NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

May 31, 2000

Conoco Inc.
P.O. Box 2197
Houston, Texas 77252

Attention: Ms. Deborah Marberry

Re: Form C-107-A
San Juan 28-7 Unit No. 53 & 59
Sections 28 & 29, T-28N, R-7W,
Rio Arriba County, New Mexico

Dear Ms. Marberry:

I have reviewed the applications to downhole commingle Basin-Fruitland Coal, Blanco-Pictured Cliffs and Blanco-Mesaverde Pool production within the subject wells. Before approving these applications, I am requesting additional detailed information regarding the procedure Conoco will utilize to complete and test the Basin-Fruitland Coal and Blanco-Pictured Cliffs Gas Pools within the wellbore prior to commingling.

If you should have any questions, please contact me at (505) 827-8184. Your applications will be processed upon receipt of the above requested information.

Sincerely,

David Catanach

David Catanach
Engineer

Xc: OCD-Aztec
Bureau of Land Management-Farmington

Deborah Marberry
600 N. Dairy Ashford DU 3066
Houston, TX 77079

(281) 293-1005

3765

facsimile transmittal

To:	David Catanach	**Fax:**	(505) 827-8183
From:	Debbie Marberry	**Date:**	06/22/00
Re:	San Juan 28-7 #53 Procedures & Frac Info	**Pages:**	~~11~~ 9
CC:			

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David:

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

San Juan 28-7 #53
Recomplete to PC/FC and DHC MV

Objective:	Perforate and stimulate Pictured Cliffs and Fruitland formations, then down hole commingle with the existing Mesa Verde zone.	
Casing:	Intermediate:	7 5/8" 26.4 lb/ft @ 3364'
	Production:	5 ½" 15.5 lb/ft @ 5645'
Tubing:	2 3/8" @ 5508'	
Current Completion:	Cliff House:	4838-48, 4972-86, 4994-5010, 5019-27
	Point Lookout:	5488-98, 5576-86, 5597-5605, 5623-33
Proposed Perfs:	Fruitland:	3088-3104, 3113-24, 3138-50, 3181-3204, 3242-60
	Pictured Cliffs:	3266-3318, 3327-64

Note: Perforations will be adjusted after the TDT is run.

Procedure:

1. Prepare location for work. Test deadmen anchors. Move in work tanks.
2. Kill well with a minimum amount of 1% KCl water.
3. Move in and rig up pulling unit.
4. Install BOP.
5. Add 2 to 3 joints of tubing to tag PBTD. POOH with tubing.
6. Run in with bit and scraper to below 3500', POOH.
7. Run in hole with CIBP and set at 3500'. Dump a couple sacks of sand on top of the CIBP.
8. Rig up perforating company and run GR/CCL/TDT from top of sand plug to approximately 2500'.
9. Perforate eight squeeze holes at 3350' (two feet with four holes per foot).
10. Run in hole with tubing and cement retainer. Set at approx. 3300'.
11. Open annular valve between production and intermediate casing strings and attempt to establish circulation to surface.
12. Pump cement squeeze as per BJ recommendation. Attach A Pull out of retainer and reverse circulate tubing clean. POOH with tubing and WOC.
13. Pick up bit, go in hole and drill out cement retainer and cement to the sand plug on top of the CIBP. Do not drill out loose sand or CIBP.
14. Pressure test squeeze holes to 500 psi. If they leak an additional squeeze will be necessary. If squeeze holds, drill out CIBP and clean out well to PBTD. POOH
15. Run in hole with retrievable bridge plug and set above the squeeze holes, but below lowest proposed Pictured Cliffs perforations (approx. 3330'). Dump two sacks of sand on top of RBP.
16. Rig up perforating company and perforate Pictured Cliffs with two shots per foot > 0 degree phasing (60 would be best, but can live with 90 or 180).
17. Run in with pin-point tool and break down perforations with 1% KCl water. Use 3 ½" frac string for weight during pin-point job. POOH
18. Go in hole with 3 ½" frac string and packer. Set packer at approximately 3200'.

