



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

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

(281) 293-1613

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 Itr. 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 volanda.perez@usa.conoco.com.

Sincerely,

CONOCO INC.
Yolanda Parez

Yblanda Perez Sr. Regulatory Analyst Lobo/San Juan Asset

Enclosures

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STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

	APPLICATION FOR AUTHORIZATION TO INJECT
I	PURPOSE: Secondary Recovery Pressure Maintenance Dispose 7. Sorrage Application qualifies for administrative approval? Yes No
II.	OPERATOR: Conoco Inc.
	ADDRESS: P.O. Box 2197, Du 3084 Houston, TX 77252
	CONTACT PARTY: Volanda Pere Z PHONE: (281) 293-161
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?YesXNo 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:
*VIII	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, 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.). 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: Volanda Perez TITLE: Sr. Regulatory Analyst
	NAME: Volanda Perez TITLE: Sr. Regulatory Analyst SIGNATURE: 2 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.

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.

OPERATOR: Conoco Inc.

WELL NAME & NUMBER: Jicarilla 30 # 5

WELL LOCATION: 800' FNL 1850' FEL FOOTAGE LOCATION

please see attached

WELLBORE SCHEMATIC

UNIT LETTER

SECTION

32

25 N TOWNSHIP

RANGE

WELL CONSTRUCTION DATA Surface Casing

Hole Size:

Casing Size:_

Cemented with:

Top of Cement:

or SX.

Method Determined:

Intermediate Casing

Casing Size: Hole Size:

or SX. Cemented with:

 $\mathfrak{t}\mathfrak{t}_{3}$

Method Determined: Production Casing

Top of Cement:

Hole Size:

Casing Size:_ or SX. Cemented with:

Method Determined: Top of Cement: Total Depth: _

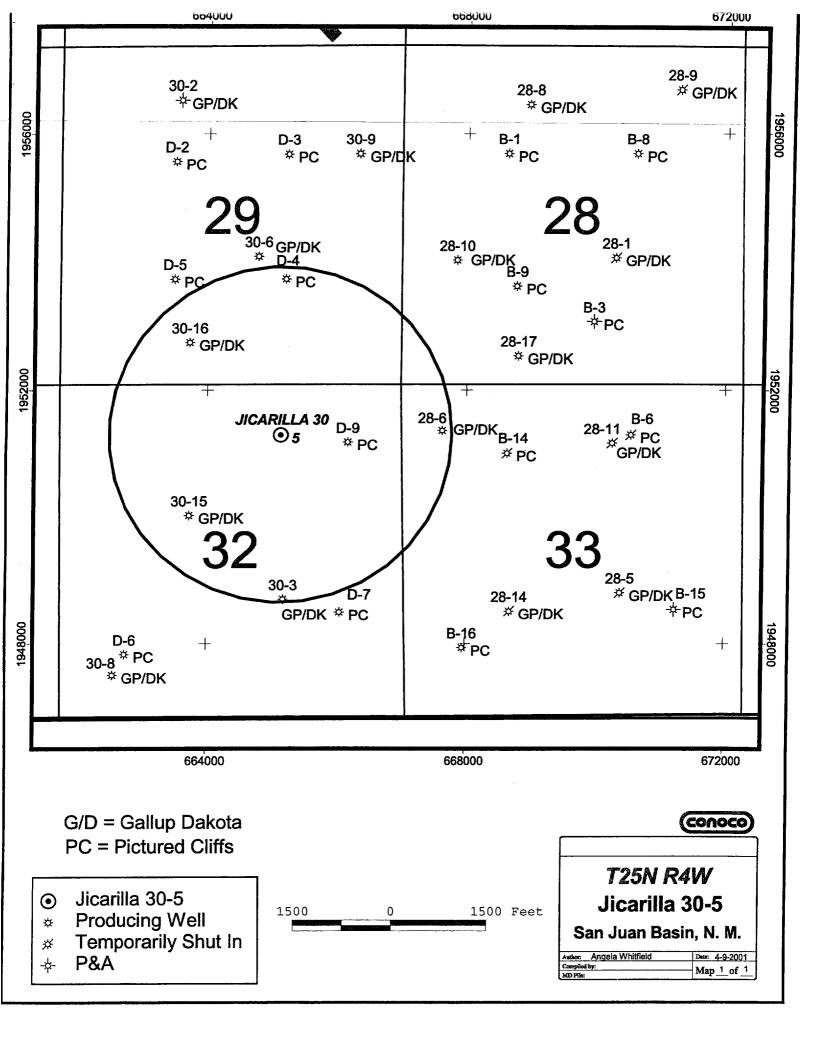
Injection Interval

feet to_

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tut	Tubing Size: Please See Attached Lining Material:
$Ty_{\mathbf{I}}$	Type of Packer:
Pac	Packer Setting Depth:
Off	Other Type of Tubing/Casing Seal (if applicable):
	Additional Data
∺	Is this a new well drilled for injection?
	If no, for what purpose was the well originally drilled?
5	Name of the Injection Formation:
33	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:



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 1/4"	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 1/4"	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

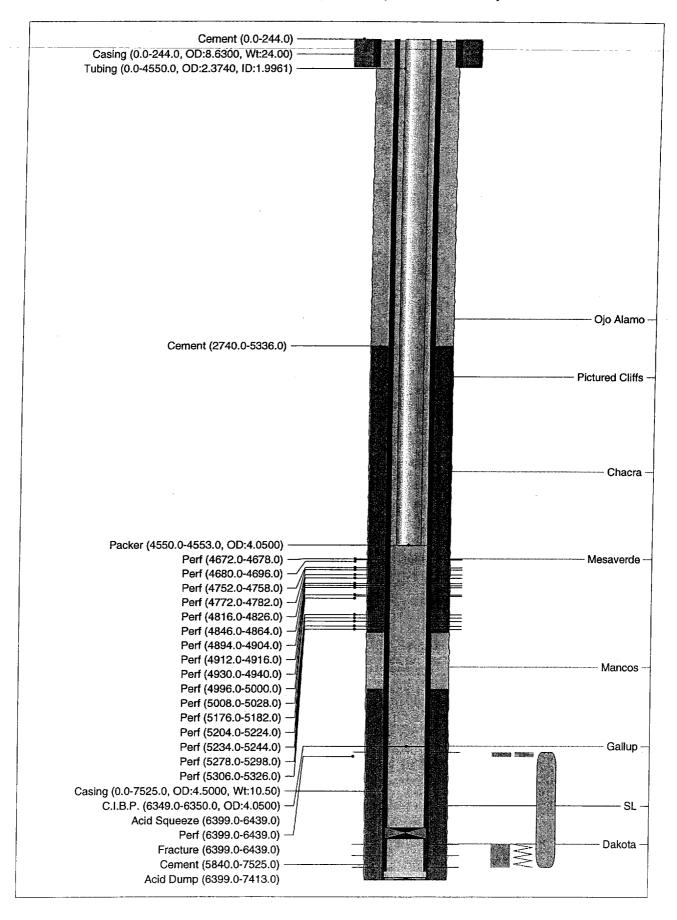
Hole Size	Casing Size	Landed Depth	Cement and Additive Data	Top of Cement
12 1/4"	8 5/8"	516'	270 sacks	Surface
7 7/8"	5 ½"	7580'	805 sacks	2200' (by Temp Survey)

