OATÊIN	5/9/00	SUSPENSE 5/30	/w		<u></u>	LOGGED BY	KV	туре	DHC
				ABOVE THIS LINE FOR DI	VISION USE ONLY				
		NEW ME	XICO	OIL CONS	ERVAT	ION DIV	VISION		
	_			- Engineering	Bureau -				
	·	ADMINISTE	RATIV	/E APPLIC	CATION		ERSHEE	<u> </u>	
	THIS COVERSH	EET IS MANDATORY FOR		NISTRATIVE APPLICA	TIONS FOR EX	CEPTIONS TO	DIVISION RULES AN	ID REGULATI	ONS
\pplic;	[PC-	wnhole Comming Pool Comminglin [WFX-Waterfloo	ectional gling] [0 g] [0LS od Expa Water	I Drilling] [SD- CTB-Lease Co S - Off-Lease S ansion] [PMX-I Disposal] [IPI	Simultane ommingling Storage] [(Pressure N -Injection	eous Dedi g] [PLC-P OLM-Off- /laintenan Pressure	ication] ool/Lease Co Lease Measu ice Expansion Increase]	rement]]	
[1]	TYPE OF AF [A]	PLICATION Location - Spa) <u>E G</u> MAY -	- 9 2000	
	Check [B]	One Only for [Commingling	-		ement	نة 1. OL	S ONSERV	ATION D7	Viranne I
	[C]	Injection - Dis $\mathbf{\Box}_{\mathbf{WFX}}$	-	Pressure Inc	crease - E	_			
[2]	NOTIFICAT	TION REQUIRI						Not Ap	pply
	[B]	🗋 Offset Ope	rators,	Leaseholders	s or Surfa	ce Owne	r		
	[C]	Application	n is On	e Which Req	uires Put	lished L	egal Notice		
	. [D]	U.S. Bureau o		or Concurren					
	[E]	☐ For all of t	he abov	ve, Proof of 1	Notificati	on or Pul	olication is A	ttached,	and/or,
	[F]	U Waivers ar	e Attac	ched					
[3]	ו INFORMA1	TION / DATA	SUBM	ITTED IS C	OMPLE	ГЕ - Stat	tement of U	nderstan	ding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

auer Regulatory larberey Print or Type Name Signature

DISTRICT I

P.O. Box 1980, Hobbs, NM 88241-1980 **DISTRICT II** 811 South First St., Artesia, NM 88210-2835 DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410-1693

State of New Mexico Energy, Minerals and Natural Resources Department **OIL CONSERVATION DIVISION**

2040 S. Pacheco Santa Fe, New Mexico 87505-6429

Form C-107-A New 3-12-96 APPROVAL PROCESS: Administrative \underline{X} Hearing EXISTING WELLBORE X_YES ___NO

APPLICATION FOR DOWNHOLE COMMINGLING

CONOCO, INC.

P.O. BOX 2197 HOUSTON, TX 77252

SAN JUAN 28-7	59	B 29 T28N R7W	RIO ARRIBA
Lease	Well No.	Unit Ltr Sec - Twp - Rge	County
			Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 005073 Property Code 016608 API NO. 30-039-07334

Federal X , State , (and/or) Fee

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone	
1. Pool Name and Pool Code	BASIN FRUITLAND COAL 71629	BLANCO PICTURED CLIFF 72359	BLANCO MESAVERDE 72319	
2. Top and Bottom of Pay Section (Perforations)	PROPOSED 2463'-2734'	PROPOSED 2739'-2812'	4330'-5018'	
3. Type of production (Oil or Gas)	GAS - EXPECTED	GAS - EXPECTED	GAS	
4. Method of Production (Flowing or Artificial Lift)	EXPECTED TO FLOW	EXPECTED TO FLOW	FLOWING	
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current	a. ^(Current) 1,167	a. 1,119	a. 540	
Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	b. ^(Original) 1,167	ь. 1,119	^{ь.} 1,250	
6. Oil Gravity (° API) or Gas BTU Content	1,045	1,189	1,250	
7. Producing or Shut-In?	TO BE COMPLETED	TO BE COMPLETED	PRODUCING	
Production Marginal? (yes or no)	YES	YES	YES	
* If Shut-In, give date and oil/gas/ water rates of last production. Note: For new zones with no production history, applicant shall be required to attach production	Date: Rates:	Date: Rates:	Date: Rates:	
 * If Producing, give date and oil/gas/ water rates of recent test (within 60 days) 	Date: Rates: ESTIMATED 150-250MCFD	Date: Rates: ESTIMATED 200-300MCFD	Date: Rates: APPROX. CURRENT 90MCFD	
8. Fixed Percentage Allocation Formula -% for each zone	Allocate by prod. ^{Oii: Gas} %	Allocate by prod. Oil: Gas: %	Subtraction Allocate ^{Oil: Gas:} %	