19. Frac well as per BJ recommendation. - Attach B
20. Flow back well to get stabilized test.
21. Plug back with sand to cover PC perforations, approx. 3260'. Note: there is not much distance between PC and FC perforations.
22. Kill well with minimal fluid. Pull out of hole with frac string.
23. 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).
24. Run in with pin-point tool and break down perforations with 1% KCl water. Use 3 ½" frac string for weight during pin-point job. POOH
25. Go in hole with frac string and packer. Set packer at approximately 3000'.
26. Frac well as per BJ recommendation. - Attach C
27. Flow back well to get stabilized test. Kill well with minimal fluid. Pull out of hole and lay down 3 ½" frac string.
28. Run in hole with RBP retrieving head. Circulate sand off of plug, equalize pressure, and pull out of hole with RBP.
29. Run tubing and seating nipple to approximately 4970'.
30. 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

Operator Name: Conoco
Well Name: San Juan 28-7 Unit 53
Job Description: Squeeze 3300 - Surface
Date: June 19, 2000

Proposal No: 151450884A

A

PROCEDURE

Squeeze Procedure:

1. Hold prejob JSA meeting with all personnel on location.
2. Rig up BJ Services to pump down 2-3/8", 4.7# tubing inside 5-1/2" casing.
3. Customer will RIH with retainer and set at 3300 ft. Squeeze perforations are from 3350 to 3352 with a total of 8 holes.
4. Pressure test surface cementing lines to 3000 psi.
5. Begin by establishing circulation utilizing 1% KCL water furnished by customer.
6. Pump an additional 25 bbls of 1% KCL water as a spacer ahead.
7. Squeeze 160 sacks of Premium Lite HS cement to effectively squeeze from 3350 ft to Surface.
8. Displace to the retainer with 13 bbls of 1% KCL Water. Pull out of retainer and POOH to WOC for a period of 12 hours.

Operator Name: Conoco
Well Name: San Juan 28-7 Unit #53
Job Description: San Juan 28-7 #53 Picture Cliff
Date: June 19, 2000

Proposal No: 151450878A

B

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 3900 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.

Operator Name: Conoco
Well Name: San Juan 28-7 Unit #53
Job Description: San Juan 28-7 #53 Picture Cliff
Date: June 19, 2000

Proposal No: 151450878A

B

FRACTURE TREATMENT SCHEDULE

PROCEDURE

stage	Fluid Type	Fluid Volume (gal)	Proppant Conc. (ppa)	Proppant Type	Proppant Stage (lbs)	Proppant Cum (lbs)
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	1181				42500
Totals		101181				42500

TREATMENT SCHEDULE

stage	Surface Treating Pressure (psi)	Rates Slurry (bpm)	Rates Clean Fluid (bpm)	Rates Prop. Rate (lb/min)	Volume Slurry Stage (bbls)	Volume Slurry Cum. (bbls)	Volume Fluid Stage (bbls)	Volume Fluid Cum. (bbls)	Stage Pump Time hh:mm:ss
1	3651	40.0	40.0		476.2	476.2	476.2	476.2	00:11:54
2	3784	40.0	39.1	821.4	1826.1	2302.3	1785.7	2261.9	00:45:39
3	3910	40.0	38.3	1607.3	124.4	2426.7	119.0	2381.0	00:03:06
4	3651	40.0	40.0		28.1	2454.9	28.1	2409.1	00:00:42
							Total Pump Time:		01:01:22

Operator Name: Conoco
Well Name: San Juan 28-7 Unit 53
Job Description: San Juan 28-7 Unit 53 - Fruitland Coal
Date: June 19, 2000

Proposal No: 151450881A

PROCEDURE

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 30 bpm at an estimated surface treating pressure at 1900 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.

