

5WD  
**CONOCO**

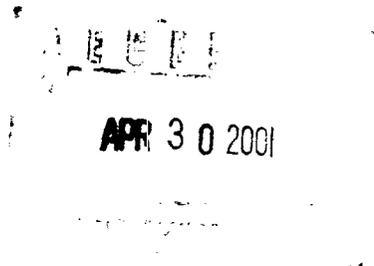
5/15/01

112151900

Yolanda Perez  
Sr. Regulatory Analyst  
EP Americas  
Lobo/San Juan Asset Unit

P.O. Box 2197 - DU3084  
Houston, TX 77252-2197

(281) 293-1613



Y07

April 27, 2001

New Mexico Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Attn: David Catanach

**RE: Application for Authorization to Inject (Form C-108)  
Jicarilla 30 Well No. 5  
API # 30-039-20460  
Sec. 32, T-25N, R-4W, Unit ltr. B  
Rio Arriba County, New Mexico**

Dear Mr. Catanach,

Conoco Inc. proposes to convert the above mentioned well in to a Salt Water Disposal well. Please find attached to your form C-108, a copy of the application which was submitted to the Environmental Protection Agency and a copy of the Notice of Intent Sundry filed with the Bureau of Land Management.

If any further information is needed or required, please contact me at (281) 293-1613 or by email [yolanda.perez@usa.conoco.com](mailto:yolanda.perez@usa.conoco.com).

Sincerely,

CONOCO INC.

Yolanda Perez  
Sr. Regulatory Analyst  
Lobo/San Juan Asset

Enclosures

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance  Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? \_\_\_\_\_ Yes \_\_\_\_\_ No
- II. OPERATOR: Conoco Inc.  
ADDRESS: P.O. Box 2197, Du 3084 Houston, TX 77252  
CONTACT PARTY: Yolanda Perez PHONE: (281) 293-1613
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? \_\_\_\_\_ Yes  No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Yolanda Perez TITLE: Sr. Regulatory Analyst  
SIGNATURE: Yolanda Perez DATE: 4/27/01
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

**NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.**

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**NOTICE:** Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

INJECTION WELL DATA SHEET

OPERATOR: Conoco Inc.

WELL NAME & NUMBER: Jicarilla 30 # 5

WELL LOCATION: 800' FNL § 1850' FEL UNIT LETTER B SECTION 32 TOWNSHIP 25 N RANGE 4 W

WELLBORE SCHEMATIC

please see attached

WELL CONSTRUCTION DATA  
Surface Casing

Hole Size: \_\_\_\_\_ Casing Size: \_\_\_\_\_

Cemented with: \_\_\_\_\_ sx. *or* \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: \_\_\_\_\_ Method Determined: \_\_\_\_\_

Intermediate Casing

Hole Size: \_\_\_\_\_ Casing Size: \_\_\_\_\_

Cemented with: \_\_\_\_\_ sx. *or* \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: \_\_\_\_\_ Method Determined: \_\_\_\_\_

Production Casing

Hole Size: \_\_\_\_\_ Casing Size: \_\_\_\_\_

Cemented with: \_\_\_\_\_ sx. *or* \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: \_\_\_\_\_ Method Determined: \_\_\_\_\_

Total Depth: \_\_\_\_\_

Injection Interval

\_\_\_\_\_ feet to \_\_\_\_\_

(Perforated or Open Hole; indicate which)

**INJECTION WELL DATA SHEET**

Tubing Size: Please See Attached Lining Material: \_\_\_\_\_

Type of Packer: \_\_\_\_\_

Packer Setting Depth: \_\_\_\_\_

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

Additional Data

1. Is this a new well drilled for injection? \_\_\_\_\_ Yes \_\_\_\_\_ No

If no, for what purpose was the well originally drilled? \_\_\_\_\_

2. Name of the Injection Formation: \_\_\_\_\_

3. Name of Field or Pool (if applicable): \_\_\_\_\_

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. \_\_\_\_\_

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

664000

668000

672000

1956000

1956000

1952000

1952000

1948000

1948000

30-2  
\* GP/DK

28-8  
\* GP/DK

28-9  
\* GP/DK

D-2  
\* PC

D-3  
\* PC

30-9  
\* GP/DK

B-1  
\* PC

B-8  
\* PC

29

28

30-6  
\* GP/DK

28-10  
\* GP/DK

28-1  
\* GP/DK

D-5  
\* PC

D-4  
\* PC

B-9  
\* PC

B-3  
\* PC

30-16  
\* GP/DK

28-17  
\* GP/DK

JICARILLA 30  
5

D-9  
\* PC

28-6  
\* GP/DK

B-6  
\* PC  
\* GP/DK

30-15  
\* GP/DK

32

33

30-3  
\* GP/DK  
\* PC

28-14  
\* GP/DK

28-5  
\* GP/DK  
\* PC

D-6  
\* PC  
30-8  
\* GP/DK

B-16  
\* PC

664000

668000

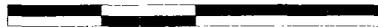
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G/D = Gallup Dakota  
PC = Pictured Cliffs



- ⊙ Jicarilla 30-5
- \* Producing Well
- \* Temporarily Shut In
- \* P&A

1500 0 1500 Feet



**T25N R4W**  
**Jicarilla 30-5**  
**San Juan Basin, N. M.**

Author: Angela Whitfield	Date: 4-9-2001
Compiled by:	Map 1 of 1
MD File:	

TABULATON OF WELLS WITHIN ½ MILE OF PROPOSED INJECTION WELL WHICH PENETRATE THE INJECTION ZONE

Jicarilla 28-6 Operator: Conoco Drilled: 12-68 Depth: 7606n' Status: Producing  
 Location 710' FNL, 660' FWL, NW/4, Section 33, T25N, R4W  
 Formations Open to Wellbore: Gallup/Dakota

Hole Size	Casing Size	Landed Depth	Cement and Additive Data	Top of Cement
12 ¼"	8 5/8"	242'	165 sacks	surface
7 7/8"	5 ½"	7606'	770 sacks (2 stages)	3025' (Calculated)

Jicarilla 30-3 Operator: Conoco Drilled: 9-65 Depth: 7500' Status: Producing  
 Location 1850' FSL, 1850' FEL, SE/4, Section 32, T25N, R4W  
 Formations Open to Wellbore: Gallup/Dakota

Hole Size	Casing Size	Landed Depth	Cement and Additive Data	Top of Cement
12 ¼"	8 5/8"	213'	150 sacks	surface
7 7/8"	5 ½"	7496'	1000 sacks (2 stages)	2700' (Calculated)

Jicarilla 30-15 Operator: Conoco Drilled: 3-79 Depth: 7580' Status: Producing  
 Location 2070' FNL, 1980' FWL, NW/4, Section 32, T25N, R4W  
 Formations Open to Wellbore: Gallup/Dakota

Hole Size	Casing Size	Landed Depth	Cement and Additive Data	Top of Cement
12 ¼"	8 5/8"	516'	270 sacks	Surface
7 7/8"	5 ½"	7580'	805 sacks	2200' (by Temp Survey)

