
2. H2S	>5 PPM			
3. Specific Gravity	1.054			
4. Total Dissolved Solids		76462.0		
5. Suspended Solids				
6. Dissolved Oxygen				
7. Dissolved CO2				
8. Oil In Water				
9. Phenolphthalein Alkalinity (CaCO3)				
10. Methyl Orange Alkalinity (CaCO3)				
11. Bicarbonate	HCO3	24.4	HCO3	0.4
12. Chloride	Cl	46400.0	Cl	1308.9
13. Sulfate	SO4	945.0	SO4	19.7
14. Calcium	Ca	7775.0	Ca	388.0
15. Magnesium	Mg	683.0	Mg	56.2
16. Sodium (calculated)	Na	20341.6	Na	884.8
17. Iron	Fe	13.0		
18. Barium	Ba	0.0		
19. Strontium	Sr	280.0		
20. Total Hardness (CaCO3)		22161.0		

**PROBABLE MINERAL COMPOSITION**

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
388 *Ca <----- *HCO3	Ca(HCO3)2	81.0	0.4 32
/----->	CaSO4	68.1	19.7 1339
56 *Mg -----> *SO4	CaCl2	55.5	367.9 20414
<-----/	Mg(HCO3)2	73.2	
885 *Na -----> *Cl	MgSO4	60.2	
	MgCl2	47.6	56.2 2675
Saturation Values Dist. Water 20 C	NaHCO3	84.0	
CaCO3 13 mg/L	Na2SO4	71.0	
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	884.8 51708
BaSO4 2.4 mg/L			

REMARKS: S. HARBISON - FILE

**TRETOLITE DIVISION**

(915) 682-4301  
Fax (915) 684-7873

Reply to:  
P.O. Box 60180  
Midland, TX 79711-0180

**SCALE TENDENCY REPORT**  
-----

Company	: MARATHON OIL COMPANY	Date	: 2-7-95
Address	: CORTEZ, COLORADO	Date Sampled	: 1-17-95
Lease	: TIN CUP	Analysis No.	: 1214
Well	: WSW #1	Analyst	: SHEILA DEARMAN
Sample Pt.	:		

**STABILITY INDEX CALCULATIONS**  
(Stiff-Davis Method)  
CaCO3 Scaling Tendency

S.I. = -0.8 at 80 deg. F or 27 deg. C  
S.I. = -0.7 at 120 deg. F or 49 deg. C

\*\*\*\*\*

**CALCIUM SULFATE SCALING TENDENCY CALCULATIONS**  
(Skillman-McDonald-Stiff Method)  
Calcium Sulfate

S = 1730 at 80 deg. F or 27 deg C  
S = 1866 at 120 deg. F or 49 deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,  
SHEILA DEARMAN

**TRETOLITE DIVISION**

(915) 682-4301  
 Fax (915) 684-7873

**WATER ANALYSIS REPORT**

Reply to:  
 P.O. Box 60180  
 Midland, TX 79711-0180

Company : MARATHON OIL COMPANY      Date : 2-7-95  
 Address : CORTEZ, COLORADO      Date Sampled : 1-17-95  
 Lease : TIN CUP      Analysis No. : 1213  
 Well :  
 Sample Pt. : PRODUCED WATER

ANALYSIS		mg/L		* meq/L
1. pH	5.8			
2. H2S	>5 PPM			
3. Specific Gravity	1.114			
4. Total Dissolved Solids		171732.6		
5. Suspended Solids				
6. Dissolved Oxygen				
7. Dissolved CO2				
8. Oil In Water				
9. Phenolphthalein Alkalinity (CaCO3)				
10. Methyl Orange Alkalinity (CaCO3)				
11. Bicarbonate	HCO3	61.0	HCO3	1.0
12. Chloride	Cl	104400.0	Cl	2945.0
13. Sulfate	SO4	1450.0	SO4	30.2
14. Calcium	Ca	8746.0	Ca	436.4
15. Magnesium	Mg	1714.0	Mg	141.0
16. Sodium (calculated)	Na	55147.3	Na	2398.7
17. Iron	Fe	0.3		
18. Barium	Ba	0.0		
19. Strontium	Sr	214.0		
20. Total Hardness (CaCO3)		28927.0		

**PROBABLE MINERAL COMPOSITION**

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
436 *Ca <----- *HCO3	Ca (HCO3) 2	81.0	81
/----->	CaSO4	68.1	2055
141 *Mg -----> *SO4	CaCl2	55.5	22486
<-----/	Mg (HCO3) 2	73.2	
2399 *Na -----> *Cl	MgSO4	60.2	
	MgCl2	47.6	6713
	NaHCO3	84.0	
	Na2SO4	71.0	
	NaCl	58.4	140183

Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

REMARKS: S. HARBISON - FILE

**TRETOLITE DIVISION**

(915) 682-4301  
Fax (915) 684-7873

Reply to:  
P.O. Box 60180  
Midland, TX 79711-0180

**SCALE TENDENCY REPORT**  
-----

Company	: MARATHON OIL COMPANY	Date	: 2-7-95
Address	: CORTEZ, COLORADO	Date Sampled	: 1-17-95
Lease	: TIN CUP	Analysis No.	: 1213
Well	:	Analyst	: SHEILA DEARMAN
Sample Pt.	: PRODUCED WATER		

**STABILITY INDEX CALCULATIONS**  
(Stiff-Davis Method)  
CaCO3 Scaling Tendency

S.I. = -0.7 at 80 deg. F or 27 deg. C  
S.I. = -0.6 at 120 deg. F or 49 deg. C

\*\*\*\*\*

**CALCIUM SULFATE SCALING TENDENCY CALCULATIONS**  
(Skillman-McDonald-Stiff Method)  
Calcium Sulfate

S = 2010 at 80 deg. F or 27 deg C  
S = 2191 at 120 deg. F or 49 deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,  
SHEILA DEARMAN

**TRETOLITE DIVISION**

(915) 682-4301  
 Fax (915) 684-7873

**WATER ANALYSIS REPORT**

Reply to:  
 P.O. Box 60180  
 Midland, TX 79711-0180

Company : MARATHON OIL COMPANY Date : 2-7-95  
 Address : CORTEZ, COLORADO Date Sampled : 1-17-95  
 Lease : TIN CUP Analysis No. : 1283  
 Well : WSW #1 - 50%  
 Sample Pt. : PRODUCED WATER - 50%

ANALYSIS		mg/L		* meq/L
1. pH	6.5			
2. H2S	>5 PPM			
3. Specific Gravity	1.086			
4. Total Dissolved Solids		125048.5		
5. Suspended Solids				
6. Dissolved Oxygen				
7. Dissolved CO2				
8. Oil In Water				
9. Phenolphthalein Alkalinity (CaCO3)				
10. Methyl Orange Alkalinity (CaCO3)				
11. Bicarbonate	HCO3	32.9	HCO3	0.5
12. Chloride	Cl	76200.0	Cl	2149.5
13. Sulfate	SO4	994.0	SO4	20.7
14. Calcium	Ca	8625.0	Ca	430.4
15. Magnesium	Mg	1236.0	Mg	101.7
16. Sodium (calculated)	Na	37673.0	Na	1638.7
17. Iron	Fe	7.5		
18. Barium	Ba	0.0		
19. Strontium	Sr	280.0		
20. Total Hardness (CaCO3)		26655.0		

**PROBABLE MINERAL COMPOSITION**

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/L
430 *Ca <----- *HCO3	Ca (HCO3) 2	81.0	0.5	44
/----->	CaSO4	68.1	20.7	1409
102 *Mg -----> *SO4	CaCl2	55.5	409.1	22704
<-----/	Mg (HCO3) 2 ,	73.2		
1639 *Na -----> *Cl	MgSO4	60.2		
	MgCl2	47.6	101.7	4841
Saturation Values Dist. Water 20 C	NaHCO3	84.0		
CaCO3 13 mg/L	Na2SO4	71.0		
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	1638.7	95764
BaSO4 2.4 mg/L				

REMARKS: S. HARBISON - FILE

**TRETOLITE DIVISION**

(915) 682-4301  
 Fax (915) 684-7873

Reply to:  
 P.O. Box 60180  
 Midland, TX 79711-0180

**SCALE TENDENCY REPORT**  
 -----

Company	: MARATHON OIL COMPANY	Date	: 2-7-95
Address	: CORTEZ, COLORADO	Date Sampled	: 1-17-95
Lease	: TIN CUP	Analysis No.	: 1283
Well	: WSW #1 - 50%	Analyst	: SHEILA DEARMAN
Sample Pt.	: PRODUCED WATER - 50%		

**STABILITY INDEX CALCULATIONS**  
 (Stiff-Davis Method)  
 CaCO3 Scaling Tendency

S.I. = -0.3 at 80 deg. F or 27 deg. C  
 S.I. = -0.2 at 120 deg. F or 49 deg. C

\*\*\*\*\*

**CALCIUM SULFATE SCALING TENDENCY CALCULATIONS**  
 (Skillman-McDonald-Stiff Method)  
 Calcium Sulfate

S = 1890 at 80 deg. F or 27 deg C  
 S = 2065 at 120 deg. F or 49 deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,  
 SHEILA DEARMAN

PETROGRAPHIC STUDY OF TIN CUP MESA  
WELL #1-25, PERMIAN CUTLER FORMATION

September 1984

Technical Consultation  
(32 52 002)

Report written by:

W. J. Clark

Work done by:

W. J. Clark  
F. X. Connors

ATTACHMENT 6

## TABLE OF CONTENTS

	Page
Summary and Conclusions	i
Introduction	1
Lithology-Petrography	1
X-ray Diffraction Results-Table	4
<u>Appendices</u>	
Cuttings Descriptions	5
Thin Section Descriptions	7
Thin Section Photomicrographs	10
SEM Micrographs	11

PETROGRAPHIC STUDY OF TIN CUP MESA  
WELL #1-25, PERMIAN CUTLER FORMATION

SUMMARY AND CONCLUSIONS

1. Sandstone and red and green mudstone to siltstone are present in the cuttings samples examined.
2. Sandstones are composed of quartz, feldspar (mainly orthoclase and albite), and traces of zircon, hornblende, and biotite. They range from clean feldspathic and quartz arenites to wackestones with clay matrix.
3. Diagenetic minerals present in the sand are dolomite, quartz, hematite, clays (including kaolinite, montmorillonite, and chlorite), and minor zeolite. Pyrite is also present as a late-stage replacement mineral.
4. Montmorillonite (due to expandable lattice in fresh water) and hematite (due to potential of formation of iron hydroxide precipitates) could cause problems unless the stimulation program for this well is designed to take them into account.

## INTRODUCTION

This technical consultation project was requested on August 8, 1984, by J. T. Keil, Casper District. The purpose of the project was to determine the mineralogy and fluid sensitivity of the samples. To accomplish the intended results, cuttings were described, thin sections selected and described, samples selected for viewing with the scanning electron microscope (SEM), samples selected for X-ray diffraction, and samples selected for water and acid sensitivity studies (see separate report by A. L. Schalge).

## LITHOLOGY-PETROGRAPHY

Three lithotypes are present: sandstone, green mudstone, and red mudstone. Each is summarized here as to petrography and variations present. Cuttings descriptions and thin section descriptions are included as appendices.

### SANDSTONE

Sandstones occur as consolidated fragments of very fine sand to silt, fine to medium sand, medium to coarse sand, and loose grains of very coarse sand to granule gravel (2-3 mm maximum). The sand grains are subangular to subrounded and are moderately to poorly sorted. Some of the finer sands contain detrital clay as matrix. The composition is mainly quartz with up to 20% feldspars, rare granite rock fragments, and traces of zircon,

hornblende, and biotite. Feldspars are predominantly orthoclase and K-bearing albite with lesser microcline and plagioclase (also probably albite but with little to no potassium). Most feldspars are altered due to chemical weathering. A clan name for these sands would be feldspathic and quartz arenites to feldspathic and quartz wackestones (after Williams, Turner, and Gilbert).

Diagenetic cements in the sandstones include dolomite, quartz overgrowth, hematite, clays (montmorillonite and chlorite as seen with the SEM, and kaolinite in thin section), and zeolite (SEM). The order listed is their approximate order of abundance. Quartz overgrowths followed by hematite crystallites, and later pore-filling dolomite, are by far the most common diagenetic materials present. Diagenetic products noted in SEM were zeolites (2400'), quartz and montmorillonite (2910'), quartz and chlorite (2030'), and dolomite in all of the samples. X-ray diffraction of sands was not possible due to the relatively small amount of sandstone fragments present in the samples.

Pyrite is present as a late stage replacement mineral in some of the sandstones; it is, however, relatively uncommon overall in the sands.

Porosity in the sands is both primary and secondary but does not exceed about 10% in any sample examined, and is normally less than 5%.

#### RED MUDSTONE

The lithologies present under this heading include almost pure claystones, very silty and sandy mudstones, and siltstone. Most are

calcareous. Results of X-ray diffraction of a sampling of red mudstone fragments are listed in the table (Page 4). The red coloration is probably due to finely disseminated hematite. The clay fraction includes mixed layer illite-montmorillonite, illite, kaolinite, and chlorite.

#### GREEN MUDSTONE

The lithotypes present in this category are similar to those in the red mudstone category, but they tend to be less silty and sandy. Clay types are also similar but in different proportions in the size fractions examined. The green coloration is most likely due to reduced iron ( $\text{Fe}^{+2}$ ). Pyrite frequently occurs in these rocks.

X-RAY DIFFRACTION  
TIN CUP MESA #1-25 - 3180'

	<u>Red Shale</u>		<u>Green Shale</u>
	<u>Percent</u>	<u>Component</u>	<u>Percent</u>
Bulk:	26.25	Clay	43.75
	29.50	Quartz	34.19
	5.01	Albite	10.66
	25.37	Calcite	6.99
	13.86	Dolomite	4.41
	( $\sigma^2 \pm 3-5\%$ )		( $\sigma^2 \pm 3-5\%$ )
		<u>&lt;2<math>\mu</math> Glycolated</u>	
Clay:	0.0	Chlorite	41.0
	85.0	Mixed	-
	-	Illite	33.0
	-	Kaolinite	-
	15.0	Quartz	21.0
	-	Feldspar	5.0
		<u>&lt;2<math>\mu</math> Dry</u>	
	30.0	Chlorite	22.0
	40.0	Mixed	47.0
	18.0	Illite	19.0
	5.0	Kaolinite	4.0
	5.0	Quartz	6.0
	2.0	Feldspar	2.0
		<u>2-8<math>\mu</math> Glycolated</u>	
	28.0	Chlorite	-
	-	Mixed	-
	42.0	Illite	45.0
	-	Kaolinite	-
	24.0	Quartz	48.0
	7.0	Feldspar	7.0
		<u>2-8<math>\mu</math> Dry</u>	
	24.0	Chlorite	16.0
	-	Mixed	42.0
	36.0	Illite	17.0
	13.0	Kaolinite	6.0
	20.0	Quartz	16.0
	7.0	Feldspar	3.0

CUTTINGS DESCRIPTIONS - TIN CUP MESA #1-25

<u>Depth(ft)</u>	<u>Av size</u>	<u>Range</u>	<u>Sorting</u>	<u>Roundness</u>	<u>Mineralogy</u>
2400	silt	silt-1200 $\mu$	mod/poor	subrnd	65% green, slightly calcareous, shaly siltstone; 20% red, calcareous, shaly siltstone; 15% quartz, grains show some calcite coating; trace of pyrite.
2410-2420	800 $\mu$	silt-1800 $\mu$	mod	subrnd/ subang	50% quartz, grains display moderate calcite coating; 25% green, slightly calcareous, shaly siltstone; 25% red, slightly calcareous, shaly siltstone.
2430-2440	silt	silt-1300 $\mu$	mod/poor	subrnd/ subang	40% green, slightly calcareous, shaly siltstone; 25% red, shaly siltstone; 25% brownish-purple siltstone; 10% quartz, grains predominately calcite coated.
2450-2460	850 $\mu$	silt-1600 $\mu$	mod	subrnd/ subang	50% quartz, minor calcite coating around grains; 35% reddish, slightly calcareous siltstone; 15% green, shaly siltstones.
2700	silt	silt-1100 $\mu$	mod/poor	subrnd	40% reddish, slightly calcareous siltstone; 30% green, slightly calcareous, shaly siltstone; 25% purple siltstone; 5% quartz; most grains covered with calcite.
2900-2910	300 $\mu$	silt-800 $\mu$	mod/poor	subrnd/ subang	45% quartz; 35% reddish siltstone; 25% greenish siltstone; sand grains within reddish siltstone are calcite cemented; grains within green siltstone coated with kaolinite(?); trace pyrite.
2920-2950	silt	silt-800 $\mu$	mod	subrnd	45% reddish, slightly calcareous siltstone; 45% green, shaly siltstone; 10% quartz.
2990-3040	silt	silt-1000 $\mu$	mod	subrnd	45% reddish, slightly calcareous, shaly siltstone; 45% green siltstone; 10% quartz, minor calcite coating; trace of pyrite and purple siltstone.
3090-3110	500 $\mu$	silt-1420 $\mu$	mod/poor	subrnd/ subang	35% quartz, grains are moderately calcite coated; 30% reddish, slightly calcareous, sandy siltstone; 30% green, slightly calcareous siltstone; trace pyrite.

## CUTTINGS DESCRIPTIONS - TIN CUP MESA #1-25

Page 2

<u>Depth(ft)</u>	<u>Av size</u>	<u>Range</u>	<u>Sorting</u>	<u>Roundness</u>	<u>Mineralogy</u>
3120	silt	silt-1200 $\mu$	mod	subrnd	50% green siltstone; 45% reddish, slightly calcareous, sandy siltstone; 5% quartz, minor calcite coating.
3170					Same as above.
3180-3190	silt	silt-900 $\mu$	mod/poor	subrnd/ subang	65% reddish, slightly calcareous, sandy siltstone; 25% greenish siltstone, sandy in part; 10% quartz, minor calcite coating.
3230-3260	silt	silt-1000 $\mu$	mod	subrnd/ subang	60% reddish, slightly calcareous, sandy siltstone; 20% greenish, slightly calcareous siltstone, minor amount of very fine sand intermixed; 20% quartz, minor calcite coating; trace of pyrite.