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 1/4"	8 5/8"	295'	220 sacks	surface
7 7/8"	5 ½"	7575'	1650 sacks	1850' (by Temp Survey)

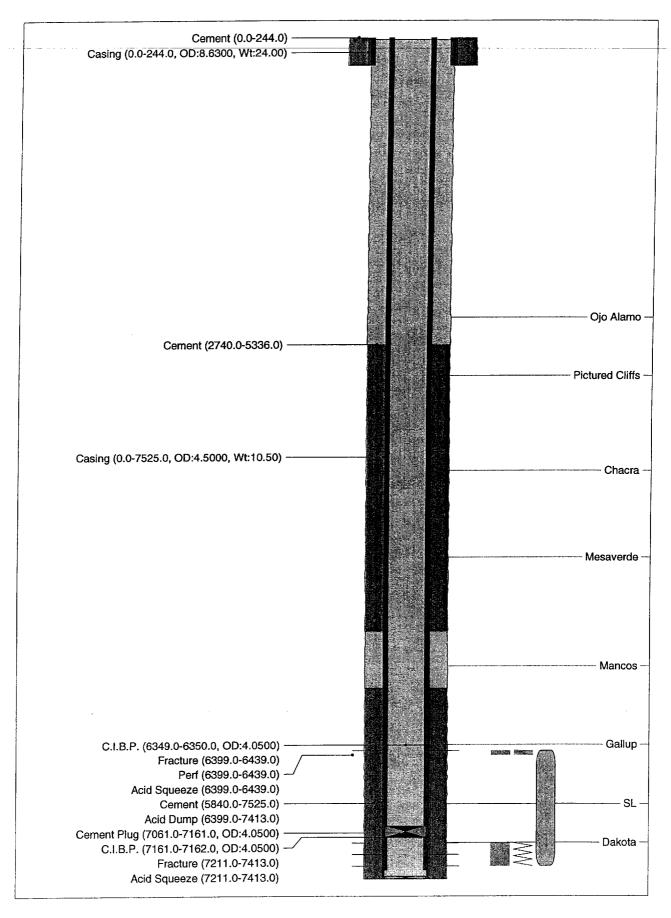
						Permit #
		Well C	ompletion an	d Operation	Data	
Type Injection Well: S	WD					
Injection: Continuous						
Fluid: TDS 1	verage ure (psi) 2133mg on name added	300 : Average // :): Dakota to the wat	Maximum : Unknown Sp.Gr.1.00 a, Gallup, Me er to be inject	Maxi 9 sa Verde, Ch ted: (yes)	<i></i>	determined by step rate Analysis Included: (Yes) I Cliffs, Fruitland Coal
Geologic Data (all refere	ences to	depth are	below land su	urface plus 1	4' KB):	
Porosit _i Permea	ion nam y (%): 1 bility (n	Top: 4 e Mesa V 0-12 ad): unkno Included:	erde Li Cu Or own	thology: <u>S</u> rrent Reserv	andstone	Thickness: 190' 2000 psi estimated
<u>Chacra</u> Cumula	gy Pred and coal tive sha	lominately (Fruitland le 1198'	<u>/ shale (Lewi</u> d) Th	s) and siltsto ickest shale	zone: <u>697' (L</u> e	sand (Pictured Cliffs,
Well Data:	-					
Surface Elevation Date Drilled: 2-1 Type of logs avai	<u>1972</u>					•
Construction:	Size (in)	Depth Interval	Sacks of Cement	Hole Size (in)	Cement <u>Interval</u>	How Determined
Surface Csg. Long String Csg.		<u>0-244</u> <u>0-7525</u>	150 1200	12 ½ 7 7/8	0 -244 2740-5336 5840-7525	Observation CBL CBL
Tubing Packer Type and	<u>2 3/8</u> Depth:_	4550 est Retrieva		50' est.		
Other Perforated	Intervals	::			ow CIBP @ 6: ow CIBP @7	349') 161' and cement