Jicarilla 30-16 Operator: Conoco Drilled: 3-81 Depth: 7575' Status: Producing  
 Location 660' FSL, 1980' FWL, SW/4, Section 29, T25N, R4W  
 Formations Open to Wellbore: Gallup/Dakota

Hole Size	Casing Size	Landed Depth	Cement and Additive Data	Top of Cement
12 ¼"	8 5/8"	295'	220 sacks	surface
7 7/8"	5 ½"	7575'	1650 sacks	1850' (by Temp Survey)

Permit # \_\_\_\_\_

### Well Completion and Operation Data

Type Injection Well: SWD

Injection: Continuous

Approximate # days operating per year: 365  
Rate (B/D): Average 300 Maximum 600  
Wellhead Pressure (psi): Average: Unknown Maximum: To be determined by step rate  
Fluid: TDS 12133mg/l Sp.Gr. 1.009 Analysis Included: (Yes)  
Source (formation name): Dakota, Gallup, Mesa Verde, Chacra, Pictured Cliffs, Fruitland Coal  
Will anything be added to the water to be injected: (yes)  
What will those additives be? corrosion inhibitor

Geologic Data (all references to depth are below land surface plus 14' KB):

Injection Interval: Top: 4672' Bottom: 5326' Effective Thickness: 190'  
Formation name Mesa Verde Lithology: Sandstone  
Porosity (%): 10-12 Current Reservoir Pressure: 2000 psi estimated  
Or Current Fluid Level: N/A  
Permeability (md): unknown  
Drill Stem Test Included: No

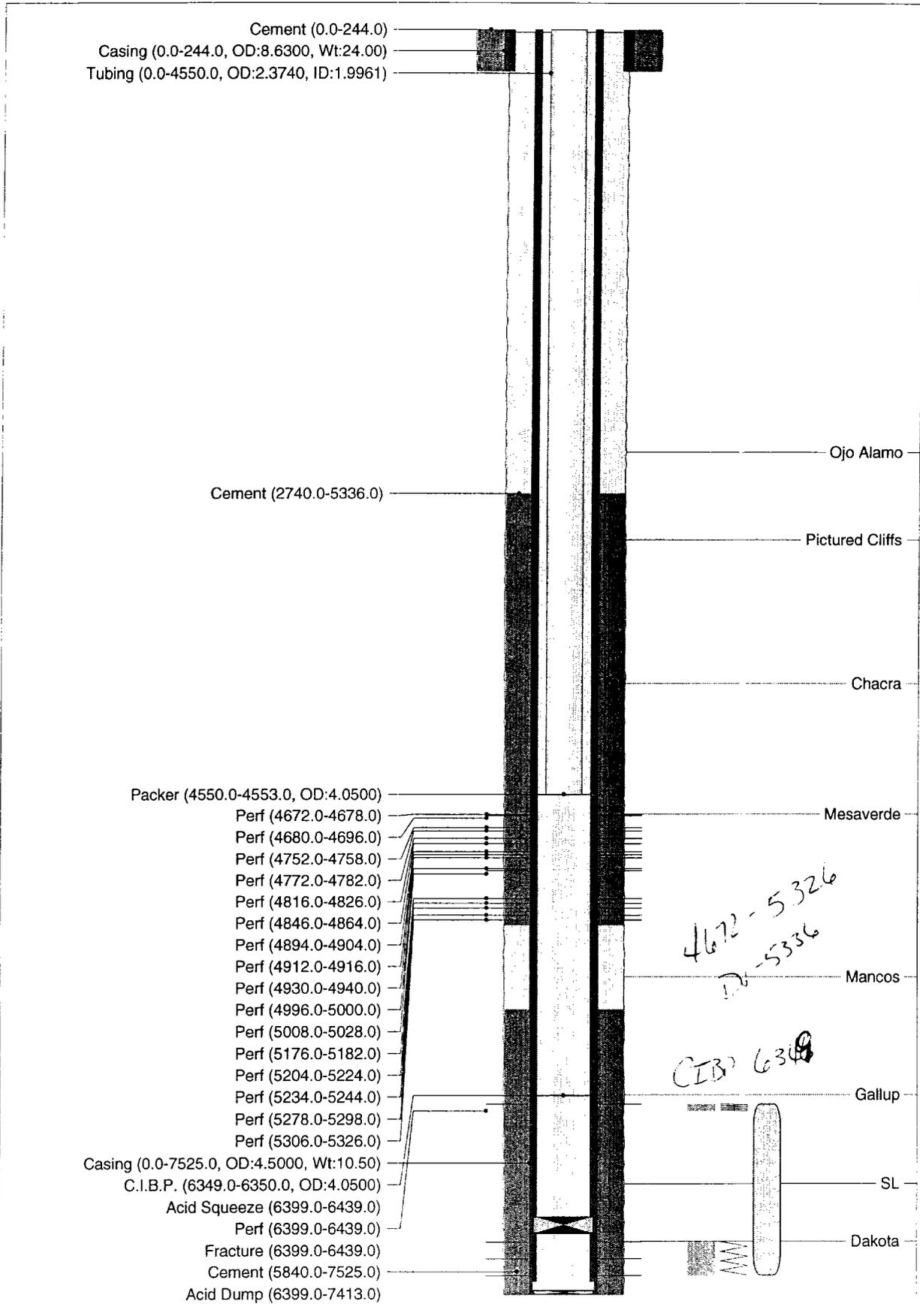
Confining Zones: Thickness between injection zone and USDW: 1982'  
Lithology Predominately shale (Lewis) and siltstone with some sand (Pictured Cliffs, Chacra and coal (Fruitland))  
Cumulative shale 1198' Thickest shale zone: 697' (Lewis)  
Faults: Are there any faults in the area of the well which penetrate the injection interval: No

Well Data:

Surface Elevation (KB/GL): 6855'/6869' Total (Depth/ Plugged Back Depth) : 6349'  
Date Drilled: 2-1972  
Type of logs available on this well: Density, Gamma Ray, Cement Bond Log

Construction:	Size (in)	Depth Interval	Sacks of Cement	Hole Size (in)	Cement Interval	How Determined
Surface Csg.	<u>8 5/8</u>	<u>0-244</u>	<u>150</u>	<u>12 1/4</u>	<u>0-244</u>	<u>Observation</u>
Long String Csg.	<u>4 1/2</u>	<u>0-7525</u>	<u>1200</u>	<u>7 7/8</u>	<u>2740-5336</u> <u>5840-7525</u>	<u>CBL</u> <u>CBL</u>
Tubing	<u>2 3/8</u>	<u>4550 est.</u>				
Packer Type and Depth:		<u>Retrievable set at 4550' est.</u>				

Other Perforated Intervals: Gallup 6399'-6439' (below CIBP @ 6349')  
Dakota 7211'-7413' (below CIBP @ 7161' and cement @ 7061')