If allocation formula is based upon something other than current or past production, or is based upon some other method, 9. submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? If not, have all working, overriding, and royalty interests been notified by certified mail? Have all offset operators been given written notice of the proposed downhole commingling? $\underline{\underline{X}}_{\operatorname{Yes}}^{\operatorname{Yes}} \underline{\underline{X}}_{\operatorname{No}}^{\operatorname{No}}$

11. Will cross-flow occur? ____Yes X_No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ____Yes ___No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other?

od b minalina? duction he door 13.

<u>X</u> Yes ___ No 16.1/-

Will the	e value of production	n be	decre	ased	by c	on	ımir	ngling	?		Yes	<u>X</u>	No	(11	Yes	, at	tach	explana	ation)
										 	~								

14. If this well is on, or communitized with, state, or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. <u>X</u>Yes No ORDER NO(S).

15. NMOCD Reference Cases for Rule 303(D) Exceptions:

TYPE OR PRINT NAME DEBORAH MARBERRY

16. ATTACHMENTS:

* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
* Production curve for each zone for at least one year. (If not avaiable, attach explanation.)
* For zones with no production history, estimated production rates and supporting data.
* Data to support allocation method or formula.
* Notification list all offset operators.
* Notification list of all working, overriding, and royalty interests for uncommon interest cases.
* Any additional statements, data, or documents required to support commingling

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

SIGNATURE	Kled	borah	Å `	Ŷ	arliens
	\bigcirc		U		

TITLE REGULATORY ANALYSTDATE 04/19/2000

_ TELEPHONE NO. (_____) (281)293-1005_

District I 'PO Box 1980, Hobbs, NM 88241-1980 District II 811 South First, Artesia, NM 88210 **District III** 1000 Rio Brazos Rd., Aztec, NM 87410 District IV 2040

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State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe, NM 87505

Form C-102 Revised October 18, 1994 Instruction on back Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

AMENDED REPORT

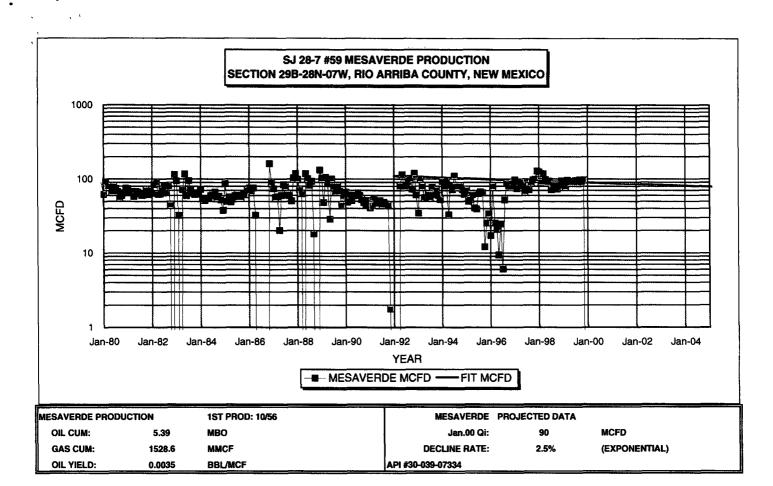
South	Pacheco,	Santa	Fe,	NM	87505	

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number				² Pool Co			³ Pool N			
30-039-07334 BASIN FC / B						ASIN FC / BLANC	CO MV / BLAI	NCO PC		
⁴ Property	Code				⁵ Proper	ty Name				Well Number
016608		SAN JUA	N 28-7						59	
⁷ OGRID	No.				8 Operat	tor Name				⁹ Elevation
005073		CONOCO	D, INC.							
	¹⁰ Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West	line	County
В	29	28N	7W		890'	NORTH	1750'	EAST		RIO ARRIBA
			¹¹ B	ottom Ho	le Location	If Different From	m Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West	line	County
¹² Dedicated Acres ¹³ Joint or Infill ¹⁴ Consolidation Code ¹⁵ Order No.										
320/160/80 I U U										