FXC:njm  
8/23/84

TIN CUP MESA #1-25  
CUTTINGS THIN SECTION DESCRIPTIONS

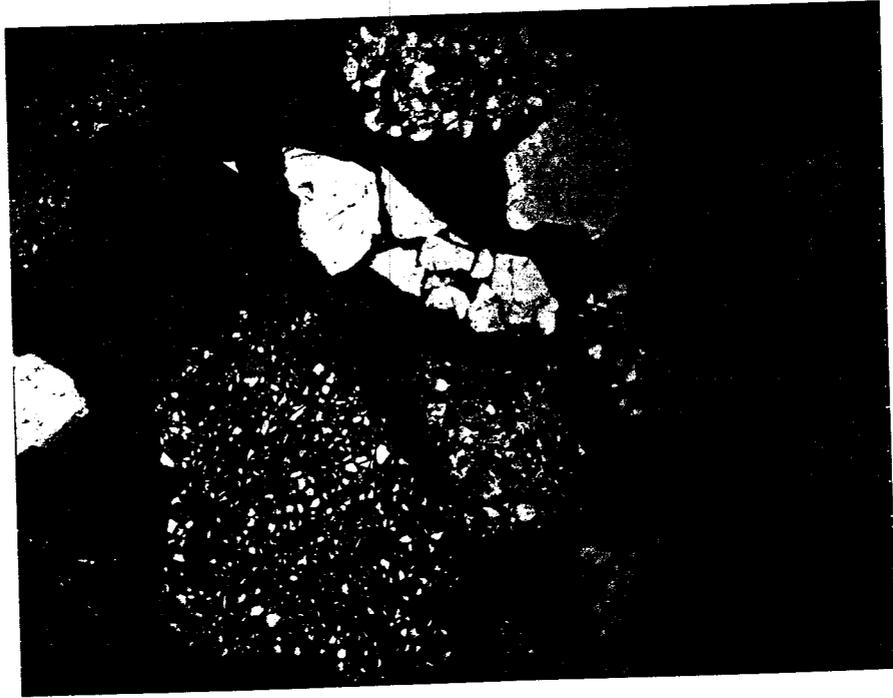
Depth (ft)	Description
2400	<p>Mudstone, silty and sandy, pyritic, and minor sandstone. Greenish mudstone.</p> <p>Sandstone, medium to coarse grained, subangular, composition is monocrystalline and polycrystalline quartz in one fragment and quartz, igneous rock fragments, and plagioclase (albite?) in another. Quartz shows straight and undulose extinction. Detrital clay forms the matrix in the quartzose fragment, and the porosity in this fragment is &lt;5%. The other sandstone has partial grain coatings of authigenic hematite. Feldspars are being altered and dissolved in this fragment. The igneous rock fragments are chloritic and one is hematitic. Porosity in this sandstone is both primary and secondary and between 5-10%. There is also one fragment of very fine to fine silty sandstone but most of the grains were plucked out of the sample. A few grains are orthoclase.</p>
2410	<p>Mudstone as above, red mudstone, and scattered quartz clasts. Quartz clasts are very coarse sand to granule size and are both monocrystalline and polycrystalline and most have undulose extinction.</p> <p>Red mudstone is slightly silty to very silty and sandy. Some fragments are actually argillaceous silty sandstone with hematite cement. Orthoclase and K-bearing albite are present in these very fine sands. Dolomite occurs as cement in some of these fragments. Chlorite occurs as discrete masses in a few of the green mudstone fragments. Hematite occurs as vein or crack-filling material in a few of the green mudstone fragments.</p>
2450	<p>Red Mudstone (25%), green mudstone (15%), very fine to fine sand (40%), loose granule-size quartz (10%), and siltstone (10%). Red and green mudstones are similar to above types but siltier and sandier.</p> <p>Sandstone is very fine to fine, angular to subangular, well sorted, and composed of quartz and up to 15% orthoclase and K-bearing albite. Some chloritized(?) biotite is present. Matrix clay is present in all of the silts and some of the sands. Cements are: dolomite, quartz overgrowth, and hematite in order of decreasing abundance. Hematite occurs as small crystals on grain surfaces. Only one or two of these occur in any one sample, however. The quartz overgrowth cemented sands appear to be well compacted and welded. Zircon and hornblende occur in trace amounts. Granule size quartz is same as above. Some pyrite present.</p>

Tin Cup Mesa #1-25  
 Cuttings Thin Sections

Depth (ft)	Description
2900	<p><u>Green mudstone</u> (40%), red siltstone/mudstone (10%), <u>unconsolidated</u> coarse to granule-size quartz and feldspar (30%), sandstone (20%).  <u>Mudstones</u> and siltstones similar to above. Coarse to granule <u>unconsolidated</u> sand is composed of monocrystalline and polycrystalline quartz, microcline, orthoclase, plagioclase (albite?), and rare perthite. All feldspars are slightly altered. Rare igneous rock fragments.  <u>Sandstone</u> is medium to coarse and composition is same as <u>unconsolidated</u> coarse sand and gravel. Sand is angular to subangular. Cements are dolomite, quartz overgrowth, and hematite. Hematite occurs as grain coating crystallites. Porosity is uncommon but up to 5% in some fragments.</p>
2910	<p><u>Sandstone</u>, medium to coarse grained, subangular to subrounded. Composition quartz, orthoclase, microcline, K-bearing albite, and other plagioclases. Feldspars are 15-20%, trace zircon. Most feldspars are slightly to moderately altered. Some samples have matrix clay. Diagenetic cements are dolomite, quartz overgrowth, hematite, and large books of kaolinite (in one fragment). Porosity occurs in only a few fragments and represents a maximum of <math>\approx</math> 5%. Minor pyrite.</p>
3100	<p><u>Green silty mudstone</u> (45%), red silty mudstone (15%), very fine to fine sand (15%), fine to medium sand (5%), large <u>unconsolidated</u> quartz and feldspar clasts (20%).  (1) <u>Sandstone</u>, very fine to fine sand, moderately well sorted, angular, micaceous in part. Cemented by hematite and dolomite. This sand is argillaceous in part. No porosity.  (2) <u>Sandstone</u>, fine to medium sand, well sorted, subangular to subrounded. Cemented by quartz overgrowth and dolomite. Crystals of hematite are frequent on grain surfaces. Porosity up to 5% is found in this sand. Both sands are composed of quartz and feldspar as at 2910'.  <u>Coarse to granule size clasts</u> are quartz and feldspar as at 2910'. Hematite crystals occur as grain coatings. Minor pyrite.</p>
3190	<p><u>Red siltstone</u>, argillaceous, sand in part (45%), red <u>mudstone</u> (15%), very fine to fine sandstone (20%), green mudstone (10-15%), coarse scattered clasts (&lt;5%). Very fine sand is composed of quartz and lesser orthoclase.</p>

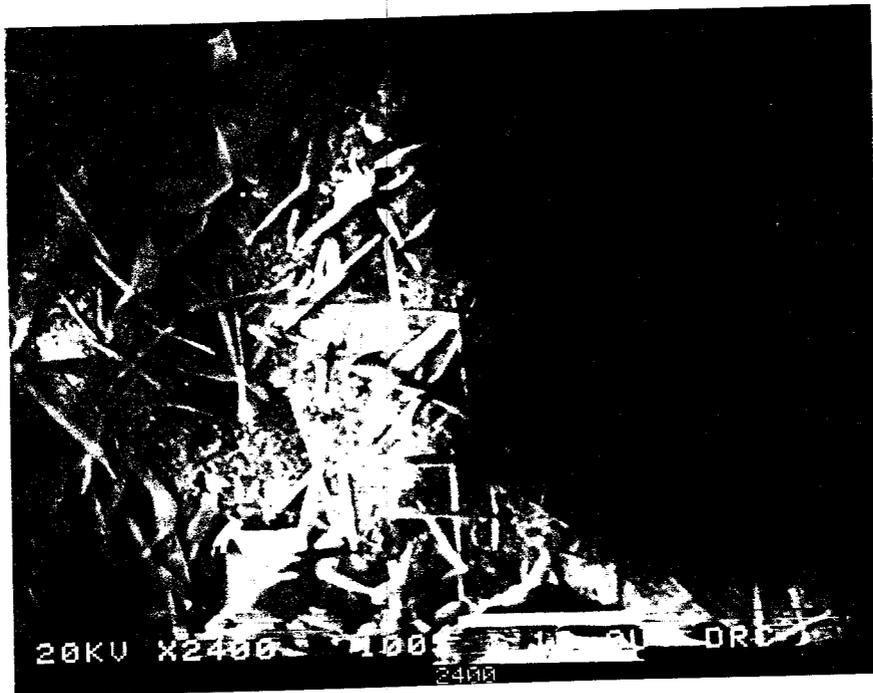
Tin Cup Mesa #1-25  
Cuttings Thin Sections  
Page 3

<u>Depth (ft)</u>	<u>Description</u>
	Grains are subrounded to subangular. Cement is very minor hematite and common dolomite. Porosity <5%. Coarse to granular clasts are quartz. Minor pyrite.
3290	Similar to above, but more loose quartz and feldspar clasts.

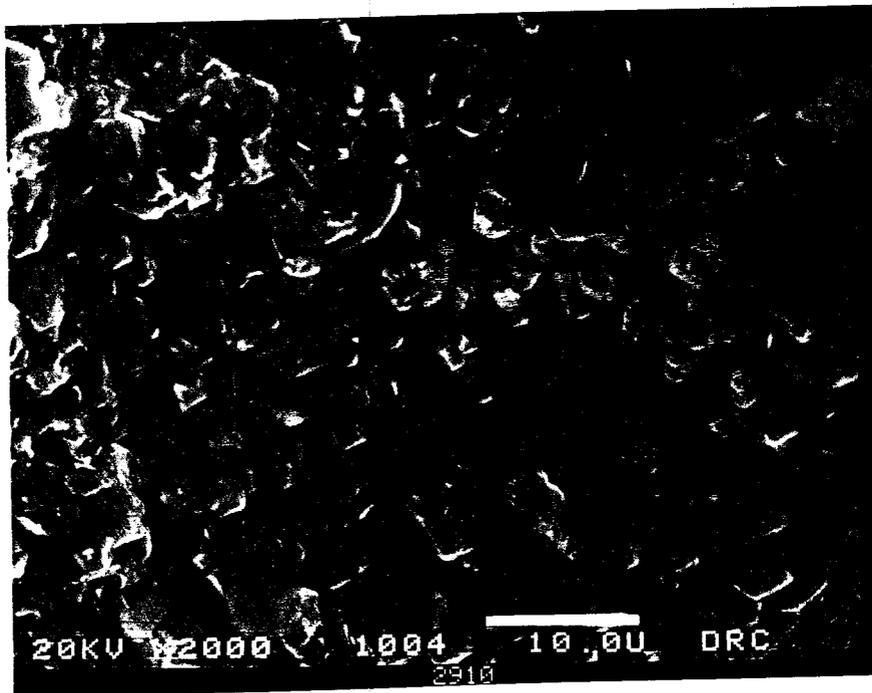
TIN CUP MESA #1-25  
Photomicrograph

2450' Most of the main lithotypes present in the set of samples examined can be seen in this thin section view. In the upper center is a very fine to fine dolomite-cemented sandstone. Just below and to the right of this is a granule-size clast of quartz. To the left of the granule is a medium to coarse sandstone with small crystals of hematite coating the grains. Quartz overgrowth cement is also present in this example, but cannot be seen under this low power. The two largest fragments present are red hematitic silty mudstones (lower left, center right). The fragment between these two red mudstone fragments is green mudstone.

TIN CUP MESA #1-25  
SEM Micrographs

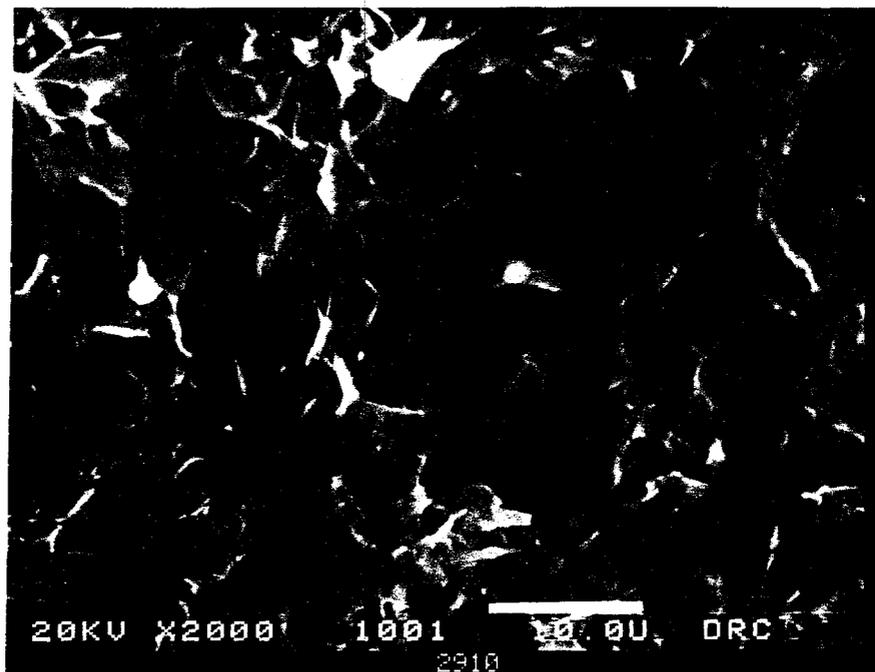


2400' The lath-like crystals present here are most likely zeolites. Due to their location on the sample; however, a good X-ray reading could not be obtained.

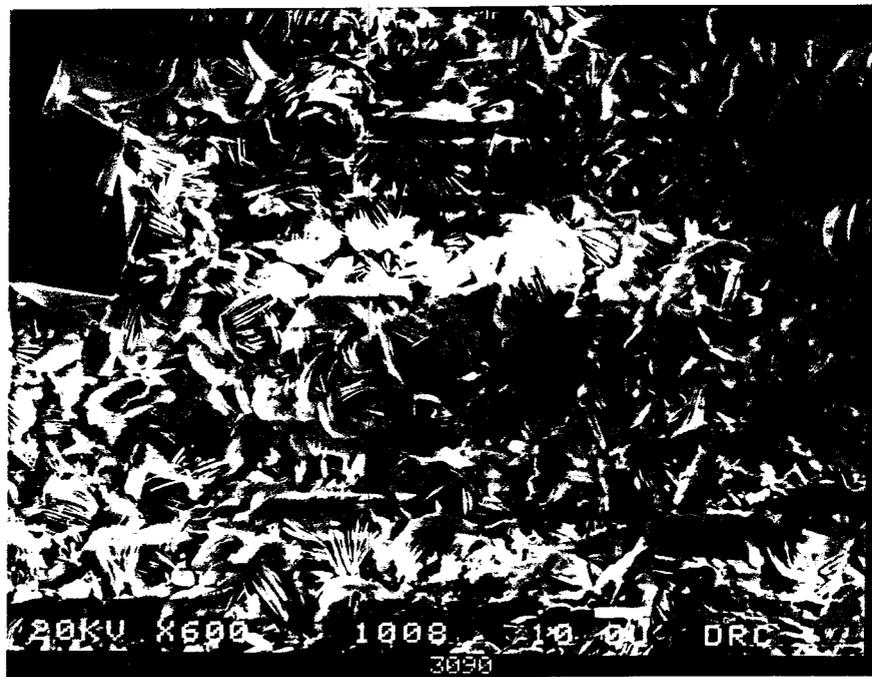


2910' The small hexagonal crystals present here are authigenic quartz. Also present here in smaller box-like or lath-like crystals is montmorillonite clay.

TIN CUP MESA #1-25  
SEM Micrographs



2910' Authigenic montmorillonite with some possible mixed-layer illite is the clay present in this example. Montmorillonite is a swelling clay.



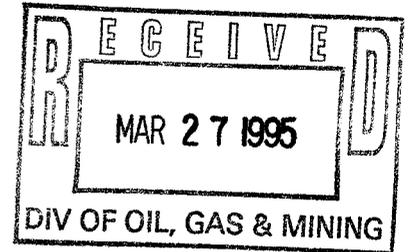
3090' Authigenic quartz (upper left) and platelets of chlorite clay (remainder of view) can be seen in this view. Chlorite is iron bearing and may cause problems with iron precipitates.



**Marathon  
Oil Company**

P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106

March 2, 1995



Operations Department  
Petral Exploration LLC  
PO Box 5083  
Denver, CO 80217

RE: **TIN CUP MESA  
WSW CONVERSION TO DISPOSAL  
SECTION 25, T-38S, R-25E  
SAN JUAN COUNTY, UTAH**

This letter hereby notifies Petral Exploration of Marathon's proposal to convert the Tin Cup Mesa Water Supply Well No. 1 to a Water Disposal Well. An application for the conversion has been filed with the Division of Oil, Gas and Mining in the State of Utah. The conversion is targeted for low pressure disposal which would allow for reduced operating expenses, and thereby lengthening the producing life, and significantly reducing environmental exposure. Our records indicate Petral Exploration has acreage within a ½ mile radius of the proposed conversion.

If you have any question, please feel free to call me in Hobbs, New Mexico at (505) 393-7106 ext 212.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Rod J. Prosceno'.

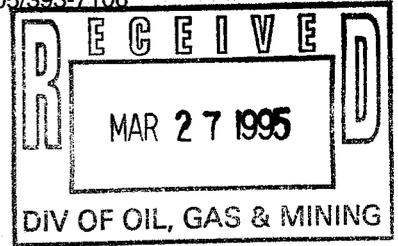
Rod J. Prosceno  
Northwest Operations  
Operations Engineer

RJP/9512/kc



P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106

March 20, 1995



Mr. Dan Jarvis  
State of Utah  
Department of Natural Resources  
335 West North Temple  
3 Triad Center, Suite 340  
Salt Lake City, Utah 84108-1203  
(801) 538-5340 phone  
(801) 359-3940 fax

RE: LOGS AND AFFIDAVIT  
TIN CUP MESA WDW NO. 1 APPLICATION  
SECTION 25, T-38S, R-25E  
SAN JUAN COUNTY, UTAH  
LEASE NO. U-31928

In response to our conversation on Thursday, March 16, 1995, enclosed are copies of a cement bond log and a formation density-compensated neutron log for the Tin Cup Mesa WSW No. 1. Also, attached are copies of letters sent to operators and owners within a one-half mile radius of the proposed well conversion to disposal. This letter shall serve as an affidavit that offset operators, owners, and surface owners have been notified by Marathon for the proposed conversion of Tin Cup Mesa WSW No. 1 to a disposal well.

If you have any further questions, please feel free to call me in Hobbs, New Mexico at (505) 393-7106 ext 212.

Sincerely,

Rod J. Prosceno  
Operations Engineer

RJP/9513/kc

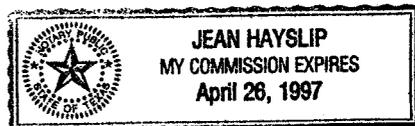
Enclosure: Logs  
Attachments: Letters to offset

STATE OF TEXAS )  
 )  
COUNTY OF MIDLAND )

The foregoing instrument was acknowledged before me on the 21st day of March, 1995, by Rod J. Prosceno, an Operations Engineer, of Marathon Oil Company, an Ohio corporation, on behalf of said corporation.

Notary Public in and for the State of Texas

My commission expires: 4-26-97





State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

April 10, 1995

Newspaper Agency Corporation  
Legal Advertising  
157 Regent Street  
Salt Lake City, Utah 84110

Re: Notice of Agency Action - Cause No. UIC-158

Gentlemen:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please send proof of publication and billing to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

A handwritten signature in cursive script that reads "Lisa D. Clement".

Lisa D. Clement  
Administrative Secretary

Enclosure





**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

April 10, 1995

San Juan Record  
P.O. Box 879  
937 East Highway 666  
Monticello, Utah 84535-0879

Re: Notice of Agency Action - Cause No. UIC-158

Gentlemen:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please send proof of publication and billing to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

A handwritten signature in cursive script that reads "Lisa D. Clement".

Lisa D. Clement  
Administrative Secretary

Enclosure



BEFORE THE DIVISION OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH

--ooOoo--

IN THE MATTER OF THE APPLICATION : NOTICE OF AGENCY ACTION  
OF MARATHON OIL COMPANY FOR :  
ADMINISTRATIVE APPROVAL OF THE : CAUSE NO. UIC-158  
WDW #1 WELL LOCATED IN SECTION :  
25, TOWNSHIP ~~28~~<sup>38</sup> SOUTH, RANGE ~~38~~<sup>25</sup> :  
EAST, S.L.M., SAN JUAN COUNTY, UTAH, :  
AS A CLASS II INJECTION WELL :

--ooOoo--

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER.

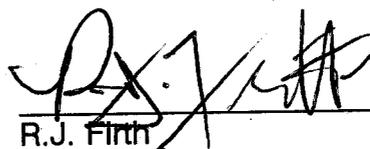
Notice is hereby given that the Division is commencing an informal adjudicative proceeding to consider the application of Marathon Oil Company to convert the WDW #1 well, located in Section 25, Township ~~28~~<sup>38</sup> South, Range 25 East, San Juan, Utah, to a Class II injection well. The proceeding will be conducted in accordance with Utah Administrative Code R649-10, Administrative Procedures.