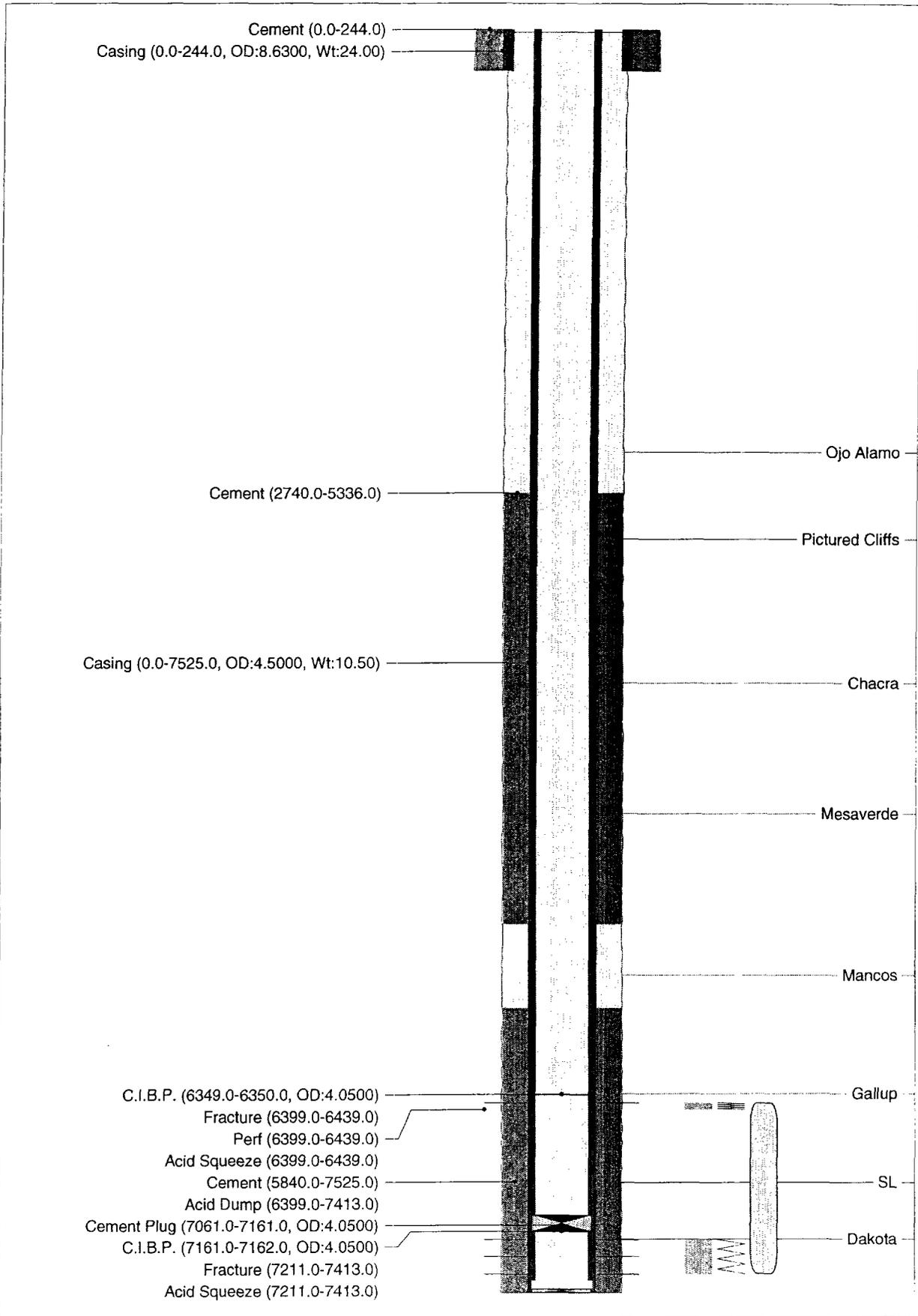


JICARILLA 30 5 Proposed SWD Completion (300392046000)

4/10/2001

JICARILLA 30 5 Proposed SWD Completion							
API Code	300392046000						
Spud	2/1/1972						
Completion	3/10/1972						
Basin Code	580						
County	RIO ARRIBA						
Permit No.							
Reservoir	Gallup/Dakota						
Field Code	676398776						
Permit	1/14/1972						
Finish Drl	2/12/1972						
Abandon							
TD	7525.0 ftKB						
PBSD	0.0 ftKB						
State	New Mexico						
District	San Juan O.U.						
TD Measured	7525 ftKB						
Field	WEST LINDRITH GALLUP/DAKOTA						
Basin	SAN JUAN BASIN						
Elevations							
KB-Grd	14.0 ft						
Grd	6855.0 ft						
Tub Head	0.0 ft						
KB	6869.0 ft						
Cas Flng	0.0 ft						
Bore Hole Data							
	Size (in)						Depth (ftKB)
	12.2500						244.0
	7.8750						7525.0
Casing String - SURFACE CASING							
Grd	Item (in)	Btm (ftKB)	Comments	ID	Thd	Jnts	Wt
K-55	8.6300 in Casing	244.0		8.1000	ST&C	7	24.00
Casing String - PRODUCTION CASING							
Grd	Item (in)	Btm (ftKB)	Comments	ID	Thd	Jnts	Wt
K-55	4.5000 in Casing	7525.0		4.0500	ST&C	231	10.50
	4.0000 in Sand Fill	7497.0	6/17/91 TOF @ 7450' (47" Fill)	0.0000			0.00
Casing Cement							
Amount (sx)	Comments			Casing String		Top (ftKB)	
150	Cement circ			SURFACE CASING		0.0	
765	2nd stage 200 sx Halliburton Lite Wt. with 1/2% CFR-2, 565 sx 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL. Cement thru DV @ 5336'			PRODUCTION CASING		2740.0	
435	1st stage 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL.			PRODUCTION CASING		5840.0	
Perforations							
Int	Shots (ft)	Comments			Type	Date	
7211.0 - 7413.0	1.0	@ 7403-13', 7357-69', 7245-51', 7219-23', 7211'. 21 Shots, 1 Shot every 2'				2/24/1972	
6399.0 - 6439.0	2.0	@ 6399-6403', 6426-39'. 24 Shots.				2/24/1972	
4672.0 - 4678.0	4.0					6/1/2001	
4680.0 - 4696.0	4.0					6/1/2001	
4752.0 - 4758.0	4.0					6/1/2001	
4772.0 - 4782.0	4.0					6/1/2001	
4816.0 - 4826.0	4.0					6/1/2001	
4846.0 - 4864.0	4.0					6/1/2001	
4894.0 - 4904.0	4.0					6/1/2001	
4912.0 - 4916.0	4.0					6/1/2001	
4930.0 - 4940.0	4.0					6/1/2001	
4996.0 - 5000.0	4.0					6/1/2001	
5008.0 - 5028.0	4.0					6/1/2001	
5176.0 - 5182.0	4.0					6/1/2001	
5204.0 - 5224.0	4.0					6/1/2001	
5234.0 - 5244.0	4.0					6/1/2001	
5278.0 - 5298.0	4.0					6/1/2001	
5306.0 - 5326.0	4.0					6/1/2001	