API Code		RILLΔ:	in 5. Propos	ed SWD Con	nletion		*				
Sput			ios i ropos	ec one con	Pictor			2046000			
Compeleion S/10/1972 Salar Code Siso Siso		545									
County RIO AFRIEA Reservoir Gallup/Dakots Reservoir Gallup/Dakots Reservoir Gallup/Dakots Reservoir Reservoir Gallup/Dakots Reservoir Re		etion					3/1	0/1972			
Fermit No. Gallup/Dakota Flield Code											
Reservoir Galluy/Dakota							RIO	ARRIBA			
Field Code						 	Colle	n/Dakata		<u> </u>	
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K-55	Giù						Comments		''''	onta	471
Casing String - PRODUCTION CASING Iber Iber Iber Iter	K-55		in Casing					8.1000	ST&C	7	24.00
Casing Cement	Casing			ION CASING	i .						
K-55	Grd	Item					Comments	ID	Thd	Jnts	Wt
4,0000 in Sand Fill											
Casing Cement Amount (sx) Comments Casing String (ftKB) 150 Cement circ 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'. SURFACE CASING 2740.0 Containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL. Cement thru DV @ 5336'. PRODUCTION CASING 1st stage 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 TOC by CBL. PRODUCTION CASING TOC by CBL. 5840.0 Perforations Comments Type Date Comments Type Date Perforations Comments Type Date (ftt) Shots (ftt) Comments Type Date Perforations Comments Type Date (ftt) Open 400.0	K-55_					01 TOF @	74501 (478 5:11)		ST&C	231	
Comments Comments Casing String Top (fiKB)	Casina	the state of the s	The second secon	149	7.0 0/17/	BI TOF W	7450 (47 FIII)	0.0000			0.00
(sx) (ftKs) 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 1 st 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 every 2' 6399.0 - 6439.0 2.0 @ 6399-6403', 6426-39'. 24 Shots. 2/24/1972 every 2' 6472.0 - 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 4816.0 - 4826.0 4.0 6/1/2001 4894.0 - 4904.0 4.0 6/1/2001 4996.0 - 5000.0 4.0 6/1/2001 4996.0 - 5000.0 4.0 6/1/2001 5008.0 - 5028.0 4.0 6/1/2001			11	4	Commer	nte		Casing	String	T	Ton
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thru DV © 5336'. 435	765	2nd	stage 200 sx	Halliburton Lite	Wt. with	1/2% CFR	1-2, 565 sx 50/50 Pozmix	PRODUCTION	ON CASING		2740.0
1st stage 50/50 Pozmix containing 2% gel, 6.25 lb/sx Gilsonite, 1/2% CFR-2 PRODUCTION CASING 5840.0				, 6.25 lb/sx Gils	sonite, 1/2	2% CFR-2	TOC by CBL. Cement				
TOC by CBL. Perforations Shots (/ft) Comments Type Date	425			ozmiy containin	n 2% nol	6 25 lb/es	Gilconite 1/2% CER-2	PPODLICTIO	N CASING	-	5940 O
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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	4846.0	- 4864.0	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	4894.0	- 4904.0	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											
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				 		.					
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								-			
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5234.0 - 5244.0 4.0 5278.0 - 5298.0 4.0 6/1/2001							· · · · · · · · · · · · · · · · · · ·				
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5306.0 - 5326.0 4.0 6/1/2001	5278.0 -	- 5298.0								6/1	/2001
	5306.0 -	- 5326.0	4.0								

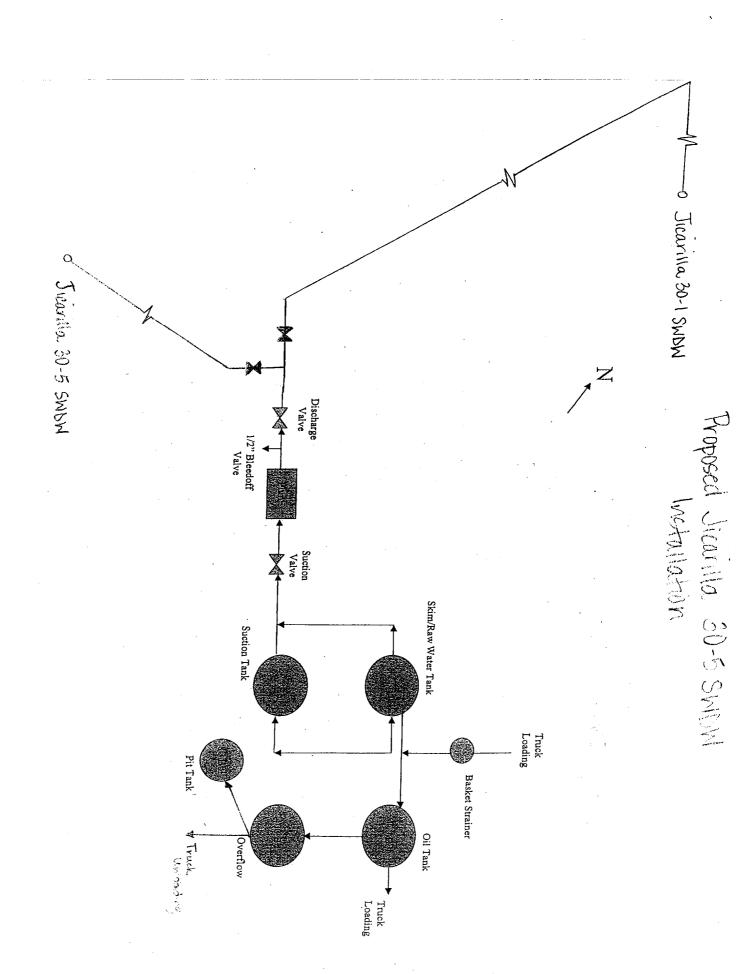
JICARILLA 30 5 Proposed SWD Completion (300392046000)