The Cutler Formation from 2,410 feet to 3,258 feet will be selectively perforated. Step-rate pressure tests will be conducted to determine the maximum allowable pressure and injection rate.

Any person objecting to the application or desiring to intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days of the date of publication of this notice. If such a protest or notice of intervention is received, a hearing will be scheduled before the Board of Oil, Gas and Mining. Protestants and/or intervenors should be prepared to demonstrate at the hearing how this matter affects their interests.

DATED this 4th day of April, 1995.

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING



R.J. Firth  
Associate Director, Oil and Gas

**Marathon Oil Company  
WDW #1 Well  
Cause No. UIC-158**

Publication Notices were sent to the following:

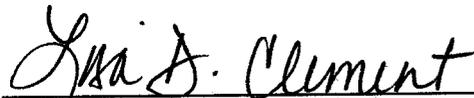
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Legal Advertising  
Tribune Building, Front Counter  
143 South Main  
Salt Lake City, Utah 84111

San Juan Record  
P.O. Box 879  
937 East Highway 666  
Monticello, Utah 84535-0879

Bureau of Land Management  
Moab District Office  
82 East Dogwood, Suite M  
Moab, Utah 84532

Rod J. Prosceno  
Marathon Oil Company  
P.O. Box 2409  
Hobbs, New Mexico 88241-2409

Dan Jackson  
U.S. Environmental Protection Agency  
Region VIII  
999 18th Street  
Denver, Colorado 80202-2466



---

Lisa D. Clement  
Administrative Secretary  
April 10, 1995

143 SOUTH MAIN ST.  
P.O. BOX 45838  
SALT LAKE CITY, UTAH 84145  
FED. TAX I.D. # 87-0217663

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ACCOUNT NAME	
DIV OF OIL, GAS & MINING	
TELEPHONE	INVOICE NUMBER
801-538-5340	TL4C8201801
SCHEDULE	
START 04/15/95 END 04/15/95	
CUST. REF. NO.	
UIC-158	
CAPTION	
NOTICE OF AGENCY ACTION CAUSE N	
SIZE	
70 LINES 1.00 COLUMN	
TIMES	RATE
1	1.64
MISC. CHARGES	AD CHARGES
.00	114.80
TOTAL COST	
114.80	

**NOTICE OF AGENCY ACTION CAUSE NO. UIC-158 BEFORE THE DIVISION OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES, STATE OF UTAH**

IN THE MATTER OF THE APPLICATION OF MARATHON OIL COMPANY FOR ADMINISTRATIVE APPROVAL OF THE WDW #1 WELL LOCATED IN SECTION 25, TOWNSHIP 25 SOUTH, RANGE 38 EAST, S.L.M., SAN JUAN COUNTY, UTAH, AS A CLASS II INJECTION WELL

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that the Division is commencing an informal adjudicative proceeding to consider the application of Marathon Oil Company to convert the WDW #1 well, located in Section 25, Township 25 North, Range 25 East, San Juan County, Utah, to a Class II injection well. The proceeding will be conducted in accordance with Utah Administrative Code R649-10, Administrative Procedures.

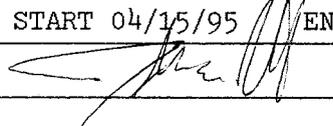
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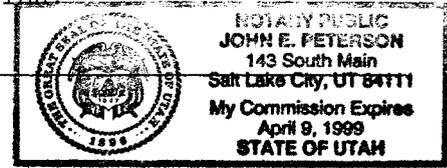
AFFIDAVIT OF PUBLICATION

NEWSPAPER AGENCY CORPORATION LEGAL BOOKKEEPER, I CERTIFY THAT THE ATTACHED  
RTISEMENT OF NOTICE OF AGENCY ACTION CAUSE N FOR  
DIV OF OIL, GAS & MINING WAS PUBLISHED BY THE NEWSPAPER AGENCY  
ORATION, AGENT FOR THE SALT LAKE TRIBUNE AND DESERET NEWS, DAILY NEWSPAPERS  
ED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED  
ALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH

ISHED ON START 04/15/95 END 04/15/95

ATURE 

DATE 04/15/95



DAIED this 4th day of April, 1995.  
STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING  
/s/ R.J. Firth  
Associate Director  
Oil and Gas  
4C820180

THIS IS NOT A STATEMENT BUT A "PROOF OF PUBLICATION"  
PLEASE PAY FROM BILLING STATEMENT.

OFFICE COPY

# AFFIDAVIT OF PUBLICATION

## Public notice

BEFORE THE DIVISION OF  
OIL, GAS, AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF  
MARATHON OIL COMPANY FOR  
ADMINISTRATIVE APPROVAL OF THE WDW  
#1 WELL LOCATED IN SECTION 25,  
TOWNSHIP 25 SOUTH, RANGE 38 EAST,  
S.L.M., SAN JUAN COUNTY, UTAH, AS A  
CLASS II INJECTION WELL

NOTICE OF AGENCY ACTION  
CAUSE NO. UIC-158

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DATED this 4th day of April, 1995.

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

R.J. Firth  
Associate Director, Oil and Gas

Published April 19, 1995 in The San Juan  
Record, Monticello, Utah

I, Bill Boyle, being duly sworn, depose and say that I am the publisher of  
The San Juan Record, a weekly newspaper of general circulation published at  
Monticello, Utah every Wednesday; that notice of the application for approval of  
the WDW #1 well by Marathon Oil,

a copy of which is hereunto attached, was published in the regular and entire issue  
of each number of said newspaper for a period of one issue.

The first publication having been made on April 19, 1995.

and the last publication having been made on

*Bill Boyle*

Bill Boyle, Publisher

Subscribed and sworn to before me this 19th day of April

A.D. 1995

Notary Public  
PATRICIA A. RICHARDSON  
937 East Highway 666  
Monticello, Utah 84535  
My Commission Expires  
December 21, 1998  
State of Utah

*Patricia A. Richardson*

Notary Public residing at Monticello, Utah  
My commission expires December 21, 1998

OFFICE COPY

*February FYF*

# AFFIDAVIT OF PUBLICATION

## Public notice

BEFORE THE DIVISION OF  
OIL, GAS, AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF  
MARATHON OIL COMPANY FOR  
ADMINISTRATIVE APPROVAL OF THE WDW  
#1 WELL LOCATED IN SECTION 25,  
TOWNSHIP 25 SOUTH, RANGE 38 EAST,  
S.L.M., SAN JUAN COUNTY, UTAH, AS A  
CLASS II INJECTION WELL

\* \* \*

NOTICE OF AGENCY ACTION  
CAUSE NO. UIC-158

THE STATE OF UTAH TO ALL PERSONS  
INTERESTED IN THE ABOVE  
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STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

R.J. Firth

Associate Director, Oil and Gas

Published April 19, 1995 in The San Juan Record, Monticello, Utah.

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and the last publication having been made on \_\_\_\_\_

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Bill Boyle, Publisher

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A.D. 1995

Notary Public  
**PATRICIA A. RICHARDSON**  
937 East Highway 666  
Monticello, Utah 84535  
My Commission Expires  
December 21, 1998  
State of Utah

*Patricia A. Richardson*  
Notary Public residing at Monticello, Utah  
My commission expires December 21, 1998

OFFICE COPY

**DIVISION OF OIL, GAS AND MINING  
UNDERGROUND INJECTION CONTROL PROGRAM**

**PERMIT  
DECISION DOCUMENT**

**Applicant:** Marathon Oil Co.                      **Well:** WDW # 1

**Location:** Sec. 25, T.38 S., R.25 E., San Juan County

**Ownership Issues:**

The proposed well is located in section 25, township 38 South, range 25 east San Juan County, Utah. The surface location is owned by BLM. There are various owners and working interest owners within the 1/2 mile area, all of which have been sent a notice of intent to convert the well to an injector. An affidavit has been submitted by Marathon stating that all surface and mineral owners were notified.

**Well Integrity:**

The well proposed for injection is an existing water supply well, now referred to as WDW #1. This well has a 9 5/8" surface casing set at 1,489 feet in the Chinle Formation and is cemented to surface. A 7" production casing is set at 3,413 feet and the cement top is at approximately 2,500 feet and was verified by a cement bond log. The proposed injection zone is at a depth of 2,410 feet to 3,258 feet and lies within the Cutler Formation. Injection of produced water will be through a 3 1/2" tubing with a packer set 60 feet above the top perforation. A remedial cement squeeze will be necessary to allow injection above 2,490 feet. Cement shall be squeezed from 2,500 feet to a minimum of 60 feet above the top perforations at 2,410 feet. Without a remedial cement job, injection will be limited to the zone from 2,500 feet to 3,258 feet. There are three producing wells, two injection wells and two plugged and abandoned wells in the 1/2 mile area of review. The existing constructions and existing plugs in these wells are adequate to protect any USDW's. No corrective action is needed for the existing wells or the abandoned wells. A casing test should be performed at the time of conversion and a casing/tubing pressure test should be performed prior to injection. It is estimated that the average injection pressure will be 50 psig. (surface). A maximum pressure of 500 psig. has been requested. An injectivity test will be run to determine fracture pressures at the time of conversion.

**Ground Water Protection:**

The base of moderately saline water is at a depth of approximately 1,390 feet located at the bottom of the Wingate Formation in the area of the proposed well. Underground sources of drinking water in the area may be present from the surface to the bottom of the Wingate Formation. The confining zone above the proposed injection zone consists of approximately 1,000 feet of impermeable shales and siltstones of the Chinle and Moenkopi Formations. The lower confining interval is composed of shales, siltstones and

limestones of Honaker Trail Formation. Any shallow fresh water zones should be adequately protected by existing constructions, remedial work the presence of appropriate confining zones and operation of the proposed injection well in accordance with the conditions set forth in the application.

**Oil/Gas & Other Mineral Resources Protection:**

Injection into this well should have no adverse affects on any offsetting production. UPRC is the working interest owner of all leases in the 1/2 mile area of review.

**Bonding:**

Marathon Oil Company has placed a statewide bond with the Division in the amount of \$80,000 dollars. The company is licensed to do business in the State and is a financially stable company.

**Actions Taken and Further Approvals Needed:**

A public notice for the injection well needs to be published in both the Salt Lake Tribune and the San Juan Record. All additional information requested from Marathon has been received. A step rate test shall be conducted to determine the fracture gradient. Marathon has submitted an application which is technically complete. Review of the information submitted indicates that all USDW's will be protected, and there will be no degradation of ground water. It is recommended that administrative approval to convert the well to injection be granted. The requested zone from 2,410 to 3,358 will be permitted, perforation and injection will be limited to below 2,500 feet until remedial cement work has been completed.

Dan Jarvis  
Reviewers

04-21-95  
Date

143 SOUTH MAIN ST.  
 P.O. BOX 45838  
 SALT LAKE CITY, UTAH 84145  
 FED. TAX I.D. # 87-0217663

Newspaper Agency Corporation  
 The Salt Lake Tribune  DESERET NEWS

CUSTOMER'S  
 COPY

PROOF OF PUBLICATION

CUSTOMER NAME AND ADDRESS	ACCOUNT NUMBER	
DIV OF OIL, GAS & MINING 355 WEST NORTH TEMPLE 3 TRIAD CENTER #350 SLC, UT 84180	D5385340L-07	05/05/95

ACCOUNT NAME	
DIV OF OIL, GAS & MINING	
TELEPHONE	INVOICE NUMBER
801-538-5340	TL528201401
SCHEDULE	
START 05/05/95 END 05/05/95	
CUST. REF. NO.	
AMENDED NO	
CAPTION	
AMENDED NOTICE OF AGENCY ACTI	
SIZE	
70 LINES	1.00 COLUMN
TIMES	RATE
1	1.64
MISC. CHARGES	AD CHARGES
.00	114.80
TOTAL COST	
114.80	

AMENDED NOTICE OF AGENCY ACTION  
 CAUSE NO. UIC-158  
 BEFORE THE DIVISION OF OIL, GAS AND MINING  
 DEPARTMENT OF NATURAL RESOURCES, STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF MARATHON OIL COMPANY FOR ADMINISTRATIVE APPROVAL OF THE WDW #1 WELL LOCATED IN SECTION 25, TOWNSHIP 38 SOUTH, RANGE 25 EAST, S.L.M. SAN JUAN COUNTY, UTAH, AS A CLASS II INJECTION WELL

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER.

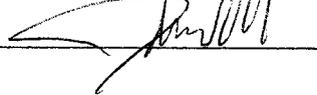
Notice is hereby given that the Division is commencing an informal adjudicative proceeding to consider the application of Marathon Oil Company to convert the WDW #1 well, located in Section 25, Township 38 South, Range 25 East, San Juan County, Utah, to a Class II injection well. The proceeding will be conducted in accordance with Utah Administrative Code R649-10, Administrative Procedures.

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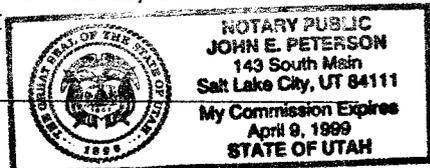
AFFIDAVIT OF PUBLICATION

NEWSPAPER AGENCY CORPORATION LEGAL BOOKKEEPER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF AMENDED NOTICE OF AGENCY ACTION FOR DIV OF OIL, GAS & MINING WAS PUBLISHED BY THE NEWSPAPER AGENCY CORPORATION, AGENT FOR THE SALT LAKE TRIBUNE AND DESERET NEWS, DAILY NEWSPAPERS PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH

DATE 1995. PUBLISHED ON START 05/05/95 END 05/05/95

SIGNATURE 

DATE 05/05/95



THIS IS NOT A STATEMENT BUT A "PROOF OF PUBLICATION"  
 PLEASE PAY FROM BILLING STATEMENT.

BEFORE THE DIVISION OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH

---ooOoo---

IN THE MATTER OF THE APPLICATION	:	AMENDED NOTICE OF
OF MARATHON OIL COMPANY FOR	:	AGENCY ACTION
ADMINISTRATIVE APPROVAL OF THE	:	
WDW #1 WELL LOCATED IN SECTION	:	CAUSE NO. UIC-158
25, TOWNSHIP 38 SOUTH, RANGE 25	:	
EAST, S.L.M., SAN JUAN COUNTY, UTAH,	:	
AS A CLASS II INJECTION WELL	:	

---ooOoo---

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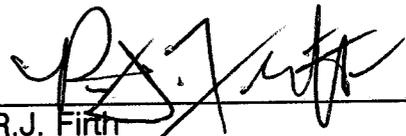
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DATED this 1st day of May, 1995.

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING




---

R.J. Firth  
Associate Director, Oil and Gas

**Marathon Oil Company  
WDW #1 Well  
Cause No. UIC-158**

Publication Notices were sent to the following:

Newspaper Agency Corporation  
Legal Advertising  
Tribune Building, Front Counter  
143 South Main  
Salt Lake City, Utah 84111

San Juan Record  
P.O. Box 879  
937 East Highway 666  
Monticello, Utah 84535-0879

Bureau of Land Management  
Moab District Office  
82 East Dogwood, Suite M  
Moab, Utah 84532

Rod J. Prosceno  
Marathon Oil Company  
P.O. Box 2409  
Hobbs, New Mexico 88241-2409

Dan Jackson  
U.S. Environmental Protection Agency  
Region VIII  
999 18th Street  
Denver, Colorado 80202-2466

  
\_\_\_\_\_  
Lisa D. Clement  
Administrative Secretary  
May 1, 1995



**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

May 1, 1995

Newspaper Agency Corporation  
Legal Advertising  
Tribune Building, Front Counter  
143 South Main  
Salt Lake City, Utah 84111

Re: Amended Notice of Agency Action - Cause No. UIC-158

Gentlemen:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please send proof of publication and billing to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

A handwritten signature in cursive script that reads "Lisa D. Clement".

Lisa D. Clement  
Administrative Secretary

Enclosure





**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
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355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

May 1, 1995

San Juan Record  
P.O. Box 879  
937 East Highway 666  
Monticello, Utah 84535-0879

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Lisa D. Clement  
Administrative Secretary

Enclosure





**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
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355 West North Temple  
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Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

May 3, 1995

Marathon Oil Company  
P. O. Box 2409  
Hobbs, New Mexico 88241-1203

Re: WDW #1 Well, Section 25, Township 38 South, Range 25 East, San Juan County, Utah

Gentlemen:

Pursuant to Utah Admin. Code R649-5-3-3, the Division of Oil, Gas and Mining (the "Division") issues its administrative approval for conversion of the referenced well to a Class II injection well. Accordingly, the following stipulations shall apply for full compliance with this approval:

1. Comply with all applicable requirements for the operation, maintenance and reporting for Underground Injection Control Class II injection wells pursuant to Utah Admin. Code R649-1 et seq.
2. Conformance with all conditions and requirements of the complete application submitted by Marathon Oil Company ("Marathon").
3. Conduct a step-rate test to determine the formation fracture gradient.
4. Conduct a casing pressure test and a casing/tubing pressure test to verify mechanical integrity.
5. Fluid injection will be limited to the interval from 2,500 feet to 3,258 feet.



Page 2  
Marathon Oil Company  
May 3, 1995

The required testing operations should be complete within 30 days. Following submittal of the test data by Marathon and review by the Division, a final permit will be issued. If you have any questions regarding this approval or the necessary requirements, please contact Dan Jarvis at this office.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. J. Firth', written in a cursive style.

R. J. Firth  
Associate Director

ldc  
cc: Dan Jackson, Environmental Protection Agency  
W602

# AFFIDAVIT OF PUBLICATION

## Public notice

BEFORE THE DIVISION OF  
OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF  
MARATHON OIL COMPANY FOR  
ADMINISTRATIVE APPROVAL OF THE WDW  
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S.L.M., SAN JUAN COUNTY, UTAH, AS A  
CLASS II INJECTION WELL

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CAUSE NO. UIC-158

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DATED this 1st day of May, 1995.

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING  
s/ R.J. Firth

Associate Director, Oil and Gas  
Published May 10, 1995 in The San Juan  
Record, Monticello, Utah.

I, Bill Boyle, being duly sworn, depose and say that I am the publisher of  
The San Juan Record, a weekly newspaper of general circulation published at  
Monticello, Utah every Wednesday; that notice of the amended notice of agency  
action cause No. UIC-158

a copy of which is hereunto attached, was published in the regular and entire issue of each number of said newspaper for a period of one issue.