Tubing String - Primary Tubing								
Grd	Item (in)	Comments	ID (in)	Thd	Jnts	Len (ft)	Top (ftKB)	Wt
	2.3740 in Tubing		1.9961			4550.0	0.0	4.60
Formation/Horizon Tops								
Formation							Top (ftKB)	
Ojo Alamo								2492.0
Pictured Cliffs								3021.0
Chacra								3884.0
Mesaverde								4670.0
Mancos								5644.0
Gallup								6344.0
Dakota								7208.0
Other (plugs, equip., etc.) - Plug Backs								
	Int (ftKB)	Item	Comments			Date		
	7497.0 - 7525.0	Cement Plug	6/17/91 Tag Fill @ 7450' (47' Fill) Did not clean out			2/23/1972		
Other (plugs, equip., etc.) - Temporary Abandonment								
	Int (ftKB)	Item	Comments			Date		
	6349.0 - 6350.0	C.I.B.P.				2/12/2001		
	7061.0 - 7161.0	Cement Plug				2/12/2001		
	7161.0 - 7162.0	C.I.B.P.				2/8/2001		
Other (plugs, equip., etc.) - Injection Packer								
	Int (ftKB)	Item	Comments			Date		
	4550.0 - 4553.0	Packer				6/1/2001		
Stimulations & Treatments								
	Int	Zone	Comments		Type	Date	Fluid	
	7211.0 - 7413.0	Dakota	Acid w/ 1500 G + 40 BS. Balled off @ 4000#		Acid Squeeze	2/24/1972	15% HCL	
	7211.0 - 7413.0	Dakota	4000 G pad gel water. Frac w/ 58,760 G 1% KCL + 77,000# 10/20 sd. AIR= 41 bpm @ 3300# ISIP 2000#		Fracture	2/24/1972	Water	
	6399.0 - 6439.0	Gallup	Acid w/ 500 G + 30 BS. Balled off		Acid Squeeze	2/25/1972	15% HCL	
	6399.0 - 6439.0	Gallup	2,000 G pad gel water. Frac w/ 32,450 G 1% KCL + 31,600# 10/20 sd. AIR= 35 bpm @ 3000# ISIP 800#		Fracture	2/25/1972	Water	
	6399.0 - 7413.0	Gallup/Dako	Dumped 500 G - flush with 10 bbls water		Acid Dump	12/7/1989	15% HCL	
Logs Run								
	Int	Comments		Company	Type	Date		
	200.0 - 7523.0			Dresser	IND DENS	2/12/1972		
	2700.0 - 7485.0			Gearhart	GR-CBL	2/22/1972		
	6000.0 - 7520.0			McCullough	GR-C	5/2/1979		



JICARILLA 30 5 Current Completion (300392046000)

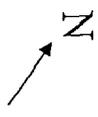
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JICARILLA 30 5 Current Completion							
API Code	300392046000						
Spud	2/1/1972						
Completion	3/10/1972						
Basin Code	580						
County	RIO ARRIBA						
Permit No.							
Reservoir	Gallup/Dakota						
Field Code	676398776						
Permit	1/14/1972						
Finish Drl	2/12/1972						
Abandon							
TD	7525.0 ftKB						
PBTD	6349.0 ftKB						
State	New Mexico						
District	San Juan O.U.						
TD Measured	7525 ftKB						
Field	WEST LINDRITH GALLUP/DAKOTA						
Basin	SAN JUAN BASIN						
Elevations							
KB-Grd	14.0 ft						
Grd	6855.0 ft						
Tub Head	0.0 ft						
KB	6869.0 ft						
Cas Fing	0.0 ft						
Bore Hole Data							
	Size (in)						Depth (ftKB)
	12.2500						244.0
	7.8750						7525.0
Casing String - SURFACE CASING							
Grd	Item (In)	Btm (ftKB)	Comments	ID	Thd	Jnts	Wt
K-55	8.6300 in Casing	244.0		8.1000	ST&C	7	24.00
Casing String - PRODUCTION CASING							
Grd	Item (In)	Btm (ftKB)	Comments	ID	Thd	Jnts	Wt
K-55	4.5000 in Casing	7525.0		4.0500	ST&C	231	10.50
	4.0000 in Sand Fill	7497.0	6/17/91 TOF @ 7450' (47' Fill)	0.0000			0.00
Casing Cement							
Amount (sx)	Comments			Casing String		Top (ftKB)	
150	Cement circ			SURFACE CASING		0.0	
765	2nd stage 200 sx Halliburton Lite Wt. with 1/2% CFR-2, 565 sx 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL. Cement thru DV @ 5336'.			PRODUCTION CASING		2740.0	
435	1st stage 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL.			PRODUCTION CASING		5840.0	
Perforations							
Int	Shots (/ft)	Comments				Type	Date
6399.0 - 6439.0	2.0	@ 6399-6403', 6426-39'. 24 Shots.					2/24/1972
7211.0 - 7413.0	1.0	@ 7403-13', 7357-69', 7245-51', 7219-23', 7211'. 21 Shots, 1 Shot every 2'					2/24/1972
Formation/Horizon Tops							
Formation							Top (ftKB)
Ojo Alamo							2492.0
Pictured Cliffs							3021.0
Chacra							3884.0
Mesaverde							4670.0
Mancos							5644.0
Gallup							6344.0
Dakota							7208.0
Other (plugs, equip., etc.) - Plug Backs							
Int (ftKB)	Item	Comments				Date	
7497.0 - 7525.0	Cement Plug	6/17/91 Tag Fill @ 7450' (47' Fill) Did not clean out				2/23/1972	