Manager of Charles of Charles of the Control of the		- Primary	Tubing .			Contract Contract						
Grd	item		Comments	ID		hd	Jnts	l	Len	Top		W
	(in)	- T		(in)			ļ		(ft)	(ftKE		
		in Tubing		1.996	01				1550.0	someonesises	0.0	1.
-ormati	on/Hor	izon Tops		_					+	<u> </u>		- 11
			Formation	····							op KB)	
Djo Alam												302
Pictured (Chacra	UIIIS								-			388
Mesavero	10											467
Mancos	10								+			564
Gallup									1			634
Dakota												720
	luas, e	auip., etc.) - Plug Backs									
<u> </u>	Int		item	Comments							Date	8
	(ftKB)										
74	497.0 - 7		Cement Plug	6/17/91 Tag Fill (9 7450)' (47'	Fill) D	id not c	lean	2/	23/19	972
				out		•	•				_	
Other (p	lugs, e	quip., etc.)	- Temporay Abandon	ment								
	Int		ltem	Comments							Date	•
	(ftKB											
	349.0 - 6		C.I.B.P.	<u> </u>							12/20	
	061.0 - 7		Cement Plug								12/20	
	61.0 - 7		C.I.B.P.							2	/8/20	01
	lugs, e		- Injection Packer							2		
	lugs, ea Int	uip,, etc.		Comments						2	/8/20/ Date	
other (p	lugs, ed Int (ftKB)	quip., etc.)	Injection Packer Item	Comments							Date)
other (p	lugs, ed Int (ftKB) 550.0 - 45	quip., etc.)) 553.0	Injection Packer Item	Comments	4.5)
other (p 45 Stimulat	lugs, ed Int (ftKB) 550.0 - 45 ions &	quip., etc.) 553.0 Treatment	Injection Packer Item Packer S			T	Type		Da	6/	Date /1/200	01
other (p 45 Stimulat	lugs, ed int (ftKB) 550.0 - 45 ions & t	uip., etc.) 553.0 Freatment Zone	Packer Si Con	nments		Acid	Type Squee:		Da [*]	6/ te	Date /1/200 FI	01 luid
Other (p 45 Stimulat In 7211.0 -	lugs, e. Int (ftKB) 550.0 - 45 ions & t 7413.0	quip., etc.) 553.0 Treatment	Injection Packer Item Packer S	nments Balled off @ 4000#Frac w/ 58,760 G 1%	KCL	Acid Frac	Squee			6/ te	Date /1/200	01 luid HCL
45 Stimulat In: 7211.0 - 7211.0 -	lugs, e.c. (ftKB) 550.0 - 45 lons & t 7413.0 7413.0	quip., etc.) 553.0 Treatment Zone Dakota	Packer S Con Acid w/ 1500 G + 40 BS 4000 G pad gel water. I + 77,000# 10/20 sd. Al	nments . Balled off @ 4000# -rac w/ 58,760 G 1% R= 41 bpm @ 3300#	KCL	Frac	Squee	Zθ	2/24/1	6/ te 1972 1972	Date /1/200 FI 15%	01 Iuld HCL
45 timulat 107 7211.0 - 7399.0 -	lugs; ed Int (ftKB) 550.0 - 45 lons & t 7413.0 7413.0 6439.0	Guip., etc.) 553.0 Freatment Zone Dakota Dakota	Packer S Con Acid w/ 1500 G + 40 BS 4000 G pad gel water. I + 77,000# 10/20 sd. Al 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Alf	nments . Balled off @ 4000# Frac w/ 58,760 G 1% R= 41 bpm @ 3300# Balled off Frac w/ 32,450 G 1%	KCL FISIP	Frac	Squee: ture Squee:	Zθ	2/24/1 2/24/1	6/ te 1972 1972	/1/200 FI 15% Wate	01 Iuld HCL or
45 timulat 107 7211.0 - 7211.0 - 6399.0 -	lugs, ed Int (ftKB) 550.0 - 45 Ions & t 7413.0 7413.0 6439.0 6439.0	553.0 Freatment Zone Dakota Dakota Gallup Gallup	Packer Item Packer S Con Acid w/ 1500 G + 40 BS 4000 G pad gel water. I + 77,000# 10/20 sd. Al 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Alf 800#	nments Balled off @ 4000# Frac w/ 58,760 G 1% R= 41 bpm @ 3300# Balled off Frac w/ 32,450 G 1% R= 35 bpm @ 3000#	KCL FISIP	Acid Frac	Squee: ture Squee: ture	Zθ	2/24/1 2/24/1 2/25/1 2/25/1	6/ te 1972 1972 1972	71/200 FI 15% Wate	od HCL er HCL
45 timulat 107 7211.0 - 7211.0 - 6399.0 - 6399.0 -	lugs, ed Int (ftKB) 550.0 - 45 Ions & t 7413.0 7413.0 6439.0 6439.0	553.0 Freatment Zone Dakota Dakota Gallup Gallup	Packer S Con Acid w/ 1500 G + 40 BS 4000 G pad gel water. I + 77,000# 10/20 sd. Al 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Alf	nments Balled off @ 4000# Frac w/ 58,760 G 1% R= 41 bpm @ 3300# Balled off Frac w/ 32,450 G 1% R= 35 bpm @ 3000#	KCL FISIP	Acid Frac	Squee: ture Squee:	Zθ	2/24/1 2/24/1 2/25/1	6/ te 1972 1972 1972	/1/200 FI 15% Wate	od HCL er HCL
45 timulat 7211.0 - 7211.0 - 6399.0 - 6399.0 - 6399.0 -	lugs, ed Int (ftKB) 550.0 - 45 lons & t 7413.0 7413.0 6439.0 6439.0 7413.0	553.0 Freatment Zone Dakota Dakota Gallup Gallup	Packer Item Packer	nments Balled off @ 4000# Frac w/ 58,760 G 1% R= 41 bpm @ 3300# Balled off Frac w/ 32,450 G 1% R= 35 bpm @ 3000#	KCL FISIP KCL ISIP	Acid Frac	Squee: Squee: ture Dump	Zθ	2/24/1 2/24/1 2/25/1 2/25/1 12/7/1	6/ te 1972 1972 1972	71/200 FI 15% Wate 15% Wate	O1 Iuid HCL HCL
45 Stimulat 7211.0 - 7211.0 - 6399.0 - 6399.0 - 6399.0 -	lugs, ed Int (ftKB) 550.0 - 45 ions & t 7413.0 7413.0 6439.0 6439.0	553.0 Freatment Zone Dakota Dakota Gallup Gallup	Packer Item Packer S Con Acid w/ 1500 G + 40 BS 4000 G pad gel water. I + 77,000# 10/20 sd. Al 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Alf 800#	nments Balled off @ 4000# Frac w/ 58,760 G 1% R= 41 bpm @ 3300# Balled off Frac w/ 32,450 G 1% R= 35 bpm @ 3000#	KCL FISIP KCL ISIP	Acid Frac	Squee: Squee: ture Dump	ze ze	2/24/1 2/24/1 2/25/1 2/25/1 12/7/1	6/ te 1972 1972 1972	71/200 FI 15% Wate 15% Wate	luid HCL HCL HCL
45 Stimulat 7211.0 - 7211.0 - 6399.0 - 6399.0 -	lugs, ed Int (ftKB) 550.0 - 45 Jons & t 7413.0 6439.0 6439.0 7413.0 7523.0	553.0 Freatment Zone Dakota Dakota Gallup Gallup	Packer Item Packer	nments Balled off @ 4000# Frac w/ 58,760 G 1% R= 41 bpm @ 3300# Balled off Frac w/ 32,450 G 1% R= 35 bpm @ 3000#	KCL FISIP KCL ISIP	Acid Acid Acid	Squee: Squee: ture Dump	Zθ	2/24/1 2/24/1 2/25/1 2/25/1 12/7/1 Type DENS	6/ te 1972 1972 1972	71/200 FI 15% Wate 15% Wate	luid HCL HCL ate //197