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

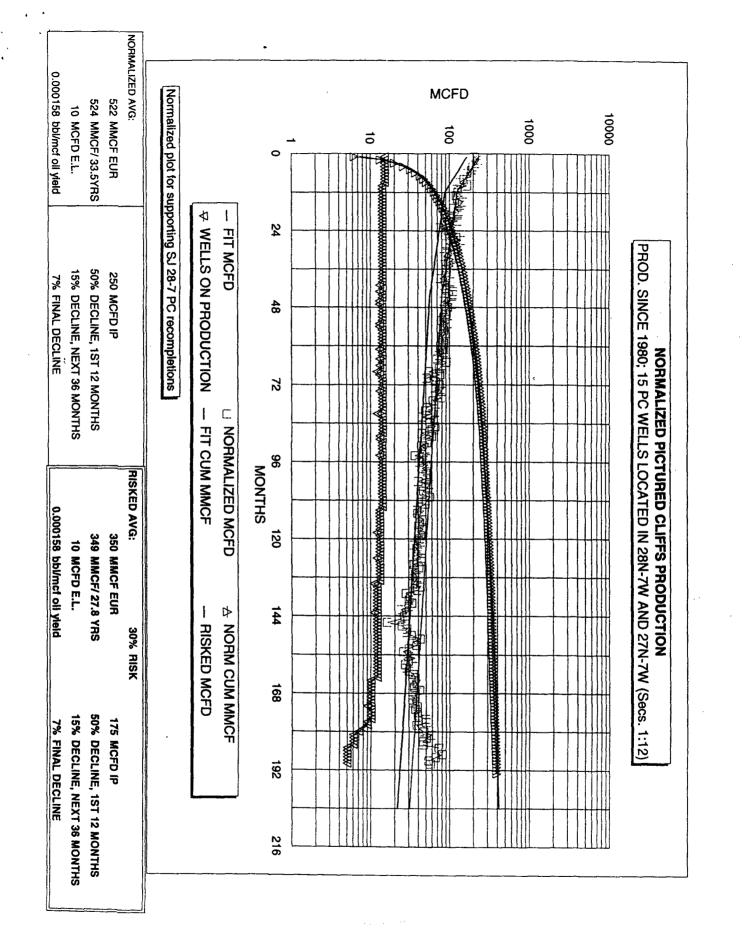
16	Ś		¹⁷ OPERATOR CERTIFICATION
	کل این		I hereby certify that the information contained herein is true
			and complete to the best of my knowledge and belief
	β	<u></u>	Printed Name DEBORAH MARBERRY
			Title REGULATORY ANALYST
			¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plot was plotted from field notes of actual surveys made by me or under
	S		Date of Survey
			Signature and Seal of Professional Surveyer
			Certificate Number