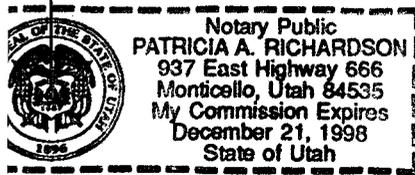
The first publication having been made on May 10, 1995.

and the last publication having been made on \_\_\_\_\_

*Bill Boyle*  
Bill Boyle, Publisher

Subscribed and sworn to before me this 10th day of May

A.D. 1995



*Patricia A. Richardson*  
Notary Public residing at Monticello, Utah  
My commission expires December 21, 1998

OFFICE COPY

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 06/01/95

API NO. ASSIGNED: 43-037-31761

WELL NAME: WDW #1  
OPERATOR: MARATHON OIL COMPANY (N3490)

PROPOSED LOCATION:

*Site*  
NENW 25 - T38S - R25E  
SURFACE: 1888-FNL-0745-FWL  
BOTTOM: 1888-FNL-0745-FWL  
SAN JUAN COUNTY  
TIN CUP MESA FIELD (465)

LEASE TYPE: ~~FED~~ *FED*  
LEASE NUMBER: ~~UNKNOWN~~ *U-31928*

INSPECT LOCATION BY: / /		
TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

PROPOSED PRODUCING FORMATION: CTLR

RECEIVED AND/OR REVIEWED:

Plat  
 Bond: Federal[] State[] Fee[]  
(Number \_\_\_\_\_)  
 Potash (Y/N)  
 Oil shale (Y/N)  
 Water permit  
(Number \_\_\_\_\_)  
 RDCC Review (Y/N)  
(Date: \_\_\_\_\_)

LOCATION AND SITING:

R649-2-3. Unit: \_\_\_\_\_  
 R649-3-2. General.  
 R649-3-3. Exception.  
 Drilling Unit.  
Board Cause no: \_\_\_\_\_  
Date: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

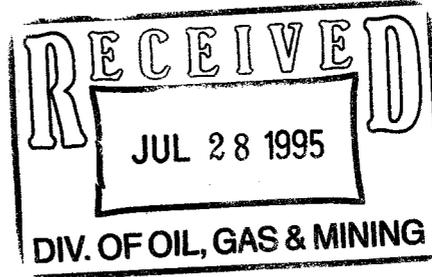
STIPULATIONS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106

July 25, 1995

Mr. Dan Jarvis  
State of Utah  
Department of Natural Resources  
335 West North Temple  
3 Triad Center, Suite 340  
Salt Lake City, Utah 84108-1203  
(801) 538-5340 phone  
(801) 359-3940 fax



**RE: INJECTIVITY RESULTS  
TIN CUP MESA WDW NO. 1 APPLICATION  
SECTION 25, T-38-S, R-25-E  
SAN JUAN COUNTY, UTAH  
LEASE NO.: U-31928**

The Tin Cup Mesa WDW No. 1 (formerly WSW No. 1) was converted to disposal on May 25, 1995. The casing was tested to 500 psig for 30 minutes (from 2350' to surface). The injection packer was set at 2488' for disposal below 2500'. Injection initiated on May 26, 1995; after 30+ days to allow for near-wellbore fill-up, a step rate test was performed. Attachment 1 displays data points between June 30 and July 4, 1995. Results show no breakover at less than 3000 BWPD indicating the parting pressure was not reached while the entire field volume was being injected (field volume range is 2800-3000 BWPD). Maximum surface tubing pressure was 1775 psig.

If you have any further question, please feel free to call Rick Gaddis or myself at (505) 393-7106.

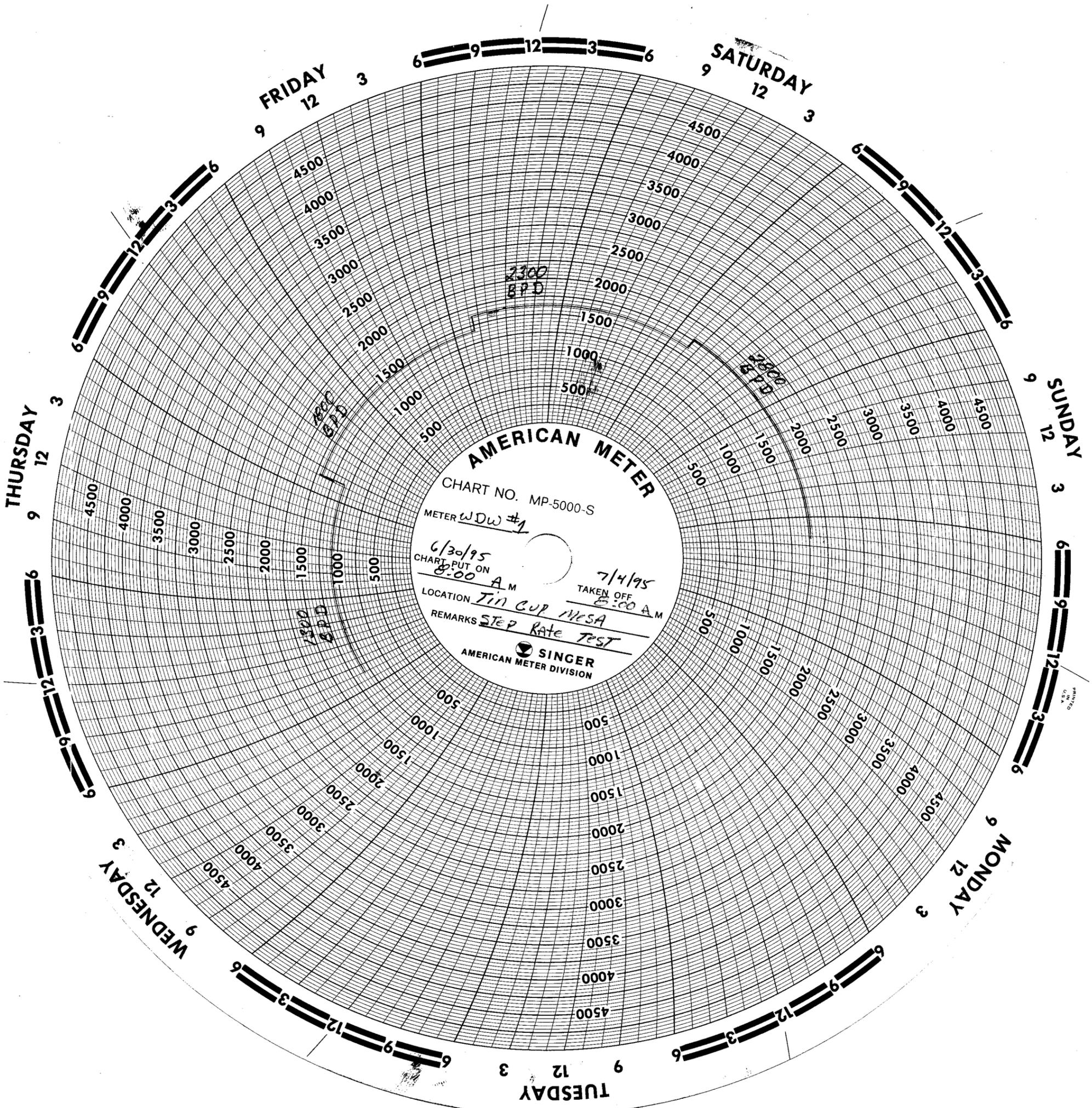
Sincerely,

A handwritten signature in black ink, appearing to read 'Rod J. Prosceno'.

Rod J. Prosceno  
Northwest Operations  
Operations Engineer

RJP/9534/kc

xc: BLM - Moab, Utah



**AMERICAN METER**

CHART NO. MP-5000-S

METER WDW #1

6/30/95

CHART PUT ON 8:00 A.M.

7/4/95

TAKEN OFF 6:00 A.M.

LOCATION TIN COP MESA

REMARKS STEP RATE TEST

**SINGER**  
AMERICAN METER DIVISION

FRIDAY  
12 3

SATURDAY  
12 3

SUNDAY  
12 3

MONDAY  
12 3

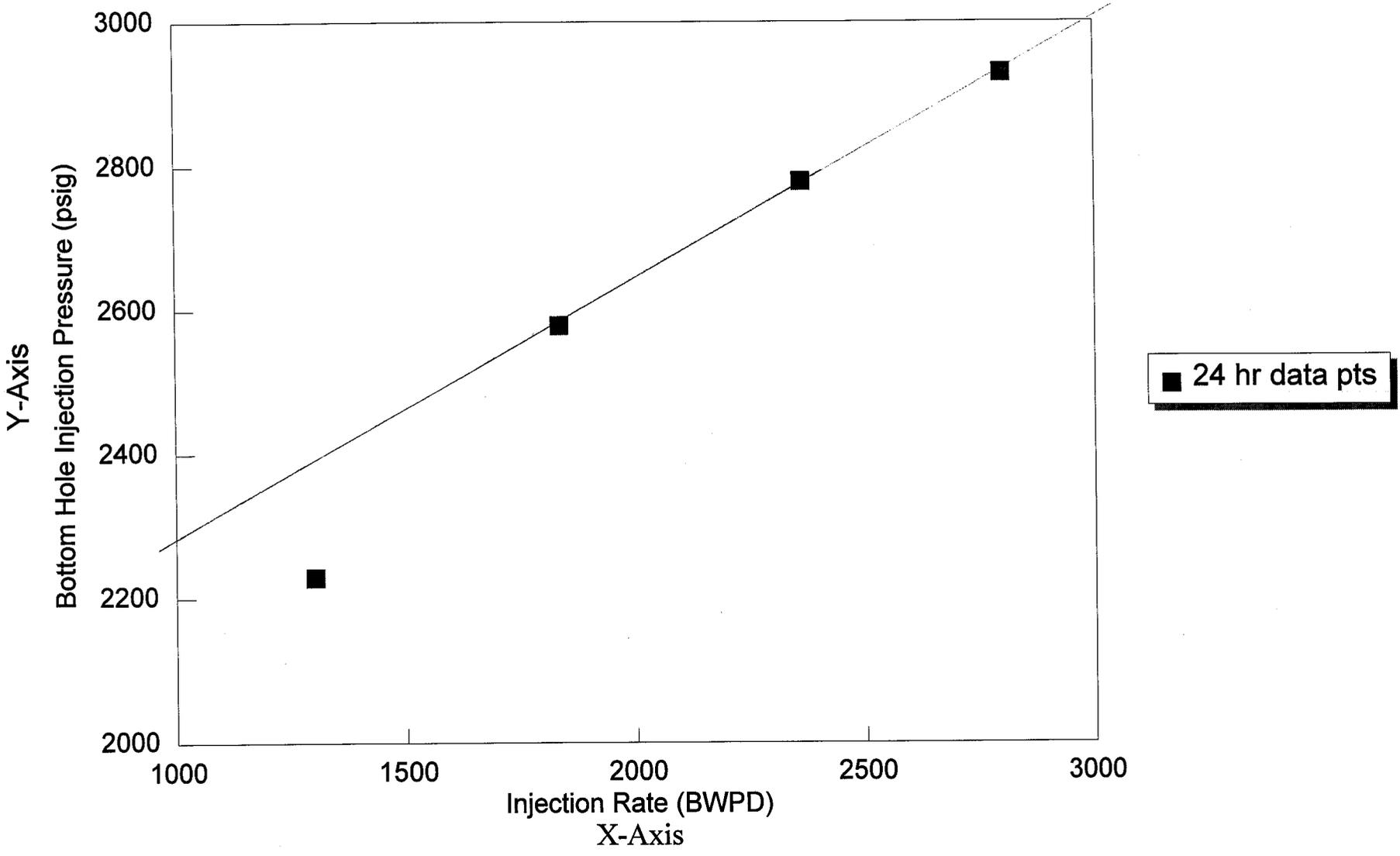
TUESDAY  
12 3

WEDNESDAY  
12 3

THURSDAY  
12 3

# Tin Cup Mesa WDW No.1

Step-Rate Test





P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106

August 18, 1995

Mr. Dan Jarvis  
State of Utah  
Department of Natural Resources  
335 West North Temple  
3 Triad Center, Suite 340  
Salt Lake City, Utah 84108-1203  
(801) 538-5340 phone  
(801) 359-3940 fax

AUG 28 1995

**RE: INJECTIVITY RESULTS  
TIN CUP MESA WDW NO. 1 APPLICATION  
SECTION 25, T-38-S, R-25-E  
SAN JUAN COUNTY, UTAH  
LEASE NO.: U-31928**

Attached please find the data obtained on the second step-rate-test conducted on August 10, 1995 for the Tin Cup Mesa WDW No. 1. The interval injected into was from 2914 to 3258' overall with a packer set at 2488'. The step-rate-test consisted of nine steps with rates ranging from 561 to 3154 BWPD. Results of the test indicate a parting pressure of 1310 psig with produced water. Maximum surface tubing pressure was 1510 psig with the casing pressure remaining at 0 psig throughout the test.

If you have any questions, please feel free to contact me at (505) 394-7106 at ext. 201.

Sincerely,

A handwritten signature in cursive script that reads 'Rick D. Gaddis'.

Rick D. Gaddis  
Northwest Operations  
Operations Engineer

RDG/95022/rg

xc: BLM - Moab, Utah



P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106

August 18, 1995

Mr. Dan Jarvis  
State of Utah  
Department of Natural Resources  
335 West North Temple  
3 Triad Center, Suite 340  
Salt Lake City, Utah 84108-1203  
(801) 538-5340 phone  
(801) 359-3940 fax

AUG 28 1995

**RE: INJECTIVITY RESULTS  
TIN CUP MESA WDW NO. 1 APPLICATION  
SECTION 25, T-38-S, R-25-E  
SAN JUAN COUNTY, UTAH  
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If you have any questions, please feel free to contact me at (505) 394-7106 at ext. 201.

Sincerely,

A handwritten signature in cursive script that reads 'Rick D. Gaddis'.

Rick D. Gaddis  
Northwest Operations  
Operations Engineer

RDG/95022/rg

xc: BLM - Moab, Utah

**TIN CUP MESA WDW NO. 1**

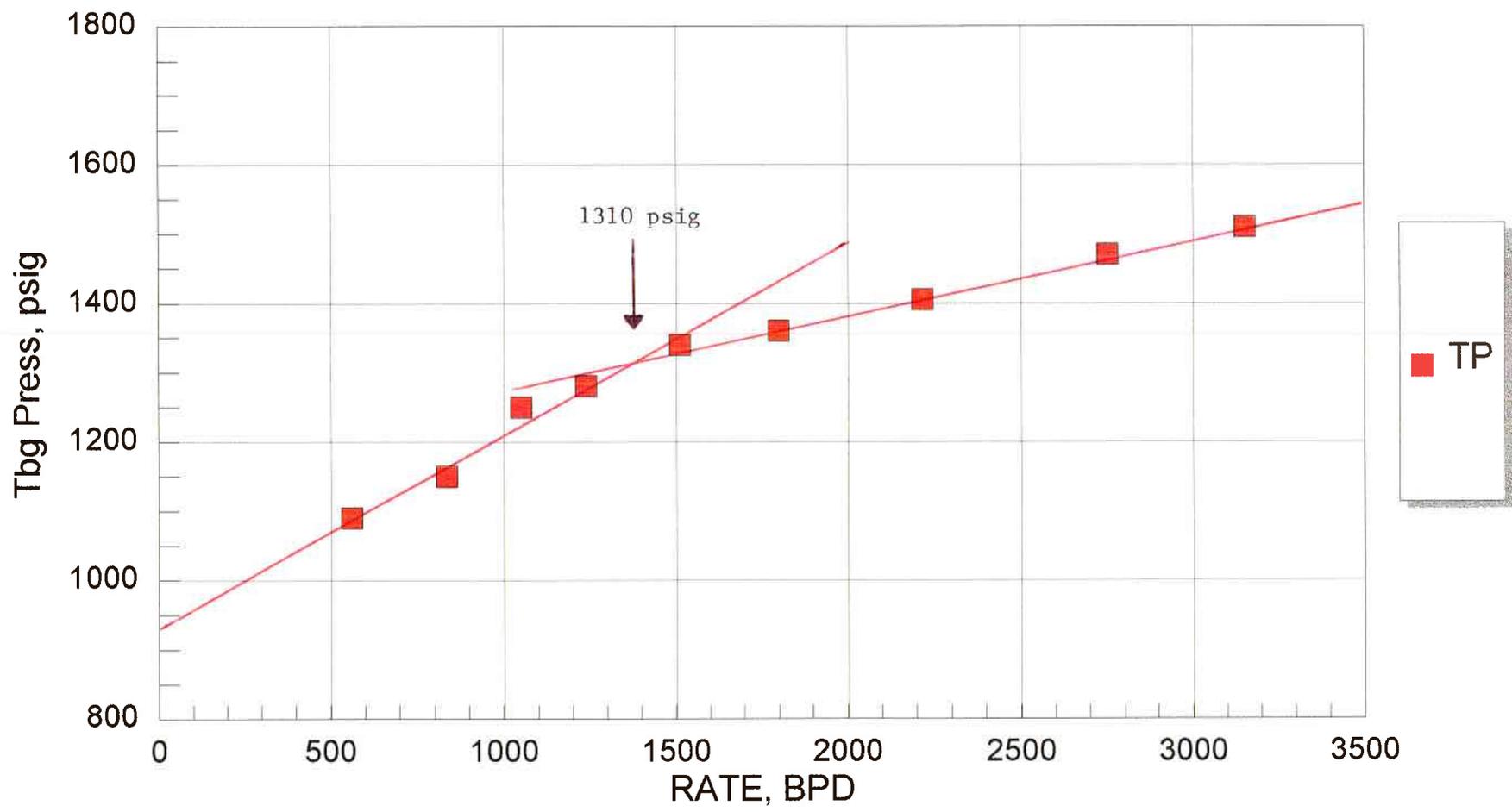
**Step Rate Test**

**August 10, 1995**

<u>Stage No.</u>	<u>Rate, BPD</u>	<u>Tubing Press, psig</u>	<u>Casing Press, psig</u>
1	561.6	1090	0
2	835.2	1150	0
3	1051.2	1250	0
4	1238.4	1280	0
5	1512.0	1340	0
6	1800.0	1360	0
7	2217.6	1405	0
8	2750.4	1470	0
9	3153.6	1510	0

# TIN CUP MESA WDW NO. 1

Step Rate Test, August 10, 1995



**Ricky Dale Gaddis**  
Production Engineer  
Mid-Continent Region  
Production Operations United States



## **Marathon Oil Company**

P.O. Box 2409  
Hobbs, NM 88240-2409  
Telephone 505/393-7106  
FAX 505/393-2432

201

A subsidiary of USX Corporation

TIN CUP MESA WDW NO. 1

Step Rate Test

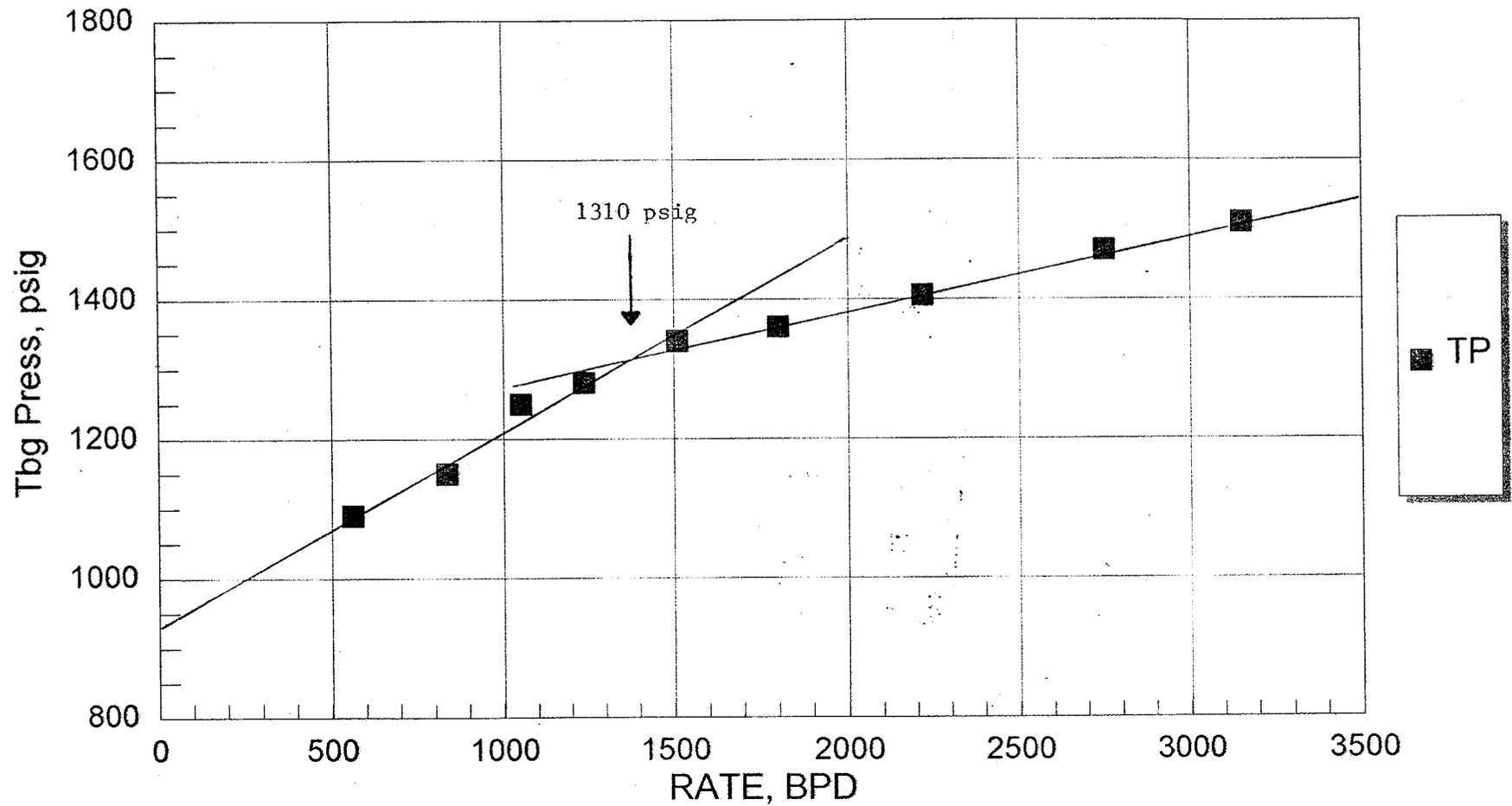
August 10, 1995

<u>Stage No.</u>	<u>Rate, BPD</u>	<u>Tubing Press, psig</u>	<u>Casing Press, psig</u>
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6	1800.0	1360	0
7	2217.6	1405	0
8	2750.4	1470	0
9	3153.6	1510	0

RDG/SRTDATA/rg

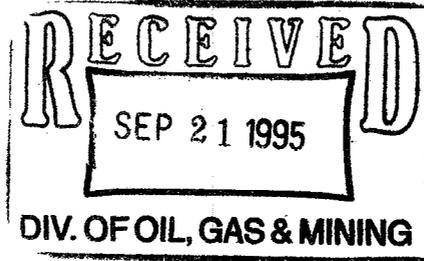
# TIN CUP MESA WDW NO. 1

Step Rate Test, August 10, 1995





P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106



September 15, 1995

Mr. Dan Jarvis  
State of Utah  
Department of Natural Resources  
335 West North Temple  
3 Triad Center, Suite 340  
Salt Lake City, Utah 84108-1203

**RE: APPLICATION FOR DISPOSAL WELL  
TIN CUP MESA WDW NO. 1  
SECTION 25, T-38-S, R-25-E  
SAN JUAN COUNTY, UTAH  
LEASE NO.: U-31928**

Marathon Oil company respectfully requests permission to dispose of produced water into the Tin Cup Mesa WDW No. 1 at a surface pressure exceeding the parting pressure determined by the step-rate-test conducted on August 10, 1995. Marathon proposes the disposal of 2200 BWPD with a surface pressure of 1405 psig. Safe guards outlined below will be installed to ensure the containment of the disposal fluid.