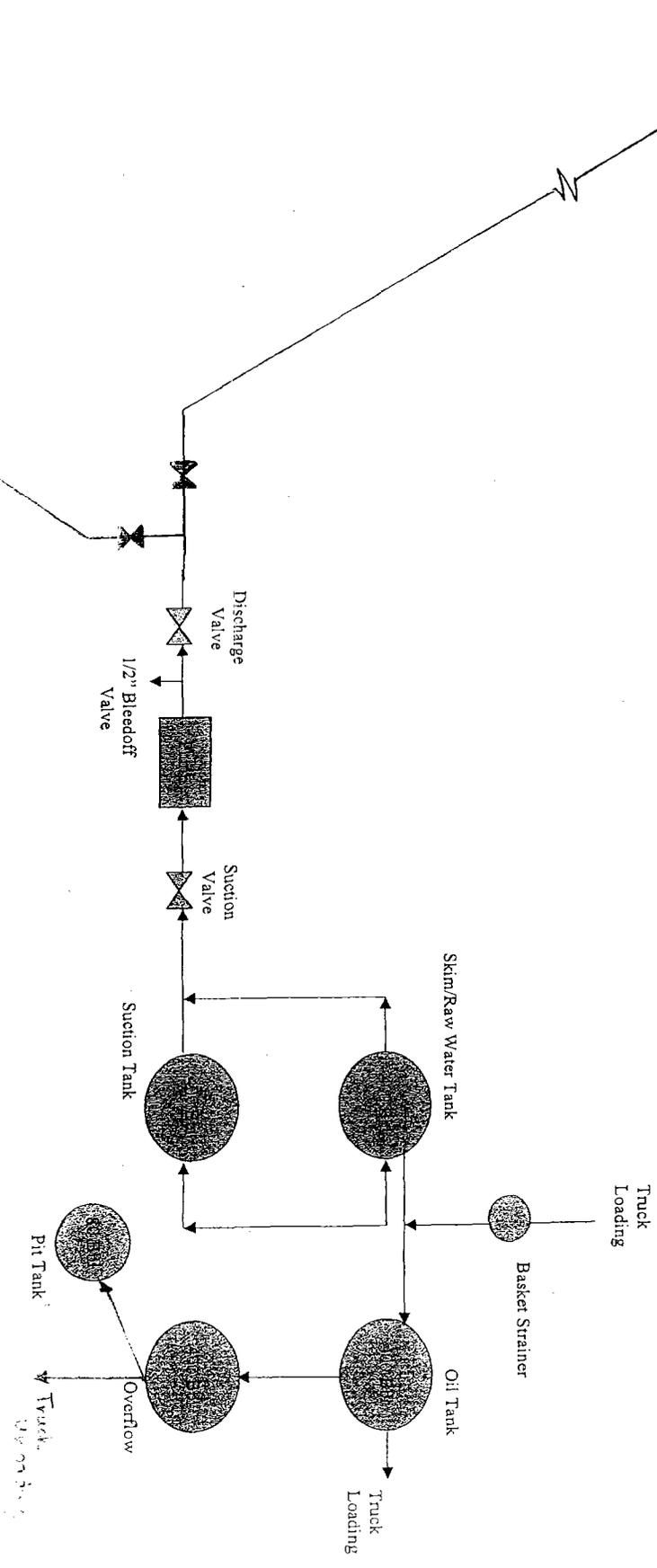
Other (plugs, equip., etc.) - Temporary Abandonment					
Int (ftKB)	Item	Comments	Date		
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7161.0 - 7162.0	C.I.B.P.		2/8/2001		
Stimulations & Treatments					
Int	Zone	Comments	Type	Date	Fluid
7211.0 - 7413.0	Dakota	Acid w/ 1500 G + 40 BS. Balled off @ 4000#	Acid Squeeze	2/24/1972	15% HCL
7211.0 - 7413.0	Dakota	4000 G pad gel water. Frac w/ 58,760 G 1% KCL + 77,000# 10/20 sd. AIR= 41 bpm @ 3300# ISIP 2000#	Fracture	2/24/1972	Water
6399.0 - 6439.0	Gallup	Acid w/ 500 G + 30 BS. Balled off	Acid Squeeze	2/25/1972	15% HCL
6399.0 - 6439.0	Gallup	2,000 G pad gel water. Frac w/ 32,450 G 1% KCL + 31,600# 10/20 sd. AIR= 35 bpm @ 3000# ISIP 800#	Fracture	2/25/1972	Water
6399.0 - 7413.0	Gallup/Dako	Dumped 500 G - flush with 10 bbls water	Acid Dump	12/7/1989	15% HCL
Logs Run					
Int	Comments	Company	Type	Date	
200.0 - 7523.0		Dresser	IND DENS	2/12/1972	
2700.0 - 7485.0		Gearhart	GR-CBL	2/22/1972	
6000.0 - 7520.0		McCullough	GR-C	5/2/1979	

Jearilla 30-1 SMDM

Proposed Jearilla 30-5 SMDM  
Installation



Jearilla 30-5 SMDM



# UNICHEM

A Division of BJ Services Company

Lab Test No: 28527

CRAWFORD, STEVE

Conoco

01/18/2000

## Water Analysis

Listed below please find water analysis report from: Jicarilla #30-1 SWD

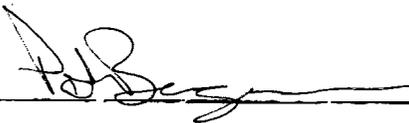
Specific Gravity:	1.009
TDS:	12133
pH:	8.20
Conductivity:	µmhos
Resistivity:	ohms/M

Cations:		mg/L
Calcium	(Ca <sup>++</sup> )	45
Magnesium	(Mg <sup>++</sup> )	21
Sodium	(Na <sup>+</sup> )	3836
Iron	(Fe <sup>+</sup> )	2.02
Barium	(Ba <sup>+</sup> )	1.53
Strontium	(Sr <sup>+</sup> )	8.62
Manganese	(Mn <sup>+</sup> )	0.51
Anions:		
Bicarbonate	(HCO <sub>3</sub> <sup>-</sup> )	1178
Carbonate	(CO <sub>3</sub> <sup>-</sup> )	
Hydroxide	(OH <sup>-</sup> )	
Silica	(SiO <sub>2</sub> )	
Sulfate	(SO <sub>4</sub> <sup>-</sup> )	500
Chloride	(Cl <sup>-</sup> )	6540
Gases:		
Carbon Dioxide	(CO <sub>2</sub> )	0
Hydrogen Sulfide	(H <sub>2</sub> S)	7

Comments:

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

  
\_\_\_\_\_ Name

Engineering Consultant  
\_\_\_\_\_ Title\*

\*If certification is signed by a party other than the injection well owner/operator a written statement of authorization signed by the owner/operator must accompany the application.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires November 30, 2000

**SUNDRY NOTICES AND REPORTS ON WELLS**

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

CONT 41

7. If Unit or CA/Agreement, Name and/or No.

**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator

Conoco Inc.

3a. Address

P. O. Box 2197, DU 3084 Houston TX 77252-2197

3b. Phone No. ( include area code )

(281)293-1613

8. Well Name and No.

Jicarilla 30 # 5

9. API Well No.

30-039-20460

4. Location of Well ( Footage, Sec., T., R., M., or Survey Description )

Sec. 32, T- 25N, R- 04W, Unit B(NWNE)

800' FNL & 1850' FEL

10. Field and Pool, or Exploratory Area

Lindrith Gallup-Dakota, West

11. County or Parish, State

Rio Arriba

New Mexico

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/ Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	_____
	<input checked="" type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	_____

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate horizontally, give subsurface locations measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Conoco Inc. proposes to convert the above mentioned well for salt water disposal injection as per attached procedure.

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

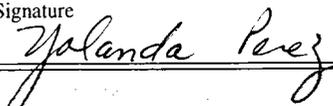
Name ( Printed/Typed )

Yolanda Perez

Title

Sr. Regulatory Analyst

Signature



Date

04/11/2001

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

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

Convert to Salt Water Disposal Procedure  
Jicarilla 30-5

Objective: To convert the well from its current state of temporarily abandoned Gallup/Dakota producer to a saltwater disposal well in the Mesa Verde. The well will need to be perforated in the Mesa Verde, a step rate test completed, stimulated if necessary, and tubing and packer installed.