PRODUCTION FORECAST FOR SUBTRACTION METHOD COMMINGLE ALLOCATION

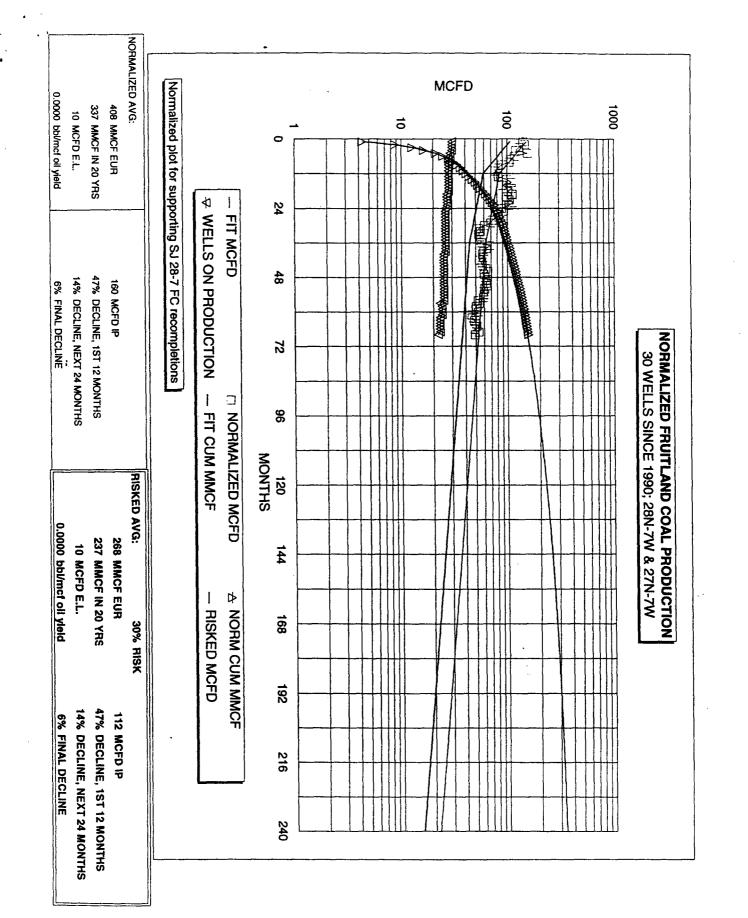
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	MID-YEAR	MID-YEAR
<u>YEAR</u>	AVG. MCFD	AVG. BOPD
2000	89	0
2001	86	0
2002	84	0
2003	82	0
2004	80	0
2005	78	0
2006	76	0
2007	74	0
2008	72	0
2009	71	0
2010	69	0
2011	67	0
2012	65	0
2013	64	0
2014	62	0
2015	61	0
2016	59	0
2017	58	0
2018	56	0
2019	55	0
2020	53	0
2021	52	0
2022	51	0
2023	50	0
2024	48	0
2025	47	0
2026	46	0
2027	45	0



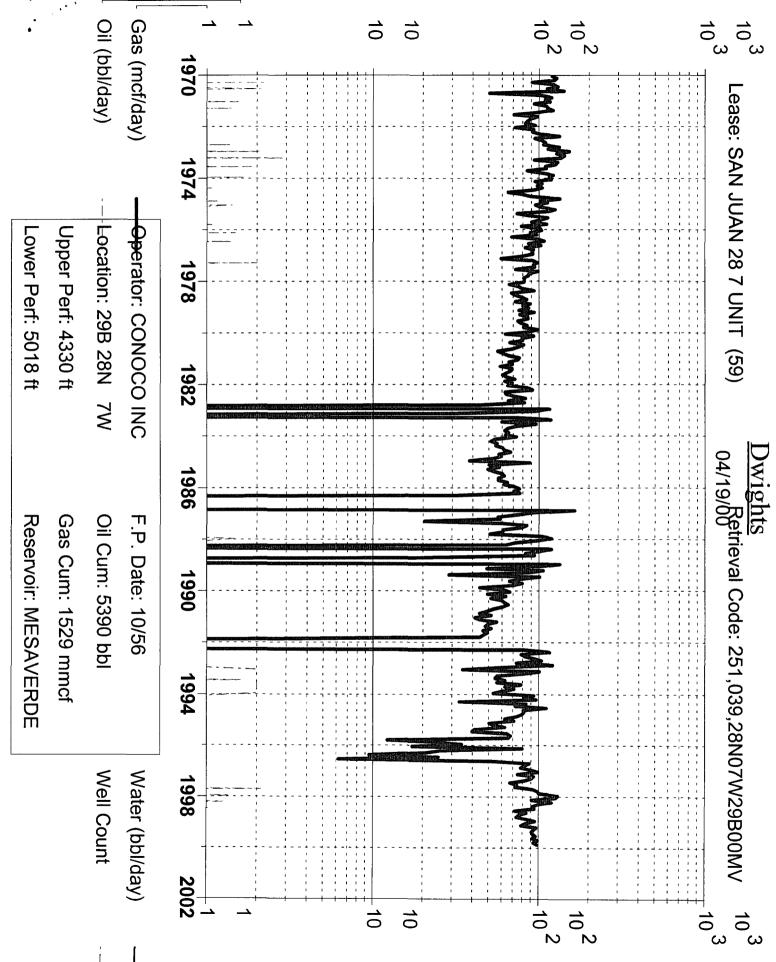
RE: M.Shannon

11/30/99 07:01 AM 287PC1.WK4 \



HE: M. Shannon

11/30/99 06:57 AM 287FD.WK4 \



Deborah Marberry	
600 N. Dairy Ashf	ord DU 3066
Houston, TX 770	079
(281) 293-1005	766
	2'

facsimile transmittal

To:	David Catanach	Fax:	(505) 827-81) Marle
From:	Debbie Marberry	Date:	06/22/00	
Re;	San Juan 28-7 #59 Pro Info	cedures & Frac Pages:	8 11	
CC:				
🗆 Urgen	nt 🔲 For Review	🗆 Please Comment	🗋 Please Reply	🗆 Please Recycle
•	• •	8	* •	÷ •

David:

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Per your request the following is our procedure to frac and test the pools in this DHC.

