Jason Kellahin W. Thomas Kellahin Karen Aubrey

KELLAHIN and KELLAHIN Attorneys at Law El Patio - 117 North Guadalupe Post Office Box 2265 Santa Fe, New Mexico 87504-2265

Telephone 982-4285 Area Code 505

FEEFYED

March 4, 1985

OIL CONSERVATION LIVERDAY

Mr. Richard L. Stamets Oil Conservation Division Post Office Box 2088 Santa Fe, New Mexico 87501

"Certified Mail-Return Receipt"

Re: Hicks Oil & Gas
Salt Water Disposal
Section 22, T28N, R13W, NMPM
San Juan County, New Mexico

Case 8547

Dear Mr. Stamets:

On February 18, 1985, on behalf of Hicks Oil & Gas Inc. I filed an application which is set for hearing on March 27, 1985, for approval of the SE Cha Cha Well 34, located in Unit F of the referenced Section 22 for use of the Gallup formation for disposal.

Please find enclosed two copies of the required Division Form C-108 and attachments. By copy of this letter we are sending form C-108 by certified mail-return receipt to the surface owner, the OCD District Office, and all operators within a one-half mile radius.

Very chary your

. Thomas Kellahin

WTK:sg Enc.

cc: Mr. Frank Chavez
 Oil Conservation Div.
 1000 Rio Brazos Road
 Aztec, NM 87410

Mr. Mike Hicks Hicks Oil & Gas Inc. P. O. Drawer 3307 Farmington, NM 87499 Amoco
Post Office Box 800
Denver, Colorado 80201
Attn: Mr. Charles Boyce

Southland Royalty Company P. O. Drawer 570 Farmington, NM 87499 Attn: Mr. Robert Fielder

Mr. Richard Stamets March 4, 1985 Page -2-

Cc: Mr. Al Greer
 Benson, Montin Greer
 Drilling Corporation
 221 Petroleum Center Bldg.
 Farmington, NM 87401

Bureau of Indian Affairs Navajo Indian Irrigation Pro. 3539 E. 30th Street N.W. Energy Bldg., Room 103 Farmington, NM 87401

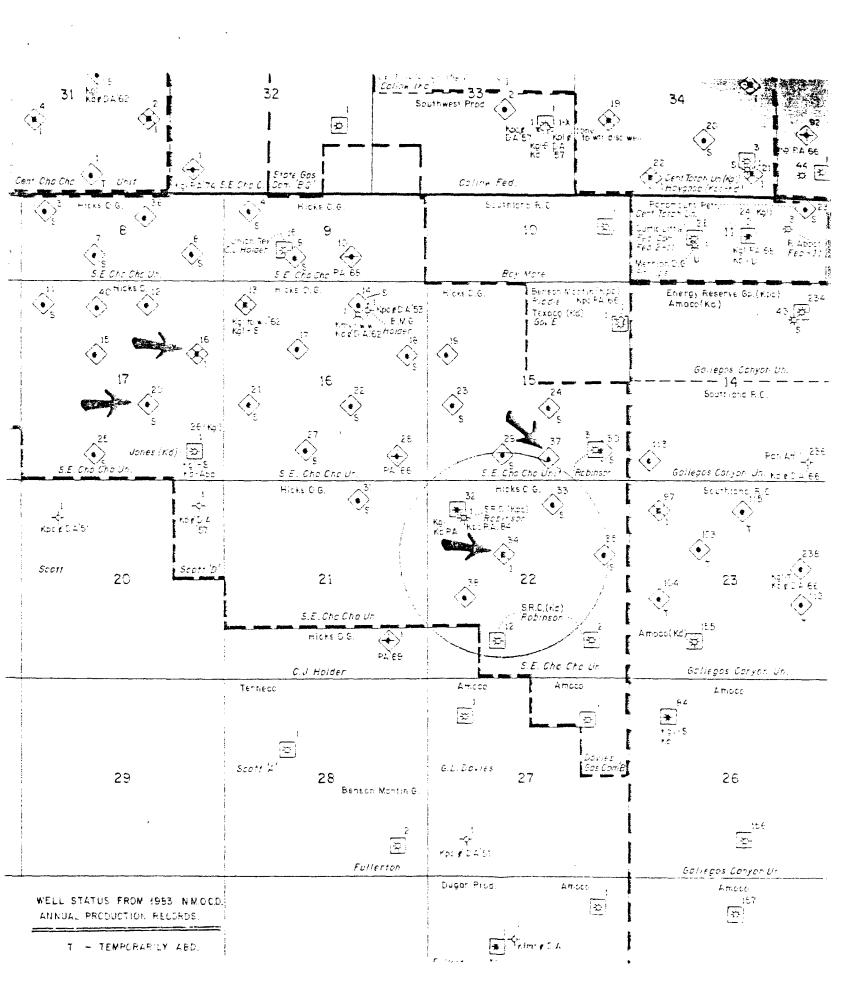
DIL CONSERVATION DIVISION POST DYFICE BOX PUBE . \$1818 LANC DYFICE BUILDING SANTERS ME AND \$7501