API Co	III THE COLOR ONLY	Completion				4.00		
	ode				92046000			
Spud					/1/1972			
Comple				3/	10/1972			
Basin C					580			
County				HIO	ARRIBA			
Permit Reserv				Calli	up/Dakota	 		
Field C					6398776			
Permit	- CuG				14/1972			
Finish [Orl				2/1972			
Abando								
TD					5.0 ftKB			
PBTD					9.0 ftKB			
State					v Mexico			
District					Juan O.U. 25 ftKB			
TD Mea	asured			WEST LINDRITH		KOTA		
Field Basin					JAN BASIN	MOIA		
Elevat	lanc			UAIT OF	JAN DAON			
KB-Grd					14.0 ft			
Grd		_			6855.0 ft			
Tub Hea	ad		 		0.0 ft			
KB	·				6869.0 ft			
Cas Fln					0.0 ft			A6 300
	lole Data				1000			
	_	Size			Depth			
		(in)			(ftKB)			
		.2500			244.0			
	7.	8750			7525.0		40-4	
	String - SURFACE			0	10	764	leste	\0/A
Grd	item	Btm (ftKB)		Comments	ID	Thd	Jnts	Wt
K-55	(in) 8.6300 in Casing	244.0			8,1000	ST&C	7	24.0
N-33	String - PRODUCT		L		0.1000	0140	,	27.
Grd	Item	Btm		Comments	ID	Thd	Jnts	Wt
Gra	(in)	(ftKB)		Comments	10	1110	UIILS	***
K-55	4.5000 in Casing	7525.0			4.0500	ST&C	231	10.5
	4.0000 in Sand Fill			7450' (47" Fill)	0.0000			0.0
Casing	Cement			Line 1	100			
Amou		Co	mments		Casing	String		Тор
(sx)							(1	ftKB)
	[SURFACE O	CASING		0
150	Cement circ				30/11/102			
150 765	2nd stage 200 sx	Halliburton Lite Wt	. with 1/2% CFF	R-2, 565 sx 50/50 Pozmix	PRODUCTION		3	2740
	2nd stage 200 sx containing 2% gel,	Halliburton Lite Wt , 6.25 lb/sx Gilsoni	. with 1/2% CFF te, 1/2% CFR-2	R-2, 565 sx 50/50 Pozmix TOC by CBL. Cement	PRODUCTION		à	2740
765	2nd stage 200 sx containing 2% gel, thru DV @ 5336'.	, 6.25 lb/sx Gilsoni	te, 1/2% CFR-2	TOC by CBL. Cement	PRODUCTION	ON CASING		
	2nd stage 200 sx containing 2% gel, thru DV @ 5336'.	, 6.25 lb/sx Gilsoni	te, 1/2% CFR-2	R-2, 565 sx 50/50 Pozmix TOC by CBL. Cement x Gilsonite, 1/2% CFR-2	PRODUCTION	ON CASING		
765 435	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL.	, 6.25 lb/sx Gilsoni	te, 1/2% CFR-2	TOC by CBL. Cement	PRODUCTION	ON CASING		
765 435 Perfora	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL.	, 6.25 lb/sx Gilsoni	te, 1/2% CFR-2 % gel, 6.25 lb/s	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2	PRODUCTION	ON CASING	ì	5840.
765 435 Perfora	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL.	, 6.25 lb/sx Gilsoni	te, 1/2% CFR-2 % gel, 6.25 lb/s	TOC by CBL. Cement	PRODUCTION	ON CASING	ì	
765 435 Perfora	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. Itions nt Shots (/ft)	, 6.25 lb/sx Gilsoni	te, 1/2% CFR-2 % gel, 6.25 lb/s Co	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments	PRODUCTION	ON CASING		5840. Date
765 435 Perfora II 6399.0	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. Itions nt Shots (/ft) - 6439.0 2.0	, 6.25 lb/sx Gilsoni ozmix containing 2	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Sho	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING	2/2	5840. Date
765 435 erfora I: 6399.0	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. Itions nt Shots (/ft)	e 6399-6403', 6 @ 7403-13', 735	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Sho	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments	PRODUCTION	ON CASING	2/2	5840. Date
765 435 Perfora I 6399.0 7211.0	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. Itions nt Shots (/ft) - 6439.0 2.0 - 7413.0 1.0	, 6.25 lb/sx Gilsoni ozmix containing 2	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Sho	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING	2/2	5840. Date
765 435 Perfora I 6399.0 7211.0	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. Itions nt Shots (/ft) - 6439.0 2.0	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Sho	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2 2/2	5840 Date 4/1972 4/1972
765 435 Perfora I 6399.0 7211.0	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. Itions nt Shots (/ft) - 6439.0 2.0 - 7413.0 1.0	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2	5840 Date 4/1972
765 435 Perfora 6399.0 7211.0 ormat	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Po TOC by CBL. Itions Itions (/ft) - 6439.0 2.0 - 7413.0 1.0 Ion/Horizon Tops	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2 2/2	5840. Date 4/1972 4/1972
765 435 Perfora II 6399.0 7211.0 Ormat	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. Itions Itions 1 Shots (/ft) - 6439.0 2.0 - 7413.0 1.0 Ion/Horizon Tops	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2 2/2	5840. Date 4/1972 4/1972 2492. 3021.
765 435 Perfora II 6399.0 7211.0 Ormat	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. Itions Itions 1 Shots (/ft) - 6439.0 2.0 - 7413.0 1.0 Ion/Horizon Tops	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2 2/2	5840. Date 4/1972 4/1972 2492. 3021. 3884.
765 435 erfora I 6399.0 7211.0 ormat jo Alam ictured hacra esavere	2nd stage 200 sx containing 2% gel thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. stions Shots (/ft) - 6439.0 2.0 - 7413.0 1.0 lon/Horizon Tops	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2 2/2	5840 Date 4/1972 4/1972 2492 3021 3884 4670
435 erfora 6399.0 7211.0 ormat	2nd stage 200 sx containing 2% gel thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. stions Shots (/ft) - 6439.0 2.0 - 7413.0 1.0 lon/Horizon Tops	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2 2/2	5840 Date 4/1972 4/1972 2492 3021 3884 4670 5644
765 435 erfora II 6399.0 7211.0 ormat ijo Alam ictured hacra lesavere lancos allup	2nd stage 200 sx containing 2% gel thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. stions Shots (/ft) - 6439.0 2.0 - 7413.0 1.0 lon/Horizon Tops	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2 2/2	5840 Date 4/1972 4/1972 2492 3021 3884 4670 5644 6344
765 435 Perfora II 6399.0 7211.0 Ormat Pio Alamictured chacra lesavere lesavere allup akota	2nd stage 200 sx containing 2% gel thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL.	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots.	PRODUCTION	ON CASING Type	2/2 2/2	5840 Date 4/1972 4/1972 2492. 3021. 3084. 4670. 5644. 6344.
765 435 Perfora 6399.0 7211.0 Format Pio Alam ictured chacra lesavere lesavere iallup akota	2nd stage 200 sx containing 2% gel, thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL.	@ 6399-6403', 6 @ 7403-13', 735 every 2' For	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots. 7219-23', 7211'. 21 Sho	PRODUCTION	ON CASING Type	2/2 2/2 2/2 Top tKB)	5840. Date 4/1972 4/1972 2492. 3021. 3084. 4670. 5644. 6344. 7208.
765 435 Perfora 6399.0 7211.0 Format Pio Alam ictured chacra lesavere lesavere iallup akota	2nd stage 200 sx containing 2% gel thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. 1st stag	@ 6399-6403', 6 @ 7403-13', 735 every 2'	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51',	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots. 7219-23', 7211'. 21 Sho	PRODUCTION	ON CASING Type	2/2 2/2	5840. Date 4/1972 4/1972 2492. 3021. 3084. 4670. 5644. 6344. 7208.
435 Perfora 6399.0 7211.0 Format For	2nd stage 200 sx containing 2% gel thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. 1tions Shots (/ft) - 6439.0 2.0 - 7413.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	e 6.25 lb/sx Gilsoni ozmix containing 2 @ 6399-6403', 6 @ 7403-13', 735 every 2' For	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51', rmation	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 comments obts. 7219-23', 7211'. 21 Sho	PRODUCTION	Type (f	2/2 2/2 2/2 Top tKB)	2492. 3021. 3884. 4670. 5644. 7208.
435 Perfora II 6399.0 7211.0 Ormat Ijo Alam ictured hacra lesavere lesavere allup akota	2nd stage 200 sx containing 2% gel thru DV @ 5336'. 1st stage 50/50 Pc TOC by CBL. 1st stag	@ 6399-6403', 6 @ 7403-13', 735 every 2' For	te, 1/2% CFR-2 % gel, 6.25 lb/s Cc 426-39'. 24 Shc 7-69', 7245-51', rmation	TOC by CBL. Cement x Gilsonite, 1/2% CFR-2 mments ots. 7219-23', 7211'. 21 Sho	PRODUCTION	Type (f	2/2 2/2 2/2 Top tKB)	5840. Date 4/1972 4/1972 3021. 3884. 4670. 5644. 7208.