The Tin Cup Mesa Unit currently produces approximately 1975 BWPD and disposes this volume plus approximately 200 BWPD from Pioneer's Canyon State No. 2-30 into the WDW No. 1. The Unit produced water volume is expected to decline over time as the produced water is no longer being re-injected into the Ismay Formation. Based on the decline of the produced water, disposal rates below parting pressures are expected in late December.

The current disposal interval of the WDW No. 1 is the Cutler Formation at 2914-3258' with a packer set at 2475'. Additional Cutler perforations are open above the packer at 2410-2466'. The perforations above the packer were recently tested to determine their injectivity. A surface pressure of 1600 psig was obtained with only a small amount of fluid being accepted into these perforations. The active disposal zone is separated from the inactive zone by 448' with good cement bonding between the two zones. The upper zone is separated from the nearest possible potable water zone by 73'. To ensure containment of disposed fluids, the pressure of the tubing-casing annulus along with the fluid level of the casing will be monitored. If the disposed fluids migrate upward to the inactive Cutler perforations due to fracture extension, the fluid level will increase dramatically, resulting in a clear and positive warning. The pressure and fluid level monitoring will also ensure integrity of the tubing, packer and casing.

**APPLICATION FOR DISPOSAL WELL  
TIN CUP MESA WDW NO. 1  
SECTION 25, T-38-S, R-25-E  
SAN JUAN COUNTY, UTAH  
LEASE NO.: U-31928**

If you have any questions or have need of additional data, please don't hesitate to contact myself at 505-393-7106, ext 201.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick D. Gaddis". The signature is written in a cursive style with a horizontal line at the end.

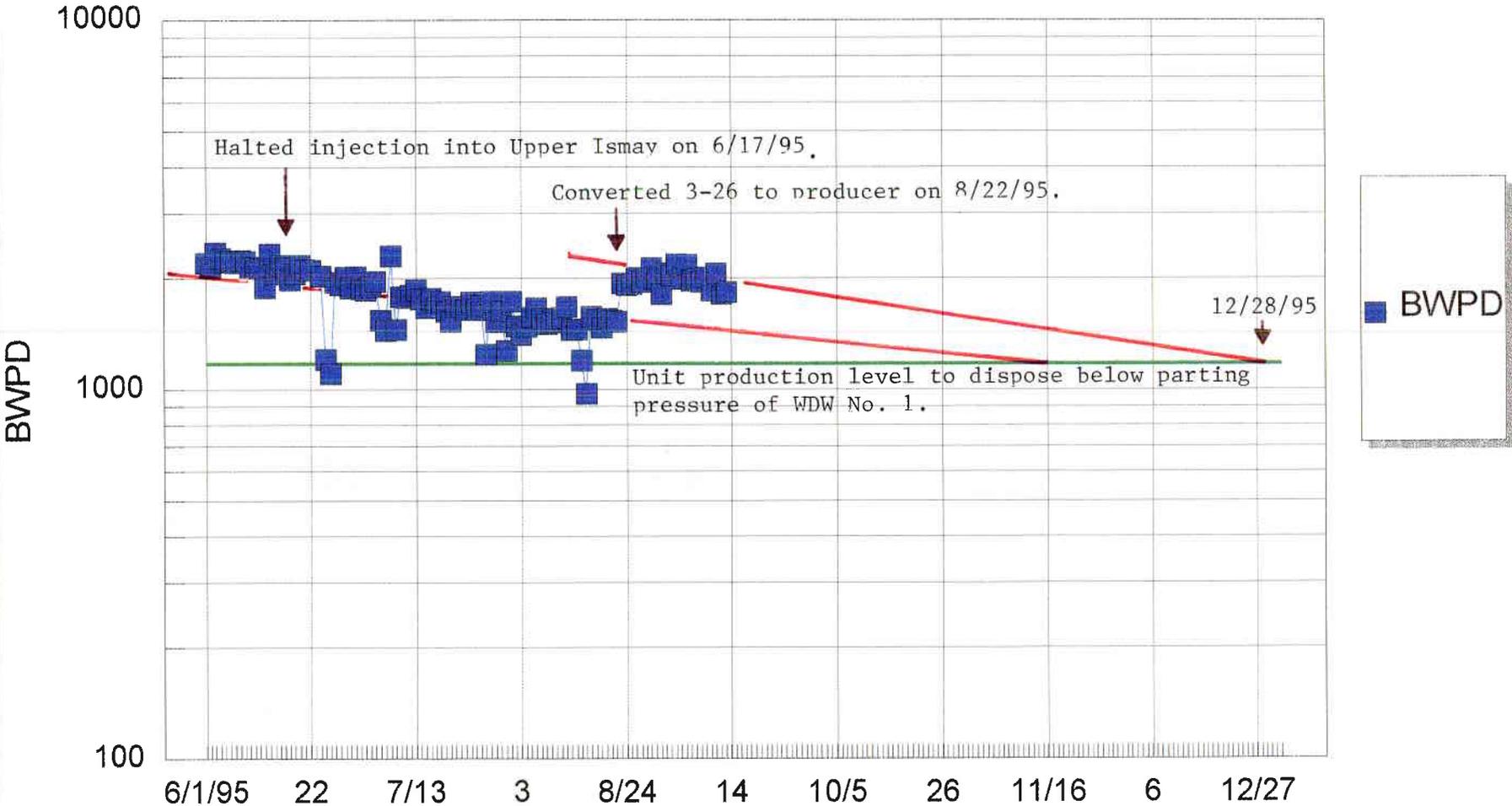
Rick D. Gaddis  
Northwest Operations  
Operations Engineer

Attachments  
RDG/95024/rg

xc: BLM - Moab, Utah

# TIN CUP MESA FIELD

## Daily Water Production Volume



TIN CUP MESA WDW NO. 1

TIN CUP FIELD

Unit E, 1880' FNL & 745' FWL

Section 30, T-19-S, R-37-E

San Juan County, Utah

TD: 3415'      PBD: 3315'

KB: 5001'      GL: 4988'

SURFACE: 9 5/8", 40 lb/ft., set to 1489'.  
Cemented with 610 sxs. Cement circ'd.

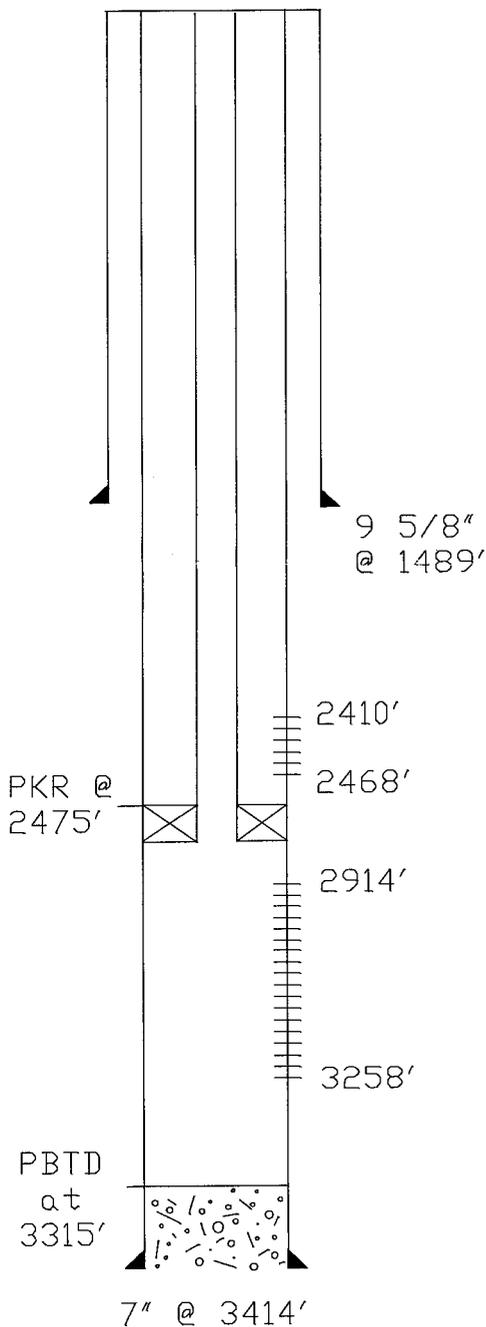
PRODUCTION: 7", 23 lb/ft, N-80, set at  
3414'. Cemented with 429 sxs. Cement  
top at 1400' by CBL.

TUBING: 3 1/2", 9.3 lb/ft, J-55, EUE,  
IPC to a Baker 47B4 Lok-Set packer  
at 2475'.

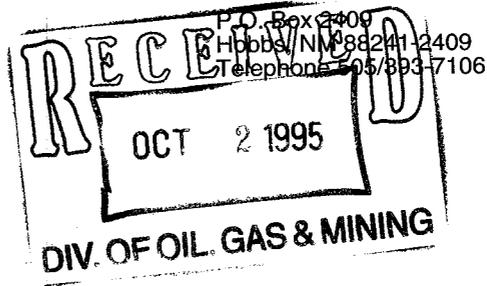
PRESENT COMPLETIONS: CUTLER

ACTIVE: 2914-24', 2932-46', 3001-13',  
3026-36', 3106-16', 3188-96',  
3246-58'.

INACTIVE: 2410-24', 2438-50' and  
2458-68'.



HISTORY: Drilled and completed on 9/07/95 as a water supply well.  
Converted well to disposal service on 5/22/95.



September 25, 1995

Mr. Dan Jarvis  
State of Utah  
Department of Natural Resources  
335 West North Temple  
3 Triad Center, Suite 340  
Salt Lake City, Utah 84108-1203

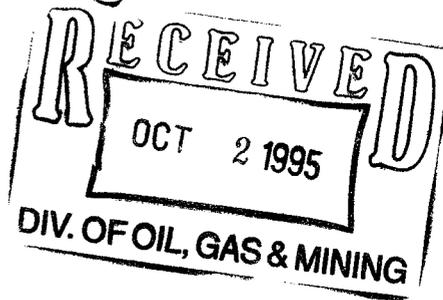
**RE: APPLICATION FOR DISPOSAL WELL(REVISED)  
TIN CUP MESA WDW NO. 1  
SECTION 25, T-38-S, R-25-E  
SAN JUAN COUNTY, UTAH  
LEASE NO.: U-31928**

Marathon Oil company respectfully requests permission to dispose of produced water into the Tin Cup Mesa WDW No. 1 at a surface pressure exceeding the parting pressure determined by the step-rate-test conducted on August 10, 1995. Marathon proposes the disposal of 2200 BWPD with a surface pressure of 1405 psig. Safe guards outlined below will be installed to ensure the containment of the disposal fluid.

The Tin Cup Mesa Unit currently produces approximately 1975 BWPD and disposes this volume plus approximately 200 BWPD from Pioneer's Canyon State No. 2-30 into the WDW No. 1. The Unit produced water volume is expected to decline over time as the produced water is no longer being re-injected into the Ismay Formation. Based on the decline of the produced water, disposal rates below parting pressures are expected in late December.

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**APPLICATION FOR DISPOSAL WELL(REVISED)  
TIN CUP MESA WDW NO. 1  
SECTION 25, T-38-S, R-25-E  
SAN JUAN COUNTY, UTAH  
LEASE NO.: U-31928**



If you have any questions or have need of additional data, please don't hesitate to contact myself at 505-393-7106, ext 201.

Sincerely,

A handwritten signature in cursive script that reads "Rick Gaddis".

Rick Gaddis  
Northwest Operations  
Operations Engineer

RDG/95024/rg

xc: BLM - Moab, Utah



**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
James W. Carter  
Division Director

355 West North Temple  
3 Trid Center, Suite 350  
Salt Lake City, Utah 84189-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5318 (TDD)

**RECEIVED**

**NOV 14 1995**

**NORTHWEST OPERATIONS**

**UNDERGROUND INJECTION CONTROL PERMIT**

**Cause No. UIC-158**

**Operator:** Marathon Oil Company  
**Well:** WDW # 1  
**Location:** Section 25, Township 38 South, Range 25 East, San Juan County  
**API No.:** 43-037-31761  
**Well Type:** Disposal

**Stipulations of Permit Approval**

1. Approval for conversion to Injection Well issued on May 3, 1995.
2. Maximum Allowable Injection Pressure: 1405 psig.
3. Maximum Allowable Injection Rate: 2200 bwpd.
4. Injection Interval: 2,500 feet to 3,258 feet (Cutler Formation).
5. Approval to inject at 1405 psig is effective until January 1, 1996. After this date the maximum authorized pressure will revert to 1310 psig.

page 2  
Marathon UIC Permit  
Cause no. UIC-158

6. Casing-tubing fluid level shall be monitored on a daily basis.
  7. Should annulus fluid level increase, injection shall cease and the Division will be notified.
- 

Approved by:

R.J. Firth

R.J. Firth  
Associate Director, Oil and Gas

10/24/95

Date

RECEIVED  
110-B DISTRICT OFFICE

95 FEB 15 PM 1:23

TRANSFER OF AUTHORITY TO INJECT - UIC FORM 5

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FEB 20 1996

Well name and number: Tin Cup Unit #1C  
Field or Unit name: Tin Cup Mesa Unit API no. 4303731761  
Well location: QQ SW, NW section 25 township 38S range 25E county San Juan  
Effective Date of Transfer: 12-1-95

CURRENT OPERATOR

Transfer approved by:

Name David S. Googins III Company Marathon Oil Company  
Signature [Signature] Address PO Box 552  
Title Sr. Production Engineer Milano, TX 79702  
Date 2/2/96 Phone (915) 687-8340

Comments:

NEW OPERATOR

Transfer approved by:

Name Ken Allen Company Cochrane Resources Inc.  
Signature [Signature] Address P.O. Box 1656 Roosevelt  
Title President Utah 84066  
Date 1-24-96 Phone (801) 722-5081

Comments:

(State use only)

Transfer approved by [Signature] Title Environ. Manager  
Approval Date 4-4-96

**COPY**

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

JAN 11 1996

GAS & MIN.

IN REPLY REFER TO:  
UT-922

January 12, 1996

Cochrane Resources, Inc.  
P.O. Box 1656  
Roosevelt, Utah 84066

RE: Tin Cup Mesa Unit  
San Juan County, Utah

Gentlemen:

On January 11, 1996, we received an indenture dated January 9, 1996, whereby Marathon Oil Company resigned as Unit Operator and Cochrane Resources, Inc. was designated as Successor Unit Operator for the Tin Cup Mesa Unit, San Juan County, Utah.

This indenture was executed by all required parties and the signatory parties have complied with Sections 5 and 6 of the unit agreement. The instrument is hereby approved effective January 12, 1996. In approving this designation, the Authorized Officer neither warrants nor certifies that the designated party has obtained all required approval that would entitle it to conduct operations under the Tin Cup Mesa Unit Agreement.

Your statewide (Utah) oil and gas bond No. 0699 will be used to cover all operations within the Tin Cup Mesa Unit.

It is requested that you notify all interested parties of the change in unit operator. Copies of the approved instruments are being distributed to the appropriate federal offices, with one copy returned herewith.

Sincerely,

/s/ Robert A. Henricks

Robert A. Henricks  
Chief, Branch of Fluid Minerals

Enclosure

bcc: District Manager - Moab (w/enclosure)  
Division of Oil, Gas & Mining  
Division of Mineral Adjudication U-923  
File - Tin Cup Mesa Unit (w/enclosure)  
MMS - Data Management Division ((Attn: Rose Dablo)  
Agr. Sec. Chron  
Fluid Chron

U-922:TAThompson:tt:01-12-96

WELL STATUS REPORTS  
UTAH STATE OFFICE

INSPECTION ITEM      API NO.      WELL NUMBER      QTQT SRC      TWN      RNG      WELL STATUS      LEASE NAME      OPERATOR

\*\* INSPECTION ITEM 8910203910      *31761*      TIN CUP MESA IS A      *Entity#*

8910203910	<del>430373088000S1</del>	<del>SWNW 25 38S 25E</del>	<del>WDW</del>			UTU31928		MARATHON OIL COMPANY
8910203910	<del>430373089000S1</del>	<del>SWNW 25 38S 25E</del>	<del>W1W</del>			UTU31928	<i>2765</i>	MARATHON OIL COMPANY <i>431928</i>
✓ 8910203910	430373080800S1	SWSW 23 38S	25E	POW		UTU31928	"	MARATHON OIL COMPANY <i>431928</i>
✓ 8910203910	430373098300S1	NWSW 25 38S	25E	POW		UTU13655	"	MARATHON OIL COMPANY <i>413655</i>
8910203910	<del>4303730881500S1</del>	<del>SWSW 23 38S 25E</del>	<del>W1WS</del>			UTU31928	"	MARATHON OIL COMPANY <i>431928</i>
✓ 8910203910	430373102000S1	SWSW 25 38S	25E	TA		UTU13655	"	MARATHON OIL COMPANY <i>413655</i>
8910203910	<del>430373085200S1</del>	<del>WNW 26 38S 25E</del>	<del>W1W</del>			UTU31928	"	MARATHON OIL COMPANY <i>431928</i>
8910203910	<del>430373085200S1</del>	<del>SWSW 25 38S 25E</del>	<del>W1W</del>			UTU13655	"	MARATHON OIL COMPANY <i>413655</i>
8910203910	<del>430373091100S1</del>	<del>S1W 26 38S 25E</del>	<del>W1W</del>			UTU31928	"	MARATHON OIL COMPANY <i>431928</i>
✓ 8910203910	430373136800S1	SWNE 26 38S	25E	POW		UTU31928	"	MARATHON OIL COMPANY <i>431928</i>
✓ 8910203910	430373154000S1	NESE 26 38S	25E	POW		UTU31928	"	MARATHON OIL COMPANY <i>431928</i>

JAN 23 1996

## RESIGNATION OF OPERATOR

Tin Cup Mesa Unit Area

County of San Juan

State of Utah

Unit Agreement No. 14-08-0001-20391

Under and pursuant to the provisions of Section 5 of the Unit Agreement for the Development and Operation of the Tin Cup Mesa Unit Area, San Juan County, Utah, Marathon Oil Company, the designated Unit Operator under said Unit Agreement, does hereby resign as Unit Operator, effective upon the selection and approval of a successor Unit Operator.