Call me If you need more information.

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San Juan 28-7 #59 Recomplete to PC/FC and DHC MV

	Perforate and stimulate Pictured Cliffs and Fruitland formations, then down hole commingle with the existing Mesa Verde zone.				
Casing;	Intermediate: Production:	7 5/8" 26.4 lb/ft @ 2902' 5 ½" 15.5 lb/ft @ 5113'			
Tubing:	2 3/8″@ 5027	<i>י</i> ק			
Current Completion:	Cliff House: Point Lookout:	4380-90, 4416-26, 4454-64, 4492-4502 4918-30, 4955-61, 497 4- 82, 5006-18			
Proposed Perfs:	Fruitland:	2463-69, 2517-22, 2580-86, 2601-06, 2618-32, 2708-11, 2714-28			
	Pictured Cliffs:	2740 -58, 2764-84, 2806- 18			

Procedure:

- 1. Prepare location for work. Test deadmen anchors. Move in frac tanks.
- 2. Kill well with a minimum amount of 1% KCl water.
- 3. Move in and rig up pulling unit.
- . 4. Instali BOP.
 - 5. Add 1 to 2 joints of tubing to tag PBTD. POOH with tubing.
 - 6. Run in with bit and scraper to below 3000', POOH.
 - Run in hole with RBP and set at approximately 2900'. Dump two sacks of sand on top of the RBP. POOH with tubing.
 - Rig up wireline company and run GR/CCL from top of sand plug to above 2400'.
 - Perforate Pictured Cliffs with two shots per foot > 0 degree phasing (60 would be best, but can live with 90 or 180).
 - 10. Run in with pin-point tool and break down perforations with 1% KCl water. Use 3 1/2" frac string for weight during pin-point job. POOH
 - 11. Go in hole with frac string and packer. Set packer at approximately 2700'.
 - 12. Frac well as per BJ recommendation. attack, A
 - 13. Flow back well to get stabilized test. Kill well with minimal fluid. Pull out of hole with frac string.
 - 14. Plug back with sand to cover PC perforations, approx. 2734'. Note: there is not much distance between PC and FC perforations.
- 15. Rig up perforating company and perforate Fruitland Coal with four shots per foot (60 degree phasing would be best, but can live with 90 degree).
- Run in with pin-point tool and break down perforations with 1% KCl water. Use 3 ¹/₂" frac string for weight during pin-point job. POOH
- 17. Go in hole with frac string and packer. Set packer at approximately 2400'.
- 18. Frac well as per BJ recommendation. a Rach B.
- 19. Flow back well to get stabilized test. Kill well with minimal fluid. Pull out of hole and lay down 3 1/2" frac string.
- 20. Run in hole with RBP retrieving head. Circulate sand off of plug, equalize pressure, and pull out of hole with RBP. If fill was seen across the MV perfs when the initial tag was done, run a bailer and clean out to PBTD. If no fill

was seen across the MV perfs, run tubing and seating nipple to approximately 4970'.

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21. Rig up wellhead for plunger lift (although it will not be necessary to run the plunger until the well declines below the critical unloading rate). Swab well in and put well on production.

Prepared by: Pat Bergman April 13, 2000

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Operator Name:ConocoWell Name:San Juan 28-7 Unit 59Job Description:San Juan 28-7 #59 Picture CliffDate:June 19, 2000