	quip., etc.)	- Temporay Abandor						_
Int		Item	Comments					Date
(ftKB 6349.0 - 6		C.I.B.P.						/12/2001
7061.0 - 7		Cement Plug						/12/2001
7161.0 - 7		C.I.B.P.						2/8/2001
Stimulations &								30/2001
Int	Zone		mments		Type		Date	Fluid
7211.0 - 7413.0	Dakota	Acid w/ 1500 G + 40 BS	6. Bailed off @ 4000#		Acid Squeez		2/24/1972	15% HCL
7211.0 - 7413.0	Dakota		Frac w/ 58,760 G 1% K0 IR= 41 bpm @ 3300# IS		Fracture		2/24/1972	Water
6399.0 - 6439.0	Gallup	Acid w/ 500 G + 30 BS.	Balled off		Acid Squeez	ze	2/25/1972	15% HCL
6399.0 - 6439.0	Gallup		Frac w/ 32,450 G 1% K0 R= 35 bpm @ 3000# IS	CL	Fracture		2/25/1972	Water
6399.0 - 7413.0	Gallup/Dake	Dumped 500 G - flush v	vith 10 bbls water	1,	Acid Dump		12/7/1989	15% HCL
.ogs Run			100		i grata, da			
Int		Comments			mpany		Туре	Date
200.0 - 7523.0				resse		IND [2/12/1972
2700.0 - 7485.0				earha		GR-C	BL	2/22/1972
6000.0 - 7520.0			Mo	lcCull	ougn	GR-C		5/2/1979





Lab Test No: 28527

CRAWFORD, STEVE

, 5-1017 . . . 114 j. j.

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: Resistivity:

µmhos ohms/M

	ma/L	
(Ca [™])	45	
	21	
• •	3836	
, ,	2.02	
	1.53	
• •	8.62	
* * *	0.51	·
, ,	•	
(HCO_)	1178	
-	•	·
~		
(SIO)		
(\$0 ₄)	500	
	6540	•
		1
(COJ)	. 0	
(H ₂ S)	7 .	·
	(co ³)	(Mg**) 21 (Na*) 3836 (Fe*) 2.02 (Ba*) 1.53 (Sr*) 8.62 (Mn**) 0.51 (HCO ₃) 1178 (CO ₃) (OH) (SlO ₂) 500 (Cl) 6540

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

*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. Form 3160-5 (August 1999)

UNITED STATES DEPARTMENT OF THE INTERIOR

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

DEPARTMENT OF THE IN BUREAU OF LAND MANAC		Expires November 30, 2000 5. Lease Serial No.
SUNDRY NOTICES AND REPOR Do not use this form for proposals to a abandoned well. Use Form 3160-3 (APD	Irill or to re-enter an	6. If Indian, Allottee or Tribe Name CONT 41
SUBMIT IN TRIPLICATE - Other instruction. Type of Well	ctions on reverse side	7. If Unit or CA/Agreement, Name and/or No.
		Well Name and No. Jicarilla 30 # 5 API Well No.
Ba. Address	3b. Phone No. (include area code) (281)293-1613	30-039-20460 10. Field and Pool, or Exploratory Area
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		Lindrith Gallup-Dakota, West 11. County or Parish, State Rio Arriba New Mexico
12. CHECK APPROPRIATE BOX(ES) TO	INDICATE NATURE OF NOTICE, RE	PORT, OR OTHER DATA

TYPE OF SUBMISSION		TY	YPE OF ACTION	
X Notice of Intent	☐ Acidize	☐ Deepen	Production (Start/ Resume)	☐ Water Shut-Off
Nonce of friend	Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	Casing Repair	☐ New Construction	Recomplete	Other
	☐ Change Plans	Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	Convert to Injection	☐ Plug Back	☐ 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 recomplete 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	Analyst	
Signature Yalanda Perez	Date 04/11/2001		
THIS SPACE FOR FEDERA	L OR STATE OFFI	ICE USE	
Approved by	Title	Date	
Conditions of approval, if any, are attached. Approval of this notice does not warra certify that the applicant holds legal or equitable title to those rights in the subject lewhich would entitle the applicant to conduct operations thereon.	Office case		