EXECUTED with effect as aforesaid this 29th day of November, 1995.

ATTEST:

  
\_\_\_\_\_

MARATHON OIL COMPANY

  
\_\_\_\_\_

By: A.R. Kukla  
Title: Attorney-In-Fact



12-19-95

Authorized Officer  
Bureau of Land Management

Re: Tin Cup Mesa Unit  
San Juan County, Utah

Gentlemen:

Enclosed for your consideration and approval, are four (4) copies of Resignation of Unit Operator ~~and Designated Successor Operator~~ for the Tin Cup Mesa Unit Area.

Cochrane Resources, as the designated successor operator under the Tin Cup Mesa Unit Agreement, hereby certifies that the requisite approvals of the current working interest owners in the agreement have been obtained to satisfy the requirements for selection of a successor operator as set forth under the terms and provisions of the agreement. All operations within the Tin Cup Mesa Unit Agreement will be covered by bond no. UT0699.

Sincerely,



Ken Allen  
Cochrane Resources, Inc.  
President

Enclosures

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET**

Routing:

1- LRC 7-FILE	✓
2- <del>DW</del> 8-FILE	
3- VLD	✓
4- RJF	✓
5- LRC	✓
6- SJ	✓

Attach all documentation received by the division regarding this change.  
 Initial each listed item when completed. Write N/A if item is not applicable.

- Change of Operator (well sold)       Designation of Agent  
 Designation of Operator       Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 12-01-95)

TO (new operator)	<u>COCHRANE RESOURCES INC</u>	FROM (former operator)	<u>MARATHON OIL COMPANY</u>
(address)	<u>PO BOX 1656</u>	(address)	<u>PO BOX 552</u>
	<u>ROOSEVELT UT 84066</u>		<u>MIDLAND TX 79702</u>
	<u>phone (801) 722-5081</u>		<u>phone (915) 687-8155</u>
	<u>account no. N 7015</u>		<u>account no. N 3490</u>

**\*TIN CUP MESA UNIT**

Well(s) (attach additional page if needed):

Name: <b>**SEE ATTACHED**</b>	API: <u>037-31761</u>	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____

**OPERATOR CHANGE DOCUMENTATION**

- Sec 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). *(Reg. 1-19-96) (Rec'd 1-23-96)*
- Sec 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). *(Reg. 1-22-96) (Rec'd 1-23-96)*
- N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) \_\_\_\_ If yes, show company file number: \_\_\_\_\_.
- Sec 4. (For Indian and Federal Wells ONLY) The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of Federal and Indian well operator changes should take place prior to completion of steps 5 through 9 below.
- Sec 5. Charges have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. *(2-8-96 O&G wells) (Inj. Wells 4-3-96)*
- Sec 6. Cardex file has been updated for each well listed above. *(2-8-96 O&G wells) (Inj. Wells 4-3-96)*
- Sec 7. Well file labels have been updated for each well listed above. *(2-8-96 O&G wells) (Inj. Wells 4-3-96)*
- Sec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. *(2-8-96 O&G wells) (Inj. Wells 4-3-96)*
- Sec 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

ENTITY REVIEW

- Sec* 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) \_\_\_\_ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).
- N/A* 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

BOND VERIFICATION (Fee wells only)

- N/A* 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.
2. A copy of this form has been placed in the new and former operators' bond files.
3. The former operator has requested a release of liability from their bond (yes/no) \_\_\_\_ Today's date \_\_\_\_\_ 19\_\_\_\_. If yes, division response was made by letter dated \_\_\_\_\_ 19\_\_\_\_.

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

- N/A* 1. (Rule R615-2-10) The former operator/lessee of any fee lease well listed above has been notified by letter dated \_\_\_\_\_ 19\_\_\_\_, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.
- DES*  
*4/8/96*
- N/A* 2. Copies of documents have been sent to State Lands for changes involving State leases.

FILMING

*VDP* All attachments to this form have been microfilmed. Date: April 17 19 96.

FILING

1. Copies of all attachments to this form have been filed in each well file.
2. The original of this form and the original attachments have been filed in the Operator Change file.

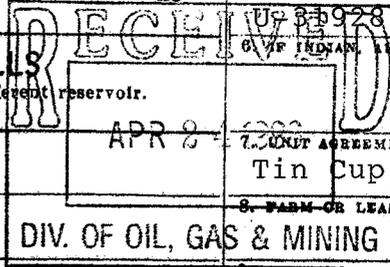
COMMENTS

*960119 Blm/SL App. eff. 1-12-96.*

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE  
(Other instructions reverse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985



SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT--" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		6. LEASE DESIGNATION AND SERIAL NO. UP 833928	
2. NAME OF OPERATOR Cochrane Resources, Inc.		7. LEASE AGREEMENT NAME Tin Cup Mesa	
3. ADDRESS OF OPERATOR P.O. Box 1656 Roosevelt, Utah 84066		8. FARM OR LEASE NAME DIV. OF OIL, GAS & MINING	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface		9. WELL NO. WDW #1	
14. PERMIT NO. 43-037-31761		10. FIELD AND POOL, OR WILDCAT	
15. ELEVATIONS (Show whether DF, RT, GR, etc.)		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec 25, T38S, R25E	
		12. COUNTY OR PARISH San Juan	13. STATE Utah

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	

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

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.)\*

By this notice, Cochrane Resources, Inc would like to request the following:

1. The csg tubing annulas be monitored daily for pressure to detect up hole migration into the perfs above the packer. Fluid levels have proven ineffective.
2. The maximum allowable pressure of 1405 psig be extended to May 15, 1996 to allow us to put in a bypass to being the injection rate down.

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING  
DATE: 4-30-96  
BY: [Signature]

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

SIGNED [Signature] TITLE President DATE April 23, 1996

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

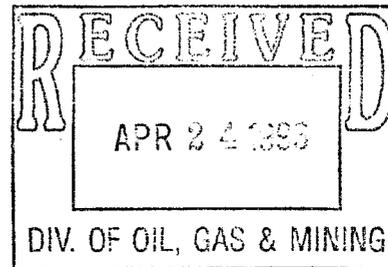
\*See Instructions on Reverse Side

**COCHRANE RESOURCES, INC.**

Engineering  
Wellsite Supervision  
Lease Operating

P.O. Box 1656  
Roosevelt, Utah 84066  
Phone (801) 722-5081

April 23, 1996



State of Utah  
Department of Natural Resources  
Division of Oil, Gas, & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt lake City, Utah 84180-1203

Re: Tin Cup Mesa  
WDW #1  
Sec 25m T38 S, R25E San Juan County, Utah  
API No. 43-037-31761

Dear Sir:

The subject well was approved as a disposal well on May 3, 1995. At that time the maximum allowable pressure was 1405 psig until Jan 1, 1996, at which time the allowed pressure would be 1310 psig.

The well is disposing of water in the Cutler Formation thru perfs at 2914' to 3258'. The packer is set at 2475', with additional Culter perfs at 2410' - 2466'. In Marathon's application they proposed shooting a fluid level daily to monitor the csg, but have since found out that fluid levels are inaccurate because there is no pressure on the csg.

With this downhole setup I feel that monitoring the csg pr daily should tell us if uphole migration is occurring. With 1300 psi on the tubing I feel that if the perfs above the packer start leaking we would have pressure on the csg, and should even have fluid to surface.

Also I would like to request that the period of time we can dispose of water at 1405 psig be extended to May 15, 1996. This would give us time to install a bypass system to reduce our disposal rate and thus keep the pressure below 1300 psi.

Thank you for your consideration.

Yours truly,

A handwritten signature in cursive script, appearing to read "Ken Allen".

Ken Allen



**STATE OF UTAH**  
**DIVISION OF OIL, GAS & MINING**  
**UNDERGROUND INJECTION CONTROL PROGRAM**  
**SALT WATER DISPOSAL WELLS**  
*Monthly Volumes Disposed (BBLs) - 1998*

WELL NAME	COMPANY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
34-2	AMOCO	254,162	192,044	242,200	238,458	212,418	224,144	207,225	233,326	209,219	232,342	205,535	222,583	2,673,656
L 1	AMOCO	219,378	168,624	205,681	203,085	186,895	201,320	179,393	178,154	167,196	159,261	171,446	195,896	2,236,329
HELPER SWD 1	ANADARKO	8,890	63,632	96,637	94,624	71,661	53,788	41,617	76,474	69,675	61,206	75,228	68,634	782,066
SHIMMIN TR 10-11	ANADARKO	0	0	0	0	0	0	PA 6/98						0
KANE SPRINGS 16-1	AVIARA ENERGY					Aprv 5/98		2,260	1,370	506	1,180	1,137	1,039	7,492
ALTAMONT SWD 1	BARRETT RES.	7,527	0	0	0	0	0	0	0	0	0	0	0	7,527
UTE TRIBAL 1-A	BARRETT RES.	80,400	68,303	75,972	74,021	75,163	85,100	70,423	66,377	59,434	63,628	70,978	68,892	858,691
AAGARD 28-2	BAYLESS, ROBERT L	312	284	234	34	83	0	0	0	0	0	0		947
FORK A D-10	BTA	5,254	3,640	4,161	4,190	4,604	4,178	2,983	4,431	4,191	4,349	3,932		45,913
GOTHIC MESA 16-11	CENTRAL RES.	470	921	812	519	353	315	324	326	652				4,692
RBU 16-19F	CNG PRODUCING	8,746	9,537	12,710	10,250	8,794	7,525	8,318	9,491	6,220	7,633	6,995		96,219
ALLRED 2-16A3	COASTAL O&G	43,715	45,726	73,664	74,516	74,556	68,482	67,593	79,808	72,971	71,312			672,343
BIRCH 2-35A5	COASTAL O&G	42,188	42,422	51,851	53,929	41,765	33,112	29,928	30,928	35,890	38,903			400,916
EHRICH 2-11B5	COASTAL O&G	270,347	203,446	275,158	286,365	273,005	281,641	253,795	218,522	233,123	155,535			2,450,937
G HANSON 2-4B3	COASTAL O&G	60,145	55,279	51,753	55,327	62,631	100,030	103,085	86,717	81,927	54,706			711,600
L BSELL 2-32B4	COASTAL O&G	23,618	31,512	41,350	48,753	47,045	27,119	19,397	19,862	22,921	20,639			302,216
LAKE FORK 2-23B4	COASTAL O&G	169,180	147,935	171,166	151,938	219,976	172,651	246,338	223,628	222,836	166,798			1,892,446
LDS CHURCH 2-27B5	COASTAL O&G	159,256	161,087	177,439	179,784	185,590	158,926	163,352	177,115	192,833	181,535			1,736,917
NBU 159	COASTAL O&G	27,890	28,392	34,464	33,120	35,134	32,590	34,299	33,688	34,108	32,012	29,212		354,909
NBU 21-20B	COASTAL O&G	3,520	3,340	3,760	5,260	5,230	4,840	4,020	4,200	5,450	3,880	5,260		48,760
TEW 1-9B5	COASTAL O&G	212,629	182,828	177,181	157,239	195,687	15,552	1,729	73,099	74,517	247,439			1,337,900
WDW 1	COCHRANE RES.	35,048	31,017	32,191		28,111	22,206	18,731	13,992	8,132	14,249	16,216	16,399	236,292
NAVAJO A-1	CROSS CREEK	8,100	12,737	11,529	17,559	22,648	3,430	12,041	9,962	6,357	10,581	13,665	7,760	136,369
NAVAJO A-3	CROSS CREEK	SI 1/93	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH ISMAY 1	CROSS CREEK	8,100	12,738	11,529	17,559	22,648	3,431	12,040	9,962	6,358	10,580	13,665	7,760	136,370

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE\*  
(Other instructions  
verse side)

Budget Bureau No. 1004-0135  
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

U-31928

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL  GAS WELL  OTHER

7. UNIT AGREEMENT NAME

Tin Cup Mesa

2. NAME OF OPERATOR  
Cochrane Resources, Inc.

8. FARM OR LEASE NAME

3. ADDRESS OF OPERATOR  
PO Box 1656 Roosevelt, Utah 84066

9. WELL NO.

WDW #1

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

10. FIELD AND POOL, OR WILDCAT

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

Sec 25, T38S, R25E

14. PERMIT NO.  
43-037-31761

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

12. COUNTY OR PARISH  
San Juan

13. STATE  
Utah

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF   
FRACTURE TREAT   
SHOOT OR ACIDIZE   
REPAIR WELL

PULL OR ALTER CASING   
MULTIPLE COMPLETE   
ABANDON\*   
CHANGE PLANS

WATER SHUT-OFF   
FRACTURE TREATMENT   
SHOOTING OR ACIDIZING   
(Other)

REPAIRING WELL   
ALTERING CASING   
ABANDONMENT\*

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

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.)\*

By this notice, Cochrane Resources, Inc. would like to request the following:

1. A Maximum allowable pressure of 1405 psig be approved to December 31, 1998 to allow us to continue to treat the well and clean up the perforations.

Approved by the  
Utah Division of  
Oil, Gas and Mining  
Date: 10-9-98  
By: [Signature]

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

SIGNED [Signature]

TITLE President

DATE September 29, 1998

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

COPY SENT TO OPERATOR  
Date: 10-16-98  
Initial: [Signature]

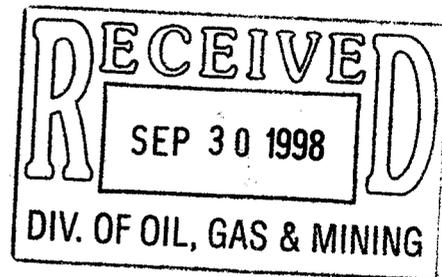
\*See Instructions on Reverse Side

**COCHRANE RESOURCES, INC.**

Engineering  
Wellsite Supervision  
Lease Operating

P.O. Box 1656  
Roosevelt, Utah 84066  
Phone (801) 722-5081

September 29, 1998



State of Utah  
Department of Natural Resources  
Division of Oil, Gas, & Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Re: Tin Cup Mesa  
WDW #1  
Sec 25, T38S, R25E San Juan County, Utah  
API No. 43-037-31761

Dear Sir:

The subject well was approved as a disposal well on May 3, 1995. At that time the maximum allowable pressure was 1405 psig until January 1, 1996, at which time the allowed pressure would be 1310 psig.

The well is disposing of water in the Cutler Formation thru perfs at 2914' - 3258'. The packer is ~~wet~~ <sup>set</sup> at 2475', with additional Cutler perfs at 2410' - 2466'.

In the past few months we have had trouble with the pressure on the subject disposal well. The problem is due to pumping trash down the hole and plugging the perfs. We have had some success working on the well and have gotten the pressure down to 1400 psi. We are continuing to work on the problem and are hopeful that we can get the pressure back below 1300 psi.

I would therefore like to request that our maximum pressure be increased to 1405 psi for 3 months to allow us to continue to treat the well.

Thank you for your consideration.

Yours truly,

A handwritten signature in cursive script, appearing to read "Ken Allen".

Ken Allen

**COCHRANE RESOURCES, INC.**

Engineering  
Wellsite Supervision  
Lease Operating

P.O. Box 1656  
Roosevelt, Utah 84066  
Phone (801) 722-5081

February 22, 1999

State of Utah  
Department of Natural Resources  
Division of Oil, Gas, & Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

RECEIVED  
FEB 22 1999  
DIVISION OF OIL, GAS & MINING

Re: Tin Cup Mesa  
WDW #1  
Sec 25, T38S, R25E San Juan County, Utah  
API No. 43-037-31761

Dear Sir:

The subject well was approved as a disposal well on May 3, 1995. At that time the maximum allowable pressure was 1405 psig until January 1, 1996, at which time the allowed pressure would be 1310 psig.

The well is disposing of water in the Cutler Formation thru perfs at 2914' - 3258'. The packer is set at 2475', with additional Cutler perfs at 2410' - 2466'.

The frac pressure on the well is considered to be 1310 psi from the step rate test in 1995. In the last 4 years the pressure has fluctuated up and down between 1240 and 1450 psi.

By this letter I would like to apply for permission to dispose of water above the allowed pressure of 1310 psi for the following reasons.

1. Before the well was approved for disposal in 1995 it was a water source well for the Tin cup Unit water flood. There was approximately 5,000,000 bbls of water produced from this well that was used for water flood. Since the well was converted to disposal there have been 1,350,000 bbls of water injected into it, leaving the well some 3,650,000 bbls short of where it started.

2. The top interval that we are injecting into is 530' below the top of the Cutler formation and 440' below the perforations that are above the packer. If an increase in injection pressure should result in a vertical fracture being created thru 440' of shale it would be detected by the perfs at 2410' - 2466' and result in an increase in pressure on the csg. I find it hard to believe that we could ever

create a fracture of this magnitude, but if we did and had our csg pressure increase, the water would still be contained in the Cutler formation.

3. The well has 1489' of 9 5/8" surface csg set which will cover the fresh water zones in the area. The interval from 1489' to TD at 3414' is covered with 7" csg and has good cement bond. The well is in good mechanical condition and is capable of handling pressures up to 3100 psi.

Because of the history and performance of the well I would like to request that we be allowed to dispose of water at up to 1500 psi. Please let me know if you require additional information.

Yours truly,



Ken Allen

TIN CUP MESA WDW NO. 1  
 TIN CUP FIELD  
 Unit E, 1880' FNL & 745' FWL  
~~Section 30, T-19-S, R-37-E~~  
 San Juan County, Utah

TD: 3415'      PBSD: 3315'  
 KB: 5001'      GL: 4988'

SURFACE: 9 5/8", 40 lb/ft., set to 1489'.  
 Cemented with 610 sxs. Cement circ'd.