Well Information:

Production Casing: 4 1/2" 10.5 lb/ft set at 7525'  
Capacity - .01594 bbls/ft or .6698 gals/ft  
Drift diameter 3.927"

Current Perfs: Gallup 6399' – 6439'  
Dakota 7211' – 7413'

Proposed Tubing: 2 3/8" to 4550'  
Capacity - .00387 bbls/ft or .1626 gals/ft

Proposed Perfs: Mesa Verde  
Cliffhouse Member: 4672'-78', 4680'-96',  
Menefee Member: 4752'-58', 4772'-82', 4816'-  
26', 4846'-64', 4894'-4904', 4912'-16', 4930'-  
40', 4996'-5000', 5008'-28', 5176'-82',  
Point Lookout Member: 5204'-24', 5234'-44',  
5278'-98', 5306'-26'

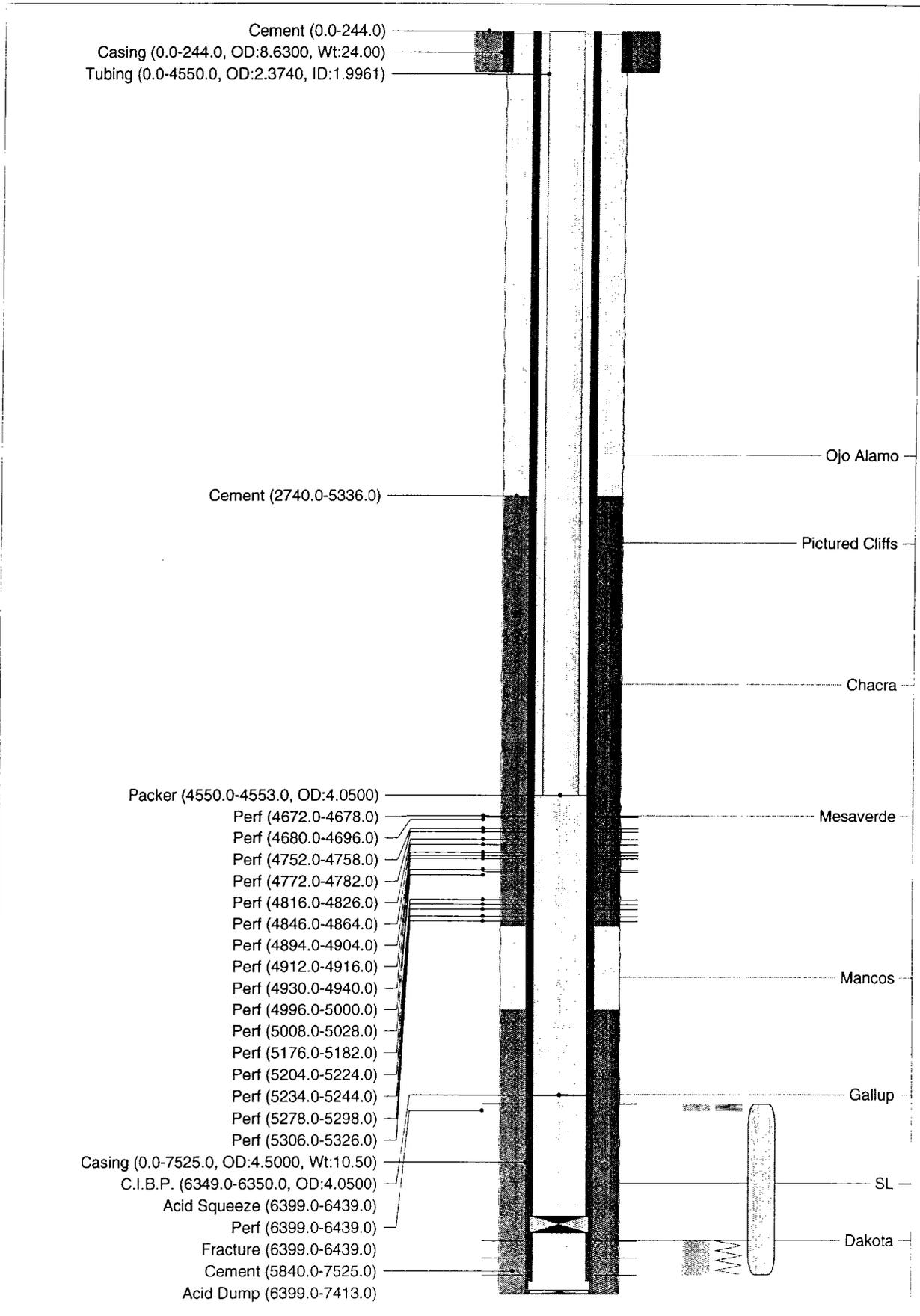
Procedure:

1. Rig up pulling unit.
2. Install BOP
3. Pressure test casing to 1500 psi.
4. RIH with 2 3/8" tubing to 5400' and circulate hole clean. Note: all fluid used in this procedure should be clean produced water.
5. Pull tubing up to 3000' and swab fluid level to that point. POOH.
6. Rig up perforating company with lubricator.
7. Perforate Point Lookout Interval of the Mesa Verde and the lowest section of the Menefee (5176') with 4 shots per foot.
8. Rig up a pump truck and begin pumping clean produced water into the perforations at 1/4 BPM, continue increasing injection rate in 1/8 BPM increments (with each step being at least 5 minutes in duration or longer if necessary to get a stabilized rate and pressure) until a clear change in slope of the pressure rate curve occurs. Take at least two step beyond the break point before concluding the test. Record the pressure and rate

information digitally. Continue recording pressure for at least 30 minutes after shutdown. (communicate the step rate test information to Houston)

9. A decision will be made at this point as to whether the Point Lookout and lower Menefee will be stimulated prior to perforating the remainder of the Menefee and Cliffhouse. If the well requires stimulation, a stimulation procedure will be developed.
10. If stimulation is not required continue perforating the remainder of the Mesa Verde perforations with 4 shots per foot. If stimulation is required, the stimulation procedure will address isolation of the Point Lookout and lower Menefee post-stimulation, prior to perforating the Cliffhouse and upper Menefee.
11. Perforate the remainder of the Menefee and the Cliffhouse Interval of the Mesa Verde with 4 shots per foot.
12. Rig up a pump truck for a second step rate test on the entire Mesa Verde. Begin pumping clean produced water into the perforations at  $\frac{1}{4}$  BPM, continue increasing injection rate in  $\frac{1}{8}$  BPM increments (with each step being at least 5 minutes in duration or longer if necessary to get a stabilized rate and pressure) until a clear change in slope of the pressure rate curve occurs. Take at least two step beyond the break point before concluding the test. (communicate the step rate test information to Houston)
13. Run in hole with tubing and a Baker Model AD-1 retrievable tension set injection packer to 4630' (must be deeper than 4597' GLM as per EPA) and set the packer. Note: It will take a minimum of 5000 lbs tension to set the packer, so set with the tubing in 10,000 lbs tension. Packer shear rings should be set for >35,000 lbs and <45,000 lbs. Top off annulus with sufficient mineral oil so as to prevent the packer fluid from freezing.
14. Nipple down BOP and nipple up wellhead. Well head needs to be equipped with cut-off valves and female fittings on both the tubing and tubing/casing annulus so that the injection pressure and annulus pressure may be measured by an EPA representative by attaching a gauge have a standard male fitting. Place 100 psi on the annulus.
15. Connect injection line to the wellhead for injection. Do not commence injection until all approvals are received.