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',

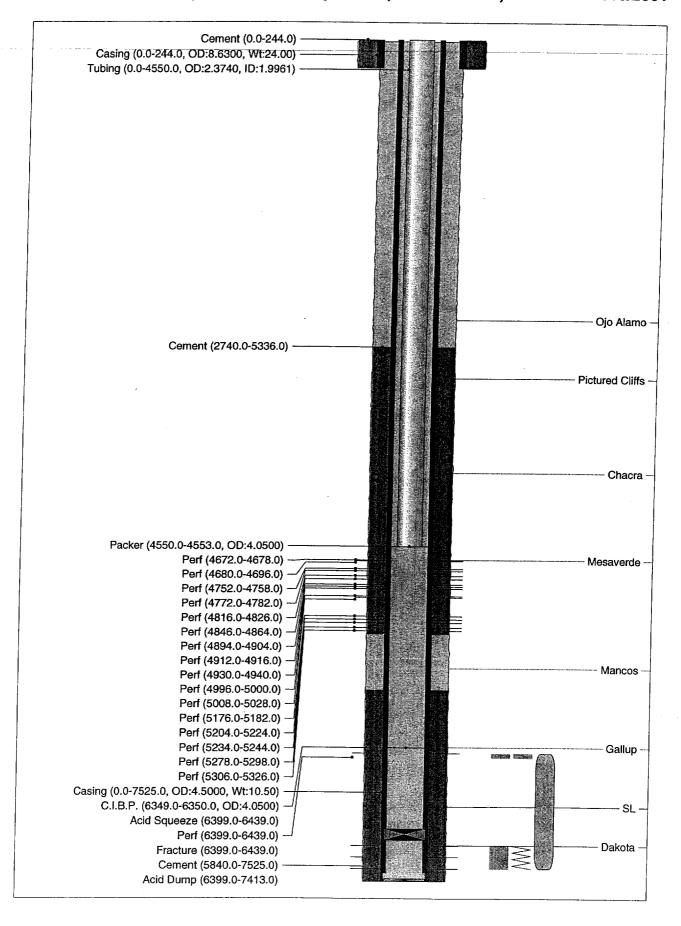
5278'-98', 5306'-26'

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 ¼ 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

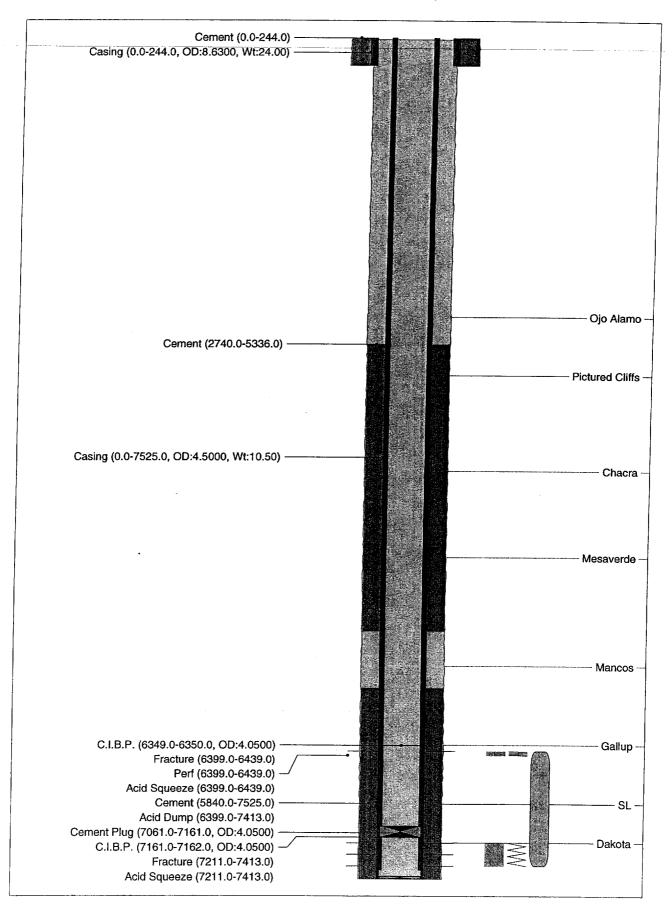
- information digitally. Continue recording pressure for at least 30 minutes after shutdown. (communicate the step rate test information to Houston)
- A decision will be made at this point as to whether the Point Lookout and lower Menefee will be stimulated prior to perforating the remainder of the Menefee 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 ¼ 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. (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



	RILLA 30	5 Propose	ed SW	D Comple	etion					
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Comple							0/1972			
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Reserv						Gallu	p/Dakota			
Field C							398776			
Permit				-			4/1972			
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	6439.0		+ 77,000# 10/20 sd. A 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water.	Balled off Frac w/ 32,450 G	1% KCL	Acid S			/25/1972 /25/1972		
7211.0 - 7 6399.0 - 6	6439.0	Gallup Gallup	+ 77,000# 10/20 sd. A 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Al 800#	Balled off Frac w/ 32,450 G R= 35 bpm @ 300	1% KCL	Acid S					
211.0 - 7 399.0 - 6 399.0 - 6	6439.0 6439.0 7413.0	Gallup Gallup	+ 77,000# 10/20 sd. A 2000# Acid w/ 500 G + 30 BS 2,000 G pad gel water. + 31,600# 10/20 sd. Al	Balled off Frac w/ 32,450 G R= 35 bpm @ 300	1% KCL	Acid S	re	2/		Wate	r
211.0 - 7 399.0 - 6 399.0 - 6	6439.0 6439.0 7413.0	Gallup Gallup	+ 77,000# 10/20 sd. A 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Al 800#	Balled off Frac w/ 32,450 G R= 35 bpm @ 300	1% KCL	Acid S Fractu	re	2/	25/1972	Wate	r HCL
7211.0 - 7 6399.0 - 6 6399.0 - 6 6399.0 - 7 60gs Rur Int	6439.0 6439.0 7413.0	Gallup Gallup	+ 77,000# 10/20 sd. A 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Al 800#	Balled off Frac w/ 32,450 G R= 35 bpm @ 300	1% KCL 0# ISIP	Acid S Fractu Acid D	ump	12/ 12 Ty	25/1972 2/7/1989 pe	Wate	HCL
399.0 - 6 399.0 - 6 399.0 - 7 995 Rur Int 200.0 - 7	5439.0 5439.0 7413.0 1	Gallup Gallup	+ 77,000# 10/20 sd. A 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Al 800# D Dumped 500 G - flush v	Balled off Frac w/ 32,450 G R= 35 bpm @ 300	1% KCL 0# ISIP	Acid S Fractu Acid D	ump y IN	12 Tyj ND DEN	25/1972 2/7/1989 pe	15%	HCL ate /1972
7211.0 - 7 3399.0 - 6 3399.0 - 6 3399.0 - 7 ogs Rur	5439.0 5439.0 7413.0 1 523.0 7485.0	Gallup Gallup	+ 77,000# 10/20 sd. A 2000# Acid w/ 500 G + 30 BS. 2,000 G pad gel water. + 31,600# 10/20 sd. Al 800# D Dumped 500 G - flush v	Balled off Frac w/ 32,450 G R= 35 bpm @ 300	1% KCL 0# ISIP Dres Gea	Acid S Fractu Acid D	ump y IN	12/ 12 Ty	25/1972 2/7/1989 pe	15% D 2/12 2/22	HCL