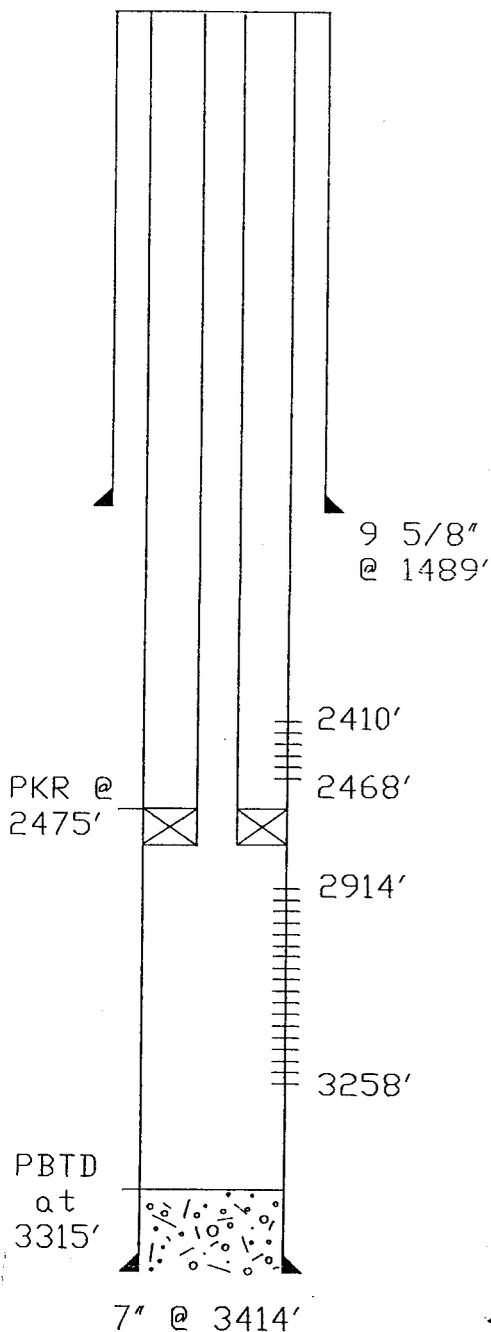
PRODUCTION: 7", 23 lb/ft, N-80, set at  
 3414'. Cemented with 429 sxs. Cement  
 top at 1400' by CBL.

TUBING: 3 1/2", 9.3 lb/ft, J-55, EUE,  
 IPC to a Baker 47B4 Lok-Set packer  
 at 2475'.

PRESENT COMPLETIONS:      CUTLER

ACTIVE: 2914-24', 2932-46', 3001-13',  
 3026-36', 3106-16', 3188-96',  
 3246-58'.

INACTIVE: 2410-24', 2438-50' and  
 2458-68'.



HISTORY: Drilled and completed on <sup>June-1984</sup> ~~9/07/95~~ as a water supply well.  
 Converted well to disposal service on 5/22/95.

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>8910203910</b>
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Water Disposal</u>		7. UNIT or CA AGREEMENT NAME: <b>Tin Cup Mesa</b>
2. NAME OF OPERATOR: <b>Cochrane Resources, Inc.</b>		8. WELL NAME and NUMBER: <b>Tin Cup Mesa Unit #1G</b> <i>WOW!</i>
3. ADDRESS OF OPERATOR: <b>PO Box 1656 Roosevelt UT 84066</b>		9. API NUMBER: <b>4303731761</b>
4. LOCATION OF WELL FOOTAGES AT SURFACE: <b>1888' FNL 745' FWL</b>		10. FIELD AND POOL, OR WILDCAT: <b>Tin Cup Mesa</b>
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SWNW 25 38S 25E</b>		COUNTY: <b>San Juan</b>
		STATE: <b>UTAH</b>

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: <b>3/25/2007</b>	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Repair hole in tbg</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

A hole developed in the tbg, detected by pressure on the csg.

1. The tbg and packer were pulled and the hole found.
2. The packer was moved uphole to 2368', above all perforations
3. The csg was tested to 1000 psi for 10 min and the well was put back in use. Csg is being monitored.
4. Maximum surface injection pressure is 1405 psi.

NAME (PLEASE PRINT) <u>Ken Allen</u>	TITLE <u>President</u>
SIGNATURE <u><i>Ken Allen</i></u>	DATE <u>4/2/2007</u>

(This space for State use only)

**RECEIVED**

**APR 03 2007**

DIV. OF OIL, GAS & MINING

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET**

<b>ROUTING</b>
1. DJJ
2. CDW

**X - Change of Operator (Well Sold)**

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:

**4/1/2008**

<b>FROM:</b> (Old Operator): N7015-Cochrane Resources, Inc PO Box 1656 Roosevelt, UT 84066  Phone: 1 (435-722-5081)	<b>TO:</b> ( New Operator): N8195-Mar/Reg Oil Company PO Box 18148 Reno, NV 89511  Phone: 1 (775) 852-7444
--	---

<b>CA No.</b>		<b>Unit:</b>		<b>TIN CUP MESA</b>				
<b>WELL NAME</b>	<b>SEC</b>	<b>TWN</b>	<b>RNG</b>	<b>API NO</b>	<b>ENTITY NO</b>	<b>LEASE TYPE</b>	<b>WELL TYPE</b>	<b>WELL STATUS</b>
<b>SEE ATTACHED LIST</b>								

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 6/4/2008
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 6/3/2008
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 6/23/2008
- a. Is the new operator registered in the State of Utah:                      Business Number: 1267088-0143
- b. If **NO**, the operator was contacted on:
- a. (R649-9-2)Waste Management Plan has been received on: IN PLACE
- b. Inspections of LA PA state/fee well sites complete on:
- c. Reports current for Production/Disposition & Sundries on: ok
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM 5/28/2008 BIA
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: 5/28/2008
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
- Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 7/2/2008

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 7/1/2008
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 7/1/2008
- Bond information entered in RBDMS on: n/a
- Fee/State wells attached to bond in RBDMS on: n/a
- Injection Projects to new operator in RBDMS on: n/a
- Receipt of Acceptance of Drilling Procedures for APD/New on: n/a

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: UTB000019
- Indian well(s) covered by Bond Number: n/a
- a. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number n/a

**COMMENTS:**

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**SEE ATTACHED**

**SUNDRY NOTICES AND REPORTS ON WELLS**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME:  
**SEE ATTACHED**

1. TYPE OF WELL  
OIL WELL  GAS WELL  OTHER \_\_\_\_\_

8. WELL NAME and NUMBER:  
**SEE ATTACHED**

2. NAME OF OPERATOR:  
**COCHRANE RESOURCES, INC. N7015**

9. API NUMBER:

3. ADDRESS OF OPERATOR:  
PO BOX 1656 CITY ROOSEVELT STATE UT ZIP ~~84606~~

PHONE NUMBER:  
(435) 722-5081

10. FIELD AND POOL, OR WILDCAT:  
**TIN CUP MESA**

4. LOCATION OF WELL  
FOOTAGES AT SURFACE: **SEE ATTACHED; EXHIBIT "A"** **84066**

COUNTY: **SAN JUAN**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: **UTAH**

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <b>CHANGE OF OPERATOR</b>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The successor Operator for this well will be:  
Mar/Reg Oil Company  
PO Box 18148 **N8195**  
Reno, NV 89511  
(775) 852-7444

Agreed and accepted this 2nd day of June 2008  
**effective April 1, 2008**

Mar/Reg Oil Company  
By: Rhonda Ahmad  
Rhonda Ahmad  
President  
Mar/Reg State Wide Bond # is UTB000019

NAME (PLEASE PRINT) KEN ALLEN

TITLE PRESIDENT

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

(This space for State use only)

**APPROVED 7/1/2008**

*Earlene Russell*  
Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician

(5/2000)

(See Instructions on Reverse Side)

**RECEIVED**

**JUN 03 2008**

**DIV. OF OIL, GAS & MINING**

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>SEE ATTACHED</b>
2. NAME OF OPERATOR: COCHRANE RESOURCES, INC. <i>N7015</i>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: PO BOX 1656 CITY ROOSEVELT STATE UT ZIP <i>84606</i>		7. UNIT or CA AGREEMENT NAME: <b>SEE ATTACHED</b>
PHONE NUMBER: (435) 722-5081		8. WELL NAME and NUMBER: <b>SEE ATTACHED</b>
4. LOCATION OF WELL FOOTAGES AT SURFACE: <b>SEE ATTACHED; EXHIBIT "A"</b> <i>84066</i>		9. API NUMBER:
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:		10. FIELD AND POOL, OR WILDCAT: <b>TIN CUP MESA</b>
COUNTY: <b>SAN JUAN</b>		STATE: <b>UTAH</b>

**11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <b>CHANGE OF OPERATOR</b>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The successor Operator for this well will be:  
Mar/Reg Oil Company  
PO Box 18148  
Reno, NV 89511  
(775) 852-7444

Agreed and accepted this 3rd day of June 2008

Mar/Reg Oil Company

By: \_\_\_\_\_  
Rhonda Ahmad  
President  
Mar/Reg State Wide Bond # is UTB000019

NAME (PLEASE PRINT) <u>KEN ALLEN</u>	TITLE <u>PRESIDENT</u>
SIGNATURE <u><i>Ken Allen</i></u>	DATE <u>6-3-2008</u>

(This space for State use only)  
**APPROVED 7/1/2008**  
*Earlene Russell*  
Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

**RECEIVED**  
**JUN 04 2008**  
DIV. OF OIL, GAS & MINING

## Exhibit A Well List

### Tin Cup Mesa Unit Field

<u>API#</u>	<u>Lease Type</u>	<u>Well Name</u>	<u>Well Type</u>	<u>County</u>	<u>Location</u>	<u>Utah Entity #</u>
43-037-30690	Federal	TIN CUP MESA 1-25	Water Injection Well	SAN JUAN	25 SWNW T38S R25E	2765
43-037-30762	Federal	TIN CUP MESA 3-26	Oil Well	SAN JUAN	26 NWNE T38S R25E	2765
43-037-30808	Federal	TIN CUP MESA 2-23	Oil Well	SAN JUAN	23 SESW T38S R25E	2765
43-037-30815	Federal	TIN CUP MESA 3-23	Oil Well	SAN JUAN	23 SWSW T38S R25E	2765
43-037-30941	Federal	TIN CUP MESA 4-26	Oil Well	SAN JUAN	26 SENE T38S R25E	2765
43-037-30983	Federal	TIN CUP MESA 2-25	Oil Well	SAN JUAN	25 NWSW T38S R25E	2765
43-037-31020	Federal	TIN CUP MESA 3-25	Oil Well	SAN JUAN	25 SESW T38S R25E	2765
43-037-31145	Federal	TIN CUP MESA 4-25	Oil Well	SAN JUAN	25 SESW T38S R25E	2765
43-037-31368	Federal	TIN CUP MESA 5-26	Oil Well	SAN JUAN	26 SWNE T38S R25E	2765
43-037-31540	Federal	TIN CUP MESA 6-26	Oil Well	SAN JUAN	26 NESE T38S R25E	2765
43-037-31761	Federal	WDW 1	Water Disposal Well	SAN JUAN	25 SWNW T38S R25E	



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155  
<http://www.blm.gov/ut/st/en.html>



IN REPLY REFER TO  
3180  
UT-922

May 28, 2008

Mar/Reg Oil Company  
P. O. Box 18148  
Reno, Nevada 89511

Re: Tin Cup Mesa Unit  
San Juan County, Utah

Dear Ms. Ahmad:

On May 23, 2008, we received an indenture dated May 7, 2008, whereby Cochrane Resources, Inc. resigned as Unit Operator and Mar/Reg Oil Company was designated as Successor Unit Operator for the Tin Cup Mesa Unit, San Juan County, Utah.

This indenture was executed by all required parties and the signatory parties have complied with Sections 5 and 6 of the unit agreement. The instrument is hereby approved effective May 28, 2008. In approving this designation, the Authorized Officer neither warrants nor certifies that the designated party has obtained all required approval that would entitle it to conduct operations under the Tin Cup Mesa Unit Agreement.

Your statewide oil and gas bond no. UTB000019 will be used to cover all operations within the Tin Cup Mesa Unit.

It is requested that you notify all interested parties of the change in unit operator. Copies of the approved instruments are being distributed to the appropriate agencies, with one copy returned herewith.

Sincerely,

*/s/ Becky J. Hammond*

Becky J. Hammond  
Chief, Branch of Fluid Minerals

Enclosure

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

UIC FORM 57

**TRANSFER OF AUTHORITY TO INJECT**

Well Name and Number <b>WDW 1</b>		API Number <b>4303731761</b>
Location of Well Footage: <b>1888 FNL 745 FWL</b> County: <b>San Juan</b>		Field or Unit Name <b>Tin Cup Mesa Unit</b>
QQ, Section, Township, Range: <b>SWNW 25 38S 25E</b> State: <b>UTAH</b>		Lease Designation and Number <b>8910203910</b>

**EFFECTIVE DATE OF TRANSFER:** 5/1/2008

**CURRENT OPERATOR**

Company: <u>Cochrane Resources, Inc.</u>	Name: <u>See Attached</u>
Address: <u>PO Box 1656</u>	Signature: _____
<u>city Roosevelt state UT zip 84066</u>	Title: _____
Phone: _____	Date: _____
Comments: _____	

**NEW OPERATOR**

Company: <u>Mar/Reg Oil Company</u>	Name: <u>Rhonda Ahmad</u>
Address: <u>PO Box 18148</u>	Signature: <u>Rhonda Ahmad</u>
<u>city Reno state NV zip 89511-0148</u>	Title: <u>President</u>
Phone: <u>(775) 852-7444</u>	Date: <u>6/27/08</u>
Comments: _____	

(This space for State use only)

Transfer approved by: D. Janni  
Title: UIC Geologist

Approval Date: 7-2-08

Comments: This well has open perforations above the packer. This well will require daily monitoring of the casing/tubing annulus

**RECEIVED**  
**JUN 30 2008**  
DIV. OF OIL, GAS & MINING

**TRANSFER OF AUTHORITY TO INJECT**

Well Name and Number Tin Cup Mesa Unit # 1 C	API Number 4303731761
Location of Well Footage : 1888' FNL 745" FWL County : San Juan QQ, Section, Township, Range: SWNW 25 38S 25E State : UTAH	Field or Unit Name Tin Cup Mesa Lease Designation and Number Unit # 1 C 8910203910

EFFECTIVE DATE OF TRANSFER: 4/1/2008

**CURRENT OPERATOR**

Company: <u>Cochrane Resources, Inc.</u>	Name: <u>Ken Allen</u>
Address: <u>PO Box 1656</u>	Signature: <u><i>Ken Allen</i></u>
<u>city Roosevelt state UT zip 84066</u>	Title: <u>President</u>
Phone: <u>(435) 722-5081</u>	Date: <u>6/25/2008</u>
Comments:	

**NEW OPERATOR**

Company: _____	Name: <u><i>See attached</i></u>
Address: _____	Signature: _____
<u>city state zip</u>	Title: _____
Phone: _____	Date: _____
Comments:	

(This space for State use only)

*See Attached*

Transfer approved by: \_\_\_\_\_ Approval Date: \_\_\_\_\_  
Title: \_\_\_\_\_

Comments:

**RECEIVED**  
**JUN 27 2008**

DIV. OF OIL, GAS & MINING

## Inspection Documentation

Operator and Facility:

MAR/REG Oil Company

WDW 1

SENW Sec 25, T. 38 S, R. 25 E, San Juan County, Utah

43 037 31761

Date:

July 8, 2010

Participants:

Bart Kettle-Division of Oil, Gas and Mining (DOG M), Tariq Ahmad MAR/REG Oil Company

Reason for Inspection/Conversation:

5 year MIT, communication between perms in the Cutler formation

Highlights of Conversation:

History leading into conversation: On June 1, 2010 Division issue a letter requesting a MIT be preformed on the WDW 1 well. One June 8, 2010 through a series of correspondence between the Division and Mr. Ahmad it was determined a RATS survey would be preformed to demonstrate integrity. On July 6, 2010 Mr. Ahmad requested a variance from a RATS survey citing difficulty finding service providers to perform survey. Mr. Ahmad requested permission instead to pressure up the tubing and monitor the backside instead-the Division denied this request, requiring a RATS survey.

On July 8, 2010 Mr. Ahmad contacted the Division stating MAR/REG Oil Company had pressured up the tubing and observed communication pressure on the casing. Due to these conditions he acknowledge the WDW 1 was unable to demonstrate integrity. Mr. Ahmad requested permission to shut-in the well until a course of action could be determined.

The Division informed Mr. Ahmad that injection wells are allowed 120 days to be repaired or plugged.

Mr. Ahmad commented MAR/REG Oil Company intended to convert the well back to a water supply well.

The Division requested that Mr. Ahmad submit a Sundry notice detailing events surrounding the well including pressures on the tubing, observed pressures on the tubing/casing annuals, packer depth. Also included should be as Plan of Action from MAR/REG for the WDW 1 well. Mr. Ahmad was once again informed MAR/REG has 120 days to repair or plug the well.

Mr. Ahmad discussed MAR/REG Oil Company would consider squeezing the upper perms in the Culter or convert the well back to a water supply well and submit their determinations on a Sundry Notice.

Signature



Date

07/08/2010

**Dan Jarvis - Re: Press. for Mechanical Integrity, WDW 1 Well-API# 43-037-31761Your letter dated 6/1/2010.**

**From:** Bart Kettle  
**To:** Mobashir Ahmad  
**Date:** 6/8/2010 9:29 AM  
**Subject:** Re: Press. for Mechanical Integrity, WDW 1 Well-API# 43-037-31761Your letter dated 6/1/2010.  
**CC:** Dan Green; Dan Jarvis; Tariq Ahmad

38S 25E 25

Mr. Ahmad,

Request for changes to packer setting depths will require a signed Sundry Notice or letter be submitted to the Division. Injection approval is for 2500'-3258', bringing a packer up hole above 2410' may test casing integrity from that depth to surface, but will require the packer to be released, and set lower for injection below 2500'. Once the packer has been released and reset, mechanical integrity is no longer demonstrated as the resetting of the packer hasn't been tested. Therefor the Division recommends one of the following:

- 1.) Remedial cement job to squeeze perfs between 2410'-2468', allowing standard annuals pressure tests to be conducted every five years (preferred option).
- 2.) Conduct annual RAT's surveys to demonstrate mechanical integrity along with daily monitoring of casing/tubing annuals.

Bart Kettle  
 Environmental Scientist  
 Office 435-613-3734  
 Cellular 435-820-0862

>>> Mobashir Ahmad <mobashir.ahmad@yahoo.com> 6/7/2010 11:05 AM >>>

Dear Mr. Kettle,

Reference our conversation earlier this morning, regarding the above well. The following are the details for this well:

1. KB: 5001', GL: 4988', TD: 3415', PBTD: 3315'  
 (Depths are from KB & both set of perforations are in the Cutler formation)
2. The well produced water from perfs at 2410-2468 ft (2410-24; 2438-50; & 2458-68), packer is now at 2477.69'.
3. Injection perfs are from 2914-24; 29332-45; 3001-13; 3026-36; 3106-16; 3188-96; & 3246-58'
4. The Transfer for Authority to Inject, state of UT, dated 7/2/08, states: This well has open perforations above the packer. This well will require daily monitoring of the casing/tubing annulus.

We suggest that we be allowed to move the packer above the shallower perforations; move packer above 2410' KB. Please allow us to do so in writing so that we may initiate our own pressure test to ensure that the scheduled test will meet the DOGM's requirements.

Sincerely,

Mobashir Ahmad  
Petroleum Engineer  
For MAR/REG Oil Company  
Cell# 775-742-1032



JON M. HUNTSMAN, JR.  
Governor

GARY R. HERBERT  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

June 1, 2010

MAR/REG Oil Company  
P. O. Box 18148  
Reno, NV 89511

385 25E 25

SUBJECT: Pressure Test for Mechanical Integrity, WDW 1 Well (API# 43-037-31761), San Juan County, Utah:

To Whom It May Concern:

The Underground Injection Control Program, which the Division of Oil, Gas and Mining (DOGM) administers in Utah, requires that all Class II injection wells demonstrate mechanical integrity. Rule R649-5-5.3 of the Oil and Gas Conservation General Rules requires that the casing-tubing annulus above the packer be pressure tested at a pressure equal to the maximum authorized injection pressure or 1,000 psi, whichever is lesser, provided that no test pressure is less than 300 psi. This test shall be performed at least every five-year period beginning October 1982. The following well now requires a current test:

WDW 1                      43-037-31761

Please make arrangements and ready wells for testing during the week of June 21st, 2010, as outlined below:

1. Operator must furnish connections, and accurate pressure gauges, hot oil truck (or other means of pressuring annulus), along with personnel to assist in opening valves, etc.
2. The casing-tubing annulus shall be filled prior to the test date to expedite testing, as each well will be required to hold pressure for a minimum of 15 minutes.
3. If mechanical difficulties or workover operations make it impossible for the well(s) to be tested on this date the test(s) may be rescheduled.
4. Company personnel should meet a DOGM representative(s) at the field office or other location as negotiated.