Prepared by : Pat Bergman  
April 9, 2001

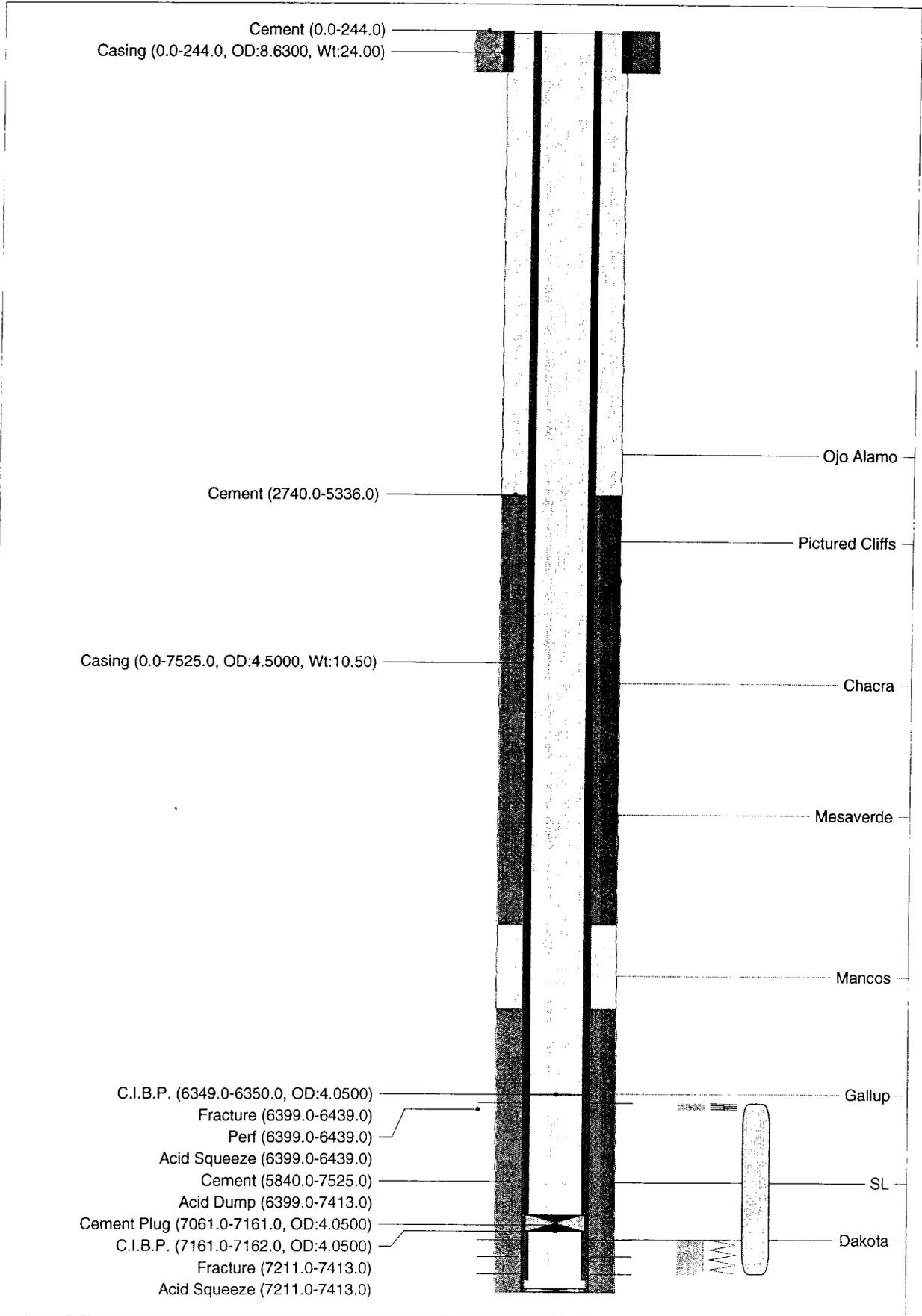


JICARILLA 30 5 Proposed SWD Completion (300392046000)

4/10/2001

JICARILLA 30 5 Proposed SWD Completion								
API Code				300392046000				
Spud				2/1/1972				
Completion				3/10/1972				
Basin Code				580				
County				RIO ARRIBA				
Permit No.								
Reservoir				Gallup/Dakota				
Field Code				676398776				
Permit				1/14/1972				
Finish Drl				2/12/1972				
Abandon								
TD				7525.0 ftKB				
PBTD				0.0 ftKB				
State				New Mexico				
District				San Juan O.U.				
TD Measured				7525 ftKB				
Field				WEST LINDRITH GALLUP/DAKOTA				
Basin				SAN JUAN BASIN				
<b>Elevations</b>								
KB-Grd				14.0 ft				
Grd				6855.0 ft				
Tub Head				0.0 ft				
KB				6869.0 ft				
Cas Flng				0.0 ft				
<b>Bore Hole Data</b>								
	Size (in)			Depth (ftKB)				
	12.2500			244.0				
	7.8750			7525.0				
<b>Casing String - SURFACE CASING</b>								
Grd	Item (in)	Btm (ftKB)	Comments		ID	Thd	Jnts	Wt
K-55	8.6300 in Casing	244.0			8.1000	ST&C	7	24.00
<b>Casing String - PRODUCTION CASING</b>								
Grd	Item (in)	Btm (ftKB)	Comments		ID	Thd	Jnts	Wt
K-55	4.5000 in Casing	7525.0			4.0500	ST&C	231	10.50
	4.0000 in Sand Fill	7497.0	6/17/91 TOF @ 7450' (47" Fill)		0.0000			0.00
<b>Casing Cement</b>								
Amount (sx)	Comments			Casing String		Top (ftKB)		
150	Cement circ			SURFACE CASING		0.0		
765	2nd stage 200 sx Halliburton Lite Wt. with 1/2% CFR-2, 565 sx 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL. Cement thru DV @ 5336'.			PRODUCTION CASING		2740.0		
435	1st stage 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL.			PRODUCTION CASING		5840.0		
<b>Perforations</b>								
Int	Shots (/ft)	Comments			Type	Date		
7211.0 - 7413.0	1.0	@ 7403-13', 7357-69', 7245-51', 7219-23', 7211'. 21 Shots, 1 Shot every 2'				2/24/1972		
6399.0 - 6439.0	2.0	@ 6399-6403', 6426-39'. 24 Shots.				2/24/1972		
4672.0 - 4678.0	4.0					6/1/2001		
4680.0 - 4696.0	4.0					6/1/2001		
4752.0 - 4758.0	4.0					6/1/2001		
4772.0 - 4782.0	4.0					6/1/2001		
4816.0 - 4826.0	4.0					6/1/2001		
4846.0 - 4864.0	4.0					6/1/2001		
4894.0 - 4904.0	4.0					6/1/2001		
4912.0 - 4916.0	4.0					6/1/2001		
4930.0 - 4940.0	4.0					6/1/2001		
4996.0 - 5000.0	4.0					6/1/2001		
5008.0 - 5028.0	4.0					6/1/2001		
5176.0 - 5182.0	4.0					6/1/2001		
5204.0 - 5224.0	4.0					6/1/2001		
5234.0 - 5244.0	4.0					6/1/2001		
5278.0 - 5298.0	4.0					6/1/2001		
5306.0 - 5326.0	4.0					6/1/2001		