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RECEIVED PULL 8547

APPLIC	ATION FOR AUTHORIZATION TO INJECT
I.	Furpose: Secondary Recovery Pressure Maintenance Did Didaban Storage Application qualifies for administrative approval?
11.	Operator: Hicks Oil & Gas, Inc. OIL CONSERVATION DIVISION
	Acdress: P.O. Drawer 3307, Farmington, N.M. 87499
	Contact party: Mike Hicks Phone: 505/327-4902
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 necessory.
IV.	Is this an expansion of an existing project? \square yes \square no If yes, give the Division order number authorizing the project
ν.	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.
v1.	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:
	 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.).
III.	Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological 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 source known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
х.	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 frosh 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 source of drinking water.
111.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
xīv.	Certification
	I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief. Name:Mike HicksTitle President
	Signature: Date: 1/17/85
submi	te information required under Sections VI, VIII, X, and XI above has been previously ted, it need not be duplicated and resubmitted. Please show the date and circumstance acries submittal.

DISTABILITION: Original and one conv to Sente fe with one or



3	INJE	CTION WELL DATA SHEE	Case 8	547
Hicks O	il & Cas, Inc.	S.E. Cha Cha Unit	- Care	
34	1980' FNL & 1980' H	FWL 22	28N	13W
Will NO.	FUUTAGE EUCATION	SECTION	TUNNSHIP	RANGE
Schema	tic	Tabu	ular Data	
		Surface Casing	-	
		Size 8 5/8"-24# "	Cemented with	165 sx.
		TOC Surface fe		
		Hole size 121."		
	8%-24*	Intermediate Casing		
	@192' W/165 sx	Size	Cemented with	5 X
of Cement 1500+		TOCfe		
- 1, 200	0 1 2 34. "	Hole size		
mented W/	Proposed 23/8" Plustic Contod	Long string		
50 sx	Steel or Fiberglass	Size $4\frac{1}{2}$ "-9.5&11.6#"	C	400
	Tubing	10c 2nd stage 4950	commented with	temperature cur
		Kole size 7 7/8"		· Sur
		Total depth 5802		
of Cement 3150			office of Physical delication and the control in the control of th	
21-3886		Injection interval	56061	
sing failure ucezed w/		5689 feet to (perforated or open-hole,	, indicate which)	feet
o 5x.				
pof Cement - 1				
1				
	Proposed Baker N	Model D Packer		
	= Perforations 569	89-5696 Gallup		
	C.I.B.P. @5716	. '	•	
	Perforations 5	•		
4	41/2-9,5 64-5	154' + 5454'-5802' Cemented	w/250 sx. 1st St	rage
Tubing size	2 3/8" lined	with plastic or fi	.berglass	set in a
Bake	er Model "D"	(materia packer at	5600	feet.
	and model)			·
4	ny other casing-tubing	seat).		
Other Data	e injection formation	Callum		
		oble) S.E. Cha Cha	i neutralista etimograpija programa priklika i izvoji neutralinim traj pir ura gaja juha iz a	AMERICAN STATE OF STA
	new well drilled for i		' Na	and the system car copy dynamics are expenses to page 140 and 150 and
		well originally drilled?		
** "" 101	Title parpose need the	yr	nganan nganggapagan ganan mananan eran man ngan nganggapan na aku nganggapan	
				erated intervals
4. Has the we	Il over been perforate.	d in any other cone(s)? I	ist all such bert	STOFFI THEGINALS
4. Has the we and give p	Il over been perforate lugging detail (sucks	d in any other conc(s)? I of cement or bridge plug(s) used) Gallup	perforated
and give p	lugging detail (sucks	d in any other conc(s)? lof cement or bridge plug(s Plug set at 5716'.) used) Gallup	perforated

approximately 1500' below.

Hicks Oil & Gas, Inc.