API C		30 5 Curre	nt Com	pletion				3003	392046000				
Spud						2/1/1972							
Comp									10/1972				
Basin Count				 		580 BIO ARRIBA							
Permit						RIO ARRIBA							
Resen						Gallup/Dakota							
Field C									398776				
Permit									4/1972				
Finish Aband								2/1	2/1972				
TD	011		-					752	5.0 ftKB				
PBTD									9.0 ftKB				
State									Mexico				
District	asured								uan O.U.				
Field	asureu	· · · · · · · · · · · · · · · · · · ·					WEST		25 ftKB I GALLUP/D	AKOTA			
Basin							WEGIT		IAN BASIN	AICHA			
	ions	25.0			- 1		180						
KB-Grd	1						•		14.0 ft				
Grd Tub He	ad							·····	6855.0 ft				
(B	44								0.0 ft 6869.0 ft				
Cas Fin	ıg							 _	0.0 ft	· · · · ·			
3ore F	fole Da	ta				: (i) <u>1</u>	100						
			Size			T			Depth				
		1	(in) 2.2500						(ftKB) 244.0	··· ··-			
			7.8750			+		·	7525.0				
asing	String	-SURFAC		NG					7020.0				
Grd	Item			Btm		C	comments		QI	Thd	Jnts	Wt	
V cc	(in)	la Callana		(ftKB)									
K-55		in Casing - PRODUC	TIONE	244.0					8.1000	ST&C	7	24.0	
Grd	Item	PROPE		Btm	l		omments		ID	Tha	T Inda	11/4	
	(in)		1	(ftKB)		·	omments		"D	Thd	Jnts	Wt	
K-55		in Casing		7525.0					4.0500	ST&C	231	10.5	
22.00	and the second second	in Sand Fill		7497.0	6/17/91 T	TOF @ 7	7450' (47" Fill)		0.0000			0.0	
asıng Amoui		nt t		<u> </u>	mments	104							
(sx)	111			Col	mments				Casing	String	1,	Top	
150		nent circ	···						SURFACE C	ASING		ftKB) 0.0	
765	con	stage 200 sx taining 2% ge DV @ 5336'.	al, 6.25 lb	ton Lite Wt d/sx Gilsoni	. with 1/2% te, 1/2% C	% CFR-2 CFR-2	2, 565 sx 50/50 TOC by CBL.	Pozmix Cement	PRODUCTION		G	2740.0	
435	1st			ontaining 2°	% gel, 6.2	25 lb/sx (Gilsonite, 1/2%	CFR-2	PRODUCTION	ON CASIN	G	5840.0	
erfora	tions								456				
ļr	nt	Shots				Com	ments			Туре		Date	
300 0	- 6439.0	2.0	@ 600	99-6403', 64	406.201 O	04 Ch-4-							
	- 7413.0		@ 740	03-13' 7357	7-69' 724'	<u>5-51' 72</u>	s. 219-23', 7211'.	21 Shot	s 1 Shot			4/1972 4/1972	
			every	2'	. 55,724	1,72	, 1211.	21 OHU	3, 1 OHOL		2/2	4/19/2	
rmati	on/Ho	izon Tops			mation						Тор		
o Alam	0				···········					(ftKB)	0400	
ctured (2492.0 3021.0	
acra	-											3884.0	
savero	le											4670.0	
incos Ilup	 :		· · · · · · · ·									5644.0	
kota												6344.0	
	luas. e	quip., etc.)	- Plua	Backs								7208.0	
	Int			Item	C	Commer	nts				Date))	
· · · · · · · · · · · · · · · · · · ·		1)	1				*				2416	•	
	(ftKE												
	(ftKE 197.0 - 7		Cemer	nt Plug		/17/91 out	Tag Fill @ 7450)' (47' Fil	l) Did not cle	an	2/23/19	72	

<u>int</u>		Item	Comments					Date
(ftKE								
6349.0 - 6		C.I.B.P.					2	2/12/2001
7061.0 - 7		Cement Plug						2/12/2001
7161.0 - 7		C.I.B.P.						2/8/2001
itimulations &	Treatments	<u>1174</u>						- 40
<u>Int</u>	Zone		ments		Туре)	Date	Fluid
<u>7211.0 - 7413.0</u>	Dakota	Acid w/ 1500 G + 40 BS.	Balled off @ 4000#		Acid Squee		2/24/1972	15% HCL
7211.0 - 7413.0	Dakota	4000 G pad gel water. Fr	rac w/ 58,760 G 1%	KCL	Fracture 2/24/197		2/24/1972	Water
		+ 77,000# 10/20 sd. AIR	R= 41 bpm @ 3300#	# ISIP				
		2000#			L		!]
6399.0 - 6439.0	Gallup		Acid w/ 500 G + 30 BS. Balled off Acid Squeeze 2/25/19					
6399.0 - 6439.0	Gallup	2,000 G pad gel water. F	rac w/ 32,450 G 1%	KCL	Fracture		2/25/1972	Water
		+ 31,600# 10/20 sd. AIR=	= 35 bpm @ 3000#	ISIP				
		800#						
6399.0 - 7413.0	Gallup/Dako	Dumped 500 G - flush with	h 10 bbls water		Acid Dump		12/7/1989	15% HCL
ogs Run	***	April 1		+ 117	100000	7 (1)		
Int		Comments		С	ompany	T	Type	Date
200.0 - 7523.0				Dress	er	IND D	ENS	2/12/1972
2700.0 - 7485.0				Gearh		GR-C	3L	2/22/1972
6000.0 - 7520.0				McCu	lough	GR-C		5/2/1979