PROCEDURE

Treatment Procedure For: Picture Cliff

- 1. Perform all QC/QA testing on location prior to the treatment.
- 2. Set and position clean frac tanks.
- 3. Add bacteriacide to the frac tanks as soon as possible after filling process.
- 4. Perform all proppant Q.C. and sieve analysis and record results.
- 5. Rig up BJ Services Company service equipment to frac via casing at an average of 40 bpm and an estimated surface treating pressure at 3400 psi.
- 6. Pressure test all treating lines to 5,000 psi.
- 7. Set and test the in-line Pressure-Relief Valve at 4500 psi or as designated by operator.
- 8. Hold a pre-job Safety and Operations Meeting with all personnel on location.
- 9. Discuss any concerns regarding this procedure prior to pumping downhole. If no concerns are raised, proceed as recommended.
- 10. Load the casing slowly with 2% Slickwater at 3 to 5 bpm.
- 11. Resume job with the Slickwater Pad. Shut down once rate of 40 bpm has been established and surface treating pressure has stabilized. Step down rate at 10 bpm intervals while shutting down from 10 bpm total rate as the last interval. Monitor leak-off rate for 10 minutes. Obtain ISIP, calculate fracture gradient, and determine differential pressure across the perforated interval. (Assuming well does not go into a vacuum).
- 12. Proceed with the job as per enclosed schedule.
- 13. Shut down. Hold post job safety meeting. R/D.

Report Printed on: June 19, 2000 3:16 PM

Operator Name:ConocoWell Name:San Juan 28-7 Unit 59Job Description:San Juan 28-7 #59 Picture CliffDate:June 19, 2000



FRACTURE TREATMENT SCHEDULE

PROCEDURE

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	Field			Proppant		
stage	Туре	Volume (gal)	1 1 1 1 J A	「しっしょう しょうとうしょう 古書 言いたいやうかい ちょういうかがい	Stage (Ibs)	Cum (ibs)
1	Slickwater	20000		Pad		
2	Slickwater	75000	0.50	Sand, Brown, 20/40	37500	37500
3	Slickwater	5000	1.00	Sand, Brown, 20/40	5000	42500
4	Slickwater	981				42500
Totals		100981				42500

TREATMENT SCHEDULE

	Surface		Rates		-	Voli	******		Stage Pump
stage	Treating Pressure (psi)	Siurry (bpm)	Clean Fluid (bpm)	Prop. Rate (Ib/min)	Slu Stage (bbls)	Cum. (bbis)	Fit Stage (bbis)	Cum.	Time tih:mm:ss
1	3103	40.0	40.0		476.2	476.2	476.2	476.2	00:11:54
2	3217	40.0	39.1	821.4	1826.1	2302.3	1785.7	2261.9	00:45:39
3	3324	40.0	38.3	1607.3	124.4	2426.7	119.0	2381.0	00:03:06
4	3103	40.0	40.0		23.4	2450.1	23.4	2404.3	00:00:35
							Total D	uma Time:	01-01-15

Total Pump Time: 01:01:15

Report Protect on: June 19, 2000 3:16 PM

Operator Name:ConocoWell Name:San Juan 28-7 #59Job Description:San Juan 28-7 Unit 59 - Fruitland CoalDate:June 19, 2000



PROCEDURE

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Treatment Procedure For: Fruitland Coal

- 1. Perform all QC/QA testing on location prior to the treatment.
- 2. Set and position clean frac tanks.
- 3. Add bacteriacide to the frac tanks as soon as possible after filling process.
- 4. Perform all proppant Q.C. and sieve analysis and record results.
- 5. Rig up BJ Services Company service equipment to frac via casing at an average of 40 bpm at an estimated surface treating pressure at 1800 psi. Max STP is 3000 psi.
- 6. Pressure test all treating lines to 5,000 psi.
- 7. Set and test the in-line Pressure-Relief Valve at 3000 psi or as designated by operator.
- 8. Hold a pre-job Safety and Operations Meeting with all personnel on location.
- 9. Discuss any concerns regarding this procedure prior to pumping downhole. If no concerns are raised, proceed as recommended.
- 10, Load the casing slowly with 2% Slickwater at 3 to 5 bpm.
- 11, Once injection is established increase rate to 20 bpm. Once pressure stabilizes shut down and obtain ISIP, calculate differential pressure across the perforated interval, and calculate fracture gradient.
- 12. If there are no abnormalities, proceed with the enclosed fracture treatment.