Operator Name: Conoco
Well Name: San Juan 28-7 Unit 53
Job Description: San Juan 28-7 Unit 53 - Fruitland Coal
Date: June 19, 2000

Proposal No: 151450881A

C

FRACTURE TREATMENT SCHEDULE
NITROGEN FOAM

PROCEDURE

Stage	Downhole Foam				Wellhead Rates				
	Clean Volume (gal)	Prop. Conc.	Mitchell Quality %	Total Rate (bpm)	Total Foam (bpm)	Blender Slurry (bpm)	Clean Fluid (bpm)	Prop (lb/min)	Nitrogen (scfm)
1	2000	0.00	0.00	30.0	30.0	30.0	30.0	0.0	0
2	10000	0.00	70.00	30.0	24.5	9.0	9.0	0.0	10898
3	26000	0.50	69.00	30.0	24.7	9.7	9.0	616.1	10554
4	7000	1.00	68.00	30.0	25.0	10.3	9.0	1205.5	10224
5	7000	1.50	68.00	30.0	25.3	10.9	9.0	1769.9	9909
6	1156	0.00	70.00	30.0	24.5	9.0	9.0	0.0	10898
	53156								

SYSTEM QUALITIES

Stage	Mitchell Quality						Slurry Quality						Average Specific Gravity
	Wellhead		Perforations		Formation		Wellhead		Perforations		Formation		
	N	T	N	T	N	T	N	T	N	T	N	T	
1	0	0	0	0	0	0	0	0	0	0	0	0	1.009
2	63	63	70	70	70	70	63	63	70	70	70	70	0.379
3	63	63	70	70	69	69	61	64	68	70	68	70	0.435
4	62	62	69	69	69	69	59	64	66	70	66	70	0.489
5	62	62	68	68	68	68	57	65	64	70	64	70	0.540
6	63	63	70	70	70	70	63	63	70	70	70	70	0.379

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.

Operator Name: Conoco
Well Name: San Juan 28-7 Unit 53
Job Description: San Juan 28-7 Unit 53 - Fruitland Coal
Date: June 19, 2000

Proposal No: 151450881A

C

FRACTURE TREATMENT SCHEDULE
NITROGEN FOAM

PRODUCT QUANTITIES

Stage	Totals						Proppant		
	Clean Fluid		Foam Slurry		Nitrogen				
	Stage (bbls)	Cum (bbls)	Stage (bbls)	Cum (bbls)	Stage (Mscf)	Cum (Mscf)	Type	Stage (lbs)	Cum (lbs)
1	47.6	47.6	47.6	47.6	0.00	0.00	Prepad		0
2	71.4	119.0	238.1	285.7	86.49	86.49	Pad		0
3	189.9	309.0	633.1	918.8	222.70	309.20	Sand, Brown,	13000	13000
4	52.3	361.2	174.2	1093.0	59.37	368.57	Sand, Brown,	7000	20000
5	53.4	414.6	178.0	1271.0	58.78	427.35	Sand, Brown,	10500	30500
6	8.3	422.9	27.5	1298.5	10.00	437.35	Flush		30500

TREATMENT SCHEDULE

Stage	Surface Treating Pressure (psi)	Proppant Concentration (ppa)		Wellhead Rates		Slurry Volume Without Nitrogen		Nitrogen		Stage Pump Time hh:mm:ss
		Form	Bindr	Bindr Slurry (bpm)	N2 (scfm)	(bbls)	(cum)	Conc. scf/bbl	Sol. scf/bbl	
1	1253	0.00	0.00	30.00	0	47.6	47.6	0	25	00:01:35
2	1847	0.00	0.00	9.00	10898	71.4	119.0	1211	25	00:07:56
3	1843	0.50	1.63	9.66	10554	203.9	323.0	1173	25	00:21:06
4	1828	1.00	3.19	10.30	10224	59.8	382.8	1136	25	00:05:48
5	1807	1.50	4.68	10.91	9909	64.7	447.5	1101	25	00:05:55
6	1847	0.00	0.00	9.00	10898	8.3	455.7	1211	25	00:00:55
									Total Pump Time:	00:43:18

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