Page 2  
June 1, 2010  
Mar/Reg Oil Company

5. All bradenhead valves with exception of the tubing on the injection well(s) must be shut-in 24 hours prior to testing.

Please contact me at (435) 820-0862 to arrange a meeting time and place or to negotiate a different date, if the date(s) specified is unacceptable.

Sincerely,



Bart Kettle  
Environmental Scientist

bk/dj/js

cc: Dan Jarvis, Operations Manager  
Well File

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

5. LEASE DESIGNATION AND SERIAL NUMBER:  
U-31928

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:  
Tin Cup Mesa

8. WELL NAME and NUMBER:  
WDW# 1

9. API NUMBER:  
4303731761

10. FIELD AND POOL, OR WILDCAT:  
Tin Cup Mesa

1. TYPE OF WELL OIL WELL  GAS WELL  OTHER Water Disposal Well

2. NAME OF OPERATOR:  
Mar/Reg Oil Company

3. ADDRESS OF OPERATOR:  
P.O. Box 18148 CITY Reno STATE NV ZIP 89511

PHONE NUMBER:  
(775) 333-6626

4. LOCATION OF WELL  
FOOTAGES AT SURFACE: 1888' FNL, 745' FWL

COUNTY: San Juan

STATE: UTAH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNW 25 38S 25E S

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>9/7/2010</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input checked="" type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input checked="" type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Inactive</u>
	<input checked="" type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Today, on 7/9/2010, Mar/Reg has ceased all water disposal/injection into this well. Mar/Reg would like to convert this well from a water disposal well, WDW# 1, permitted as a water disposal well on 5/5/1995, to a water supply well, WSW# 1, the well's original function, for water injection into the field. Please also change the name of this well from WDW# 1 to WSW# 1.

KB-5001', GL-4988'. Packer is at a depth of approximately 2478' from GL. Mar/Reg is instituting a field wide water flood and as such requires water from this well. This well used to produce water from the Cutler formation and subsequently was injecting to a lower portion of the same formation. Please see attached Tin Cup-Water Disposal Well Summary, dated 6/4/2010 & a previous letter from Marathon Oil Company to your department dated 3/2/1995. The reinstated water flood is to be in the Upper Ismay formation as before.

ATTACHED:

1. Tin Cup Water Disposal Well Summary, 6/4/2010-1 page.
2. Letter from Marathon Oil Co., to your department, 3/2/1995-1 page.

COPY SENT TO OPERATOR

Date: 8/5/2010

Initials: KS

NAME (PLEASE PRINT) Tariq Ahmad  
SIGNATURE [Signature]

TITLE Petroleum Engineer  
DATE 7/9/2010

(This space for State use only)

REQUEST DENIED  
Utah Division of  
Oil, Gas and Mining

Date: 7/27/10

By: [Signature]

(See Instructions on Reverse Side)

\* Please provide proper plugback proposal and evidence of water right (R669-3-24-6)

RECEIVED  
JUL 14 2010

DIV. OF OIL, GAS & MINING

**Tin Cup-Water Disposal Well Summary**

**WDW#1-API-43-037-31761**

1180' FNL & 745' FWL, SECTION 30, T19S, R37E, SLM

KB: 5001', GL: 4988'

TD: 3415', PBD: 3315'

1. Originally this well was a water supply well and was given a permit UIC-158, so it converted into a water disposal well on 10/24 or 29/1995, received by Maraton on 11/14/1995. With the following conditions:

- I. Approval for conversion to injection well issued on 5/3/1995.
- II. Max. pressure: 1405 psig.
- III. Max. injection rate: 2200 bwpd.
- IV. Inj. Interval: 2,500 ft to 3258 ft in the Cutler Formation.
- V. Approval to inject at 1405 psig until 1/1/96 and then to 1310 psig.
- VI. Casing-tubing fluid level shall be monitored on a daily basis.
- VII. Should annulus fluid level increase, injection shall cease and the Division will be notified.

(Measurements from KB & both set of perforations are in the Cutler Formation)

2. The well produced water from perfs at 2410-2468 ft (2410-24; 2438-50; & 2458-68), packer is now at 2477.69'.

3. Injection perfs in Cutler are from 2914-24.; 29332-45; 3001-13'; 3026-36; 3106-16; 3188-96; & 3246-58'

4. Letter from Cochrane Resources by Ken Allen, 2/22/199, states:

- I. Frac. Pressure is 1310 psig. Press. in last 4 yrs varied from 1240 to 1450 psig.
- II. When well was a water supply well then around 5 mmbbls of water were withdrawn.
- III. Since converted to disposal well 1.35 mmbbls of water were injected.
- IV. Top of interval being injected to (2914') is (2914-2468) = 446' below so if a vertical fracture through this shale then will see an increase in pressure on the csg. Even if a fracture then water will still be contained in top perfs.
- V. Asked for an injection pressure to 1500 psig.

4. Then on 4/2/2007, Ken Allen states that he has moved the packer to 2368' measured from GL, This was not the case when we pulled out the packer as it was 2464.48' below GL. Thus this was never done.

5. The Transfer for Authority to Inject, state of UT, dated 7/2/08, states:  
This well has open perforations above the packer: This well will require daily monitoring of the casing/tubing annulus.

Mobashir  
6/4/2010

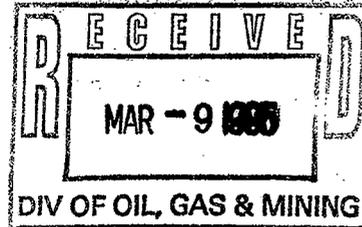
Mid-Continent Region  
Production United States



**Marathon  
Oil Company**

P.O. Box 2409  
Hobbs, NM 88241-2409  
Telephone 505/393-7106 212

March 2, 1995



State of Utah  
Department of Natural Resources  
Division of Oil, Gas, and Mining  
335 West North Temple  
3 Triad Center, Suite 340  
Salt Lake City, Utah 84108-1203  
(801) 538-5340 (Ph)  
(801) 359-3940 (Fax)

RE: Application for Disposal Well  
Tin Cup Mesa WSW No. 1  
Section 25, T-38-S, R-25-E  
San Juan County, Utah  
Lease No. U-31928

Marathon Oil Company respectfully requests permission to convert the Tin Cup Mesa WSW No. 1 to a disposal well. The Tin Cup Mesa Unit currently produces 105 BOPD, 40 MCFPD, and 2000 BWPD from the Upper Ismay pool; the produced water is re-injected into the Upper Ismay at average pressures of 2500 psig while the Water Supply Well remains shut-in. The Tin Cup Mesa WSW No. 1 is shut-in because of poor economics associated with operating costs.

The conversion of the Tin Cup Mesa WSW No. 1 to a disposal well will prevent the Tin Cup Mesa Unit from being prematurely abandoned. The costs associated with the current high pressure injection make the field marginally economic. The WSW is targeted for its low pressure disposal which would allow reduced operating expenses thereby lengthening the producing life and significantly reducing environmental exposure.

Upon approval of this application to convert the Tin Cup Mesa WSW No. 1 to a disposal well, the well name should be changed to the Tin Cup Mesa WDW No. 1. Moreover, the following application for disposal will use the proposed name for reference. The attached application is subject to requirements by R649-5-2 (requirements for Class II Injection Wells Including Water Disposal, Storage, and Enhanced Recovery Wells).

Sincerely,

A handwritten signature in black ink, appearing to read 'Rod J. Prosceno'.

Rod J. Prosceno  
Northwest Operations  
Operations Engineer

RJP/9504/kc  
Attachments

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:  
U-31928

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:  
Tin Cup Mesa

8. WELL NAME and NUMBER:  
WDW# 1

9. API NUMBER:  
4303731761

10. FIELD AND POOL, OR WILDCAT:  
Tin Cup Mesa

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL  GAS WELL  OTHER Water Disposal Well

2. NAME OF OPERATOR:  
Mar/Reg Oil Company

3. ADDRESS OF OPERATOR:  
P.O. Box 18148 CITY Reno STATE NV ZIP 89511

PHONE NUMBER:  
(775) 333-6626

4. LOCATION OF WELL  
FOOTAGES AT SURFACE: 1888' FNL, 745' FWL

COUNTY: San Juan

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNW 25 38S 25E S

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>10/11/2010</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input checked="" type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input checked="" type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Isolate perforations</u>
	<input checked="" type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Change status to water supply well and change name from WDW#1 to WSW#1.

Mar/Reg will install a CIBP, 5 feet above lower perforations. at 2896 feet depth from GL and 2 sacks of cement will be set on top.

**COPY SENT TO OPERATOR**

Mar/Reg owns the water rights under Water Right: 09-1338, for 0.25 cfs.

Date: 10.21.2010

Initials: KS

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

Date: 10/19/10

By: [Signature]

*see conditions below.*

**Federal Approval of this  
Action is Necessary**

NAME (PLEASE PRINT) Tariq Ahmad

TITLE Petroleum Engineer

SIGNATURE [Signature]

DATE 10/5/2010

(This space for State use only)

*Please notify Dan Jarvis at  
801-538-5338 48 hrs prior  
to setting CIBP*

**RECEIVED**

**OCT 07 2010**

**DIV. OF OIL, GAS & MINING**

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-31928
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>1. TYPE OF WELL</b> Water Disposal Well		<b>7. UNIT or CA AGREEMENT NAME:</b> TIN CUP MESA
<b>2. NAME OF OPERATOR:</b> MAR/REG OIL COMPANY		<b>8. WELL NAME and NUMBER:</b> WDW 1
<b>3. ADDRESS OF OPERATOR:</b> PO Box 18148 , Reno, NV, 89511		<b>9. API NUMBER:</b> 43037317610000
<b>PHONE NUMBER:</b> 755 852-7444 Ext		<b>9. FIELD and POOL or WILDCAT:</b> TIN CUP MESA
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1888 FNL 0745 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNW Section: 25 Township: 38.0S Range: 25.0E Meridian: S		<b>COUNTY:</b> SAN JUAN
		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>6/10/2012</b>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> OTHER	OTHER: <input type="text" value="Squeeze Cement"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Place RBP at 2510, place 2 sacks sand, squeeze perms with 25 sx cement. Place packer at 2500 ft, test casing to 1000 psi.

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** June 08, 2012

**By:** 

<b>NAME (PLEASE PRINT)</b> Tariq Ahmad	<b>PHONE NUMBER</b> 775 852-7444	<b>TITLE</b> Petroleum Engineer
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/30/2012	



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Sundry Conditions of Approval Well Number 43037317610000**

**Please notify Bart Kettle at 435-820-0862 48 hours prior to conducting operations.**

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-31928
1. TYPE OF WELL Water Disposal Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: MAR/REG OIL COMPANY	7. UNIT or CA AGREEMENT NAME: TIN CUP MESA
3. ADDRESS OF OPERATOR: PO Box 18148 , Reno, NV, 89511	8. WELL NAME and NUMBER: WDW 1
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1888 FNL 0745 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 25 Township: 38.0S Range: 25.0E Meridian: S	9. API NUMBER: 43037317610000
PHONE NUMBER: 755 852-7444 Ext	9. FIELD and POOL or WILDCAT: TIN CUP MESA
	COUNTY: SAN JUAN
	STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

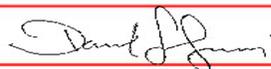
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <b>5/31/2012</b>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text" value="Request"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Request permission to inject water in disposal well for a maximum period of 4 weeks.

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** June 08, 2012

**By:** 

<b>NAME (PLEASE PRINT)</b> Tariq Ahmad	<b>PHONE NUMBER</b> 775 852-7444	<b>TITLE</b> Petroleum Engineer
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/30/2012	



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Sundry Conditions of Approval Well Number 43037317610000**

**Operator will cease injection after 30 days (7-8-2012). Injection can resume after all perforations above 2500 feet have been squeezed off and a mechanical integrity test has been conducted.**

## Dan Jarvis - Tin Cup MIT's

**From:** Bart Kettle  
**To:** Tariq Ahmad  
**Date:** 7/13/2012 3:38 PM  
**Subject:** Tin Cup MIT's  
**CC:** Dan Jarvis; dgreen@pemc.us

38 S 25 E 25

Tariq,

Per our conversation earlier today authority to inject will be granted following MIT's for the WDW 1 (43-037-31761) and Tin Cup Mesa 1-25 (43-037-30690). Because a pressure loss was observed, as part of the authority to inject the Division requires that injection pressure on the tubing and annular pressure on the casing is monitored and recorded daily on a meter chart. The scheduled MIT interval will be 24 months. If you have questions, feel free to contact me.

Bart Kettle  
Environmental Scientist  
Office 435-613-3734  
Cellular 435-820-0862



Page 2  
August 12, 2014  
MAR/REG Oil Company

5. All bradenhead valves with exception of the tubing on the injection well(s) must be shut-in 24 hours prior to testing.

Please contact me at (435) 820-0862 to arrange a meeting time and place or to negotiate a different date, if the date(s) specified is unacceptable.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bart Kettle', written over a horizontal line.

Bart Kettle  
Environmental Scientist

bk/dj/js

cc: Dan Jarvis, Operations Manager  
Well File



GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

March 3, 2016

Certified Mail #70150640000352759796

Mar/Reg Oil Company.  
P. O. Box 18148  
Reno, NV 89511

SUBJECT: Plan of action for WDW 1, API# 43-037-31761, San Juan County, Utah:

25 38S 25E

Gentlemen:

On March 1, 2016 the WDW 1 well was observed to have equalized tubing and annulus pressure at 250 psi. Observation collected at the well site indicates this well does not have mechanical integrity. I'm issuing this letter as a reminder that under the Underground Injection Control program (UIC) operators are allowed 180 days to plug or repair Class II UIC wells with compromised mechanical integrity. Plans to repair, or plug well shall be submitted to the Division within 30 days, by April 4, 2016. Well shall be repaired or plugged within 180 days or by August 30, 2016.

Response should be directed to:

Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, UT 84114-5801

If you have questions feel free to contact me at (435) 820-0862.

Sincerely,

Bart Kettle  
Environmental Scientist

bk/dj/js

cc: Dan Jarvis, Operations Manager  
Compliance File  
*Well File*



UTAH DEPARTMENT OF NATURAL RESOURCES  
Division of Oil, Gas & Mining  
Oil and Gas Program  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, UT 84114-5801  
(801) 538-5340 Phone  
(801) 359-3940 Fax

**NOTICE OF VIOLATION  
STATE OF UTAH  
OIL AND GAS CONSERVATION ACT**

**TO THE FOLLOWING OPERATOR:**

Name: Mar/Reg Oil Company  
Mailing Address: PO Box 18148  
Reno, NV 89511  
Well or Site: WDW 1  
API: 43-037-31761  
Location: Section: 25 Township 38 S Range 25 E County San Juan  
Date of Inspection: 03/03/2016

Under the authority of the Utah Oil and Gas Conservation Act, Section 40-6 et. Seq., Utah Code Annotated, 1953, as amended, the undersigned authorized representative of the Utah Division of Oil, Gas and Mining, has conducted an inspection of the above described site and/or records on the above date and has found alleged violation(s) of the act, rules or permit conditions as described below.

Utah Code 40-6-11 Power to summon witnesses, administer oaths and require production of records -- Enforcement -- Penalties for violation of chapter or rules -- Illegal oil or gas -- Civil liability.

40-6-11.(4) (a) If the board determines, after an adjudicative proceeding, that any person has violated any provision of this chapter, or any permit, rule or order made under the provisions of this chapter, that person is subject, in a civil proceeding, to a penalty not exceeding \$5,000 per day for each day of violation.

40-6-11.(4) (b) If the board determines that the violation is willful, that person may be fined not more than \$10,000 for each day of violation.

**Description of Violation(s):**

**R649-5-5.3.3 Test and Monitoring if Injection Wells**

**Significant Events:**

1. October 6, 2014 conditional approval to inject granted. Injection approval contingent on operator providing constant monitoring of injection and tubing casing annulus pressures. Evidence of pressure increase in the casing tubing annulus above the packer should be reported immediately.
2. On December 23, 2014 and June 22, 2015 elevated casing tubing annulus pressures observed
3. March 3, 2016 equalized tubing and tubing casing annulus pressure observed.
4. On March 10, 2016 a letter titled " Plan of Action for WDW 1, API# 43-037-31761, San Juan County, Utah" was issued via certified mail. On April 6, 2016 the letter was returned "Return to Sender Unclaimed Unable to Forward."

**Action Required to Resolve Non-compliance item:**

Authority to inject is revoked effective immediately. Injection flow line shall be disconnected from the well.

Within 30 days operator shall:

1. Submit plans to plug or repair well to the Division

Within 180 days operator shall:

1. Repair or plug well

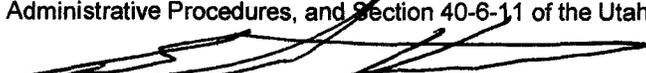
**Additional Information/Material Attached? No**

Date of Service Mailing: April 28, 2016

Certified Mail No: 7015 0640 0003 5275 9956

This notice shall remain in effect until it is modified, terminated, or vacated by a written notice of an authorized representative of the director of the Division of Oil, Gas and Mining.

Failure to resolve this violation as described above, will result in the Division pursuing enforcement action as outlined in Rule R649-10, Administrative Procedures, and Section 40-6-11 of the Utah Code.

  
Division Representative Signature

Operator Representative (if presented in person)

Name/Title: Bart Kettle/Environmental Scientist

Phone: 435-820-0862

cc: Compliance File

Josh Payne, Compliance Manager

well file



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

### Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

March 3, 2016

Certified Mail #70150640000352759796

Mar/Reg Oil Company.  
P. O. Box 18148  
Reno, NV 89511

**SUBJECT: Plan of action for WDW 1, API# 43-037-31761, San Juan County, Utah:**

Gentlemen:

On March 1, 2016 the WDW 1 well was observed to have equalized tubing and annulus pressure at 250 psi. Observation collected at the well site indicates this well does not have mechanical integrity. I'm issuing this letter as a reminder that under the Underground Injection Control program (UIC) operators are allowed 180 days to plug or repair Class II UIC wells with compromised mechanical integrity. Plans to repair, or plug well shall be submitted to the Division within 30 days, by April 4, 2016. Well shall be repaired or plugged within 180 days or by August 30, 2016.

Response should be directed to:

Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, UT 84114-5801

If you have questions feel free to contact me at (435) 820-0862.

Sincerely,

Bart Kettle  
Environmental Scientist

bk/dj/js

cc: Dan Jarvis, Operations Manager  
Compliance File





GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

May 23, 2016

Certified Mail #7015 0640 0003 5276 0068

Mar/Reg Oil Company.  
P. O. Box 18148  
Reno, NV 89511

SUBJECT: Re: NOV WDW 1 43-037-31761 Plan of action for WDW 1, API# 43-037-31761, San Juan County, Utah:

25 385 25E

Gentlemen:

The Division is in receipt of your May 5, 2016 "NOV WDW 1 43-037-31761" letter. Your letter was issued in response to a request by the Division for a plan of action for WDW 1, API# 43-037-31761 in San Juan County Utah. Observations collected at the well site indicate well requires repairs in order to demonstrate mechanical integrity. The Division is requesting notification 48 hours in advance of all planned repair work and Mechanical Integrity Tests.

Response should be directed to:

Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, UT 84114-5801

If you have questions feel free to contact me at (435) 820-0862.

Sincerely,

Bart Kettle  
Environmental Scientist

bk/dj/js

cc: Dan Jarvis, Operations Manager  
Josh Payne, Compliance and Public Outreach Manager  
Compliance File  
*Well File*