Report Printed on: June 19, 2000 4:54 PM

Operator Name:ConocoWell Name:San Juan 28-7 #59Job Description:San Juan 28-7 Unit 59 ~ Fruitland CoalDate:June 19, 2000



FRACTURE TREATMENT SCHEDULE NITROGEN FOAM

PROCEDURE

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		Downho	le Foam		Wellhead Rates							
Stage	Clean Volume (gal)	Prop. Conc.	Mitchell Quality %	Total Rate (bpm)	Total Foam (bpm)	Blender Slurry (bpm)	Clean Fluid (bpm)	Prop (Ib/min)	Nitrogen (scim)			
1	1500	0.00	0.00	20.0	20.0	20.0	20.0	0.0	0			
2	7000	0.00	70.00	40.0	30.0	12.0	12.0	0.0	11980			
3	18000	0.50	69.00	40.0	30.1	12.9	12.0	821.4	11602			
4	4500	1.00	69.00	40.0	30.4	13.7	12.0	1607.3	11240			
5	4500	1.50	68.00	40.0	30.8	14.5	12.0	2359.8	10893			
6	920	0.00	70.00	40.0	30.0	12.0	12.0	0.0	11980			
	36420											

SYSTEM QUALITIES

	Mitchell Quality Slurry Quality										Average			
Stage	Well	head	Perfor	ations	Form	ormation V		Weilhead		Perforations		ation	Specific	
	N	1	N	T	N	T	N	T	N	. T	N N	ा	Gravity	
1	0	0	0	0	0	0	0	0	0	0	0	0	1.009	
2	60	60	71	71	70	70	60	60	71	71	70	70	0.366	
3	59	59	71	71	69	69	57	60	69	71	68	70	0.422	
4	58	58	70	70	69	69	55	61	67	71	66	70	0.476	
5	57	57	69	69	68	68	53	61	65	71	64	70	0.528	
6	60	60	71	71 -	70	70	60	60	71	71	70	70	0.365	

N = Nitrogen and T = Total

NOTE: The Mitchell Quality is the Gas Rate divided by the Gas + Gel Rate. It is the Quality ignoring Proppant. The Slurry Quality includes proppant as a portion of the Internal Gas Phase. The Total Slurry Quality is commonly designed at a constant quality or 'Constant Internal Phase'.

Volumes, Rates and Qualities are based on Downhole Temperature and Pressures.

Report Printed on: June 19, 2000 4:54 PM Gr4165

Operator Name:ConocoWell Name:San Juan 28-7 #59Job Description:San Juan 28-7 Unit 59 - Fruitland CoalDate:June 19, 2000



FRACTURE TREATMENT SCHEDULE NITROGEN FOAM

PRODUCT QUANTITIES

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	- Z. Burger, B			Totals			Pro	ppant	
	Clear	Fluid	Гоал	Slurry	Nitrog	jeri			
	Stage (bbls)	Cum (bbls)	Stage (bbls)	Cum (bbis)	Stage (Mscf)	Cum (Mscf)	Туре	Stage (Ibs)	Cum (Ibs)
1	35.7	35.7	35.7	35.7	0.00	0.00	Prepad		0
2	50.0	85.7	166.7	202.4	49.92	49.92	Pad		0
3	131.5	217.2	438.3	640.6	127.12	177.03	Sand, Brown,	9000	9000
4	33.6	250.8	112.0	752.6	31.47	208.50	Sand, Brown,	4500	13500
5	34.3	285.1	114.4	867.1	31.16	239.66	Sand, Brown,	6750	20250
6	6.6	291.7	21.9	889.0	6.56	246.22	Flush		20250

TREATMENT SCHEDULE

	Surface Treating Pressure (psl)	Treating	Proppant Concentration (ppa)		Wellhead Rates Bindr		Slurry Volume Without Nitrogen		Nitrogen		Stage Pump
Stage		Form	Bindr	Slurry (bpm)	N2 (scfm)	and a subsection of the subsec		Conc. scf/bbl	Sol. scf/bbi	Time hh:mm:ss	
1	656	0.00	0.00		0	35.7	35.7	0	25	00:01:47	
2	1751	0.00	0.00		11980	50.0	85.7	998	25	00:04:10	
3	1766	0.50	1.63		11602	141.2	226.9	967	25	00:10:57	
4	1768	1.00	3.19		11240	38.4	265.3	937	25	00:02:47	
5	1762		4.68		10893	41.6	306.9	908	25	00:02:51	
6	1751	0.00	0.00	12.00	11980	6.6	313.5	998	25	00:00:32	
Total Purpo Time:									00.23.07		

Total Pump Time: 00:23:07

Volumes, Rates and Qualities are based on Downhole Temperature and Pressures.

Gr4156

Report Printed on: Juna 19, 2000 4:54 PM

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