Tubing String - Primary Tubing									
Grd	Item (in)	Comments	ID (in)	Thd	Jnts	Len (ft)	Top (ftKB)	Wt	
	2.3740 in Tubing		1.9961			4550.0	0.0	4.60	
Formation/Horizon Tops									
Formation							Top (ftKB)		
Ojo Alamo								2492.0	
Pictured Cliffs								3021.0	
Chacra								3884.0	
Mesaverde								4670.0	
Mancos								5644.0	
Gallup								6344.0	
Dakota								7208.0	
Other (plugs, equip., etc.) - Plug Backs									
	Int (ftKB)	Item	Comments				Date		
	7497.0 - 7525.0	Cement Plug	6/17/91 Tag Fill @ 7450' (47' Fill) Did not clean out				2/23/1972		
Other (plugs, equip., etc.) - Temporay Abandonment									
	Int (ftKB)	Item	Comments				Date		
	6349.0 - 6350.0	C.I.B.P.					2/12/2001		
	7061.0 - 7161.0	Cement Plug					2/12/2001		
	7161.0 - 7162.0	C.I.B.P.					2/8/2001		
Other (plugs, equip., etc.) - Injection Packer									
	Int (ftKB)	Item	Comments				Date		
	4550.0 - 4553.0	Packer					6/1/2001		
Stimulations & Treatments									
	Int	Zone	Comments		Type	Date	Fluid		
	7211.0 - 7413.0	Dakota	Acid w/ 1500 G + 40 BS. Balled off @ 4000#		Acid Squeeze	2/24/1972	15% HCL		
	7211.0 - 7413.0	Dakota	4000 G pad gel water. Frac w/ 58,760 G 1% KCL + 77,000# 10/20 sd. AIR= 41 bpm @ 3300# ISIP 2000#		Fracture	2/24/1972	Water		
	6399.0 - 6439.0	Gallup	Acid w/ 500 G + 30 BS. Balled off		Acid Squeeze	2/25/1972	15% HCL		
	6399.0 - 6439.0	Gallup	2,000 G pad gel water. Frac w/ 32,450 G 1% KCL + 31,600# 10/20 sd. AIR= 35 bpm @ 3000# ISIP 800#		Fracture	2/25/1972	Water		
	6399.0 - 7413.0	Gallup/Dakota	Dumped 500 G - flush with 10 bbls water		Acid Dump	12/7/1989	15% HCL		
Logs Run									
	Int	Comments			Company	Type	Date		
	200.0 - 7523.0				Dresser	IND DENS	2/12/1972		
	2700.0 - 7485.0				Gearhart	GR-CBL	2/22/1972		
	6000.0 - 7520.0				McCullough	GR-C	5/2/1979		



JICARILLA 30 5 Current Completion							
API Code		300392046000					
Spud		2/1/1972					
Completion		3/10/1972					
Basin Code		580					
County		RIO ARRIBA					
Permit No.							
Reservoir		Gallup/Dakota					
Field Code		676398776					
Permit		1/14/1972					
Finish Drl		2/12/1972					
Abandon							
TD		7525.0 ftKB					
PBSD		6349.0 ftKB					
State		New Mexico					
District		San Juan O.U.					
TD Measured		7525 ftKB					
Field		WEST LINDRITH GALLUP/DAKOTA					
Basin		SAN JUAN BASIN					
Elevations							
KB-Grd		14.0 ft					
Grd		6855.0 ft					
Tub Head		0.0 ft					
KB		6869.0 ft					
Cas Fing		0.0 ft					
Bore Hole Data							
		Size (in)					Depth (ftKB)
		12.2500					244.0
		7.8750					7525.0
Casing String - SURFACE CASING							
Grd	Item (In)	Btm (ftKB)	Comments	ID	Thd	Jnts	Wt
K-55	8.6300 in Casing	244.0		8.1000	ST&C	7	24.00
Casing String - PRODUCTION CASING							
Grd	Item (In)	Btm (ftKB)	Comments	ID	Thd	Jnts	Wt
K-55	4.5000 in Casing	7525.0		4.0500	ST&C	231	10.50
	4.0000 in Sand Fill	7497.0	6/17/91 TOF @ 7450' (47" Fill)	0.0000			0.00
Casing Cement							
Amount (sx)	Comments			Casing String		Top (ftKB)	
150	Cement circ			SURFACE CASING		0.0	
765	2nd stage 200 sx Halliburton Lite Wt. with 1/2% CFR-2, 565 sx 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL. Cement thru DV @ 5336'.			PRODUCTION CASING		2740.0	
435	1st stage 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL.			PRODUCTION CASING		5840.0	
Perforations							
Int	Shots (/ft)	Comments			Type	Date	
6399.0 - 6439.0	2.0	@ 6399-6403', 6426-39'. 24 Shots.				2/24/1972	
7211.0 - 7413.0	1.0	@ 7403-13', 7357-69', 7245-51', 7219-23', 7211'. 21 Shots, 1 Shot every 2'				2/24/1972	
Formation/Horizon Tops							
Formation						Top (ftKB)	
Ojo Alamo						2492.0	
Pictured Cliffs						3021.0	
Chacra						3884.0	
Mesaverde						4670.0	
Mancos						5644.0	
Gallup						6344.0	
Dakota						7208.0	
Other (plugs, equip., etc.) - Plug Backs							
Int (ftKB)	Item	Comments				Date	
7497.0 - 7525.0	Cement Plug	6/17/91 Tag Fill @ 7450' (47' Fill) Did not clean out				2/23/1972	

JICARILLA 30 5 Current Completion (300392046000)

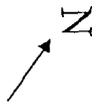
4/10/2001

Other (plugs, equip., etc.) - Temporay Abandonment					
Int (ftKB)	Item	Comments	Date		
6349.0 - 6350.0	C.I.B.P.		2/12/2001		
7061.0 - 7161.0	Cement Plug		2/12/2001		
7161.0 - 7162.0	C.I.B.P.		2/8/2001		
Stimulations & Treatments					
Int	Zone	Comments	Type	Date	Fluid
7211.0 - 7413.0	Dakota	Acid w/ 1500 G + 40 BS. Balled off @ 4000#	Acid Squeeze	2/24/1972	15% HCL
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6399.0 - 6439.0	Gallup	Acid w/ 500 G + 30 BS. Balled off	Acid Squeeze	2/25/1972	15% HCL
6399.0 - 6439.0	Gallup	2,000 G pad gel water. Frac w/ 32,450 G 1% KCL + 31,600# 10/20 sd. AIR= 35 bpm @ 3000# ISIP 800#	Fracture	2/25/1972	Water
6399.0 - 7413.0	Gallup/Dako	Dumped 500 G - flush with 10 bbls water	Acid Dump	12/7/1989	15% HCL
Logs Run					
Int	Comments	Company	Type	Date	
200.0 - 7523.0		Dresser	IND DENS	2/12/1972	
2700.0 - 7485.0		Gearhart	GR-CBL	2/22/1972	
6000.0 - 7520.0		McCullough	GR-C	5/2/1979	

Jicarilla 30-1 SMDM

McFarland

Proposed Jicarilla 30-5 SMDM



Jicarilla 30-5 SMDM