P. O. DRAWER 3307 FARMINGTON, NM 87499 505-327-4902

APPLICATION FOR SALT WATER DISPOSAL S.E. CHA CHA UNIT WELL #34

VII

- 1. Lease production currently averages 90 BWPD and this volume would be split between other injection wells. Also, we are planning to operate the injection well for commercial salt water disposal. At this time, it is estimated that we will be disposing of 100 bbls of water per day from wells off the lease. We do anticipate this volume to increase as the NMOCD revises it's rules concerning disposal of produced water in unlined pits. From injection records of wells in the field when the unit was actively water flooded it is estimated that 750 BWPD could be injected at 1000 psi.
- 2. The system will be an open system.
- 3. Average injection pressure 500 psi. Maximum injection pressure 1000 psi.
- 4. Sources of injected water.
 - 1. Produced water from the lease. Water analysis attatched.
 - Produced water from San Juan Basin oil and gas wells.
 Typical water analysis attatched.
- Stimulation treatment will consist of 500-1000 gallons of 15% Iron Sequestering HCL acid. If necessary the well may be frac treated with approximately 30,000 gallons of gelled water and 30,000# of 20/40 sand.
- \overline{X} Well logs on file with NMOCD.
- $\overline{\text{XI}}$ No fresh water wells within one mile.

Hicks Oil & Gas. Inc.

P. O. DRAWER 3307 FARMINGTON, NM 87499 505-327-4902

XII Affirmative Statement

I, Mike Hicks, 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 source of drinking water.

Mike Hicks President

Hicks Oil & Gas, Inc.

CHA CHA GALLUP

Producing sandstone of the Cha Cha Gallup Oil Pool are the result of the transition of the regressive Carlile Seas, leaving the Gallup sandstones and the transgressive Niobrara Seas. The advancing seas caused truncation of the Gallup and deposition of new sands, silts and muds. The lower sands are cleaner and generally thought to be offshore bars deposited by currents parallel to the shore line. These basal Niobrara sandstones are oil bearing as are some of the cleaner Gallup sandstones.

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Light-gray to gray-brown, fine to coarse grained quartz sandstone with minor chert, feldspar and rock fragments. Traces of glauconite and mica are present. Cement is primarily calcite with some secondary quartz. There is porosity present and oil staining is evident.

DRINKING WATER SOURCES

Considerable effort was made to obtain chemical analyses of the water bearing rocks in Township 28 North, Range 13 West, San Juan County, N.M. These efforts failed but analyses were observed of waters taken from sources outside the township which had similar ages and depositional histories.

The analyses showed the following:

- 1. There is no known source of potable* water immediately below the Cha Cha Gallup producing zones.
- 2. The only potable water aquifers found above the injection zones (Cha Cha Gallup) are:
 - a. the Cretaceous Kirtland (Farmington Sandstone) at depths of 630-815' in section 21. (This information obtained from Ed Welder, U.S.G.S., Albuquerque.

ROY L. PRITCHARD - PETROLEUM GEOLOGIST

Petroleum Club Plaza Suite 103 • P.O. Box 2372 • Farmington, New Mexico 87499 • Telephone: (505) 325-2209

DRINKING WATER SOURCES cont.

b. the Ojo Alamo (Tertiary Period) has water with very low solids (350-850 mg/1). This is found to a depth of 350-450' in the area of interest.

*All references herein to potable or drinking water are based on dissolved solids of 10,000 mg/l or less as found in item VIII of Application for Authorization to Inject.

TABULATION OF WELLS WITHIN 12 MILE RADIUS OF PROPOSED SALT WATER DISPOSAL WELL S.E. CHA CHA UNIT WELL # 34

MELL	LOCATION	SURFACE CASING	CEMENT	T.O.C.	PRODUCTION CASING	CEMENT	T.O.C.	PRODUCING INTERVAL	TD
S.E. Cha Cha Unit 32	D-22-28-13	8 5/8 @321	225sx	Surface	4½ @6499	500sx 2 stage	1500' 4920'	Dakota P&A 6273-637?	6500'
S.E. Cha Cha Unit 33	B-22-28-13	8 5/8 @202	160sx	Surface	4½ @5864	400sx 2 stage	1670° 4620°	5670-5742 56311up 5758-5770	58651
S.E. Cha Cha Unit 35	H-22-28-13	8 5/8 @200	170sx	Surface	4½ @5855	400sx 2 stage	1680' 5020'	Gallup 5764-5836	58561
S.E. Cha Cha Unit 38	L-22-28-13	8 5/8 @457	300sx	Surface	5½ @5860 Stage tool @4640'	·1210sx	800'	Gallup	5862
Robinson 12	L-22-28-13	8 5/8 @310'	200sx	Surface	4½ @6423 2 stage 5843 3 stage 1887	150sx 475sx 220sx		Dakota 6316-32	6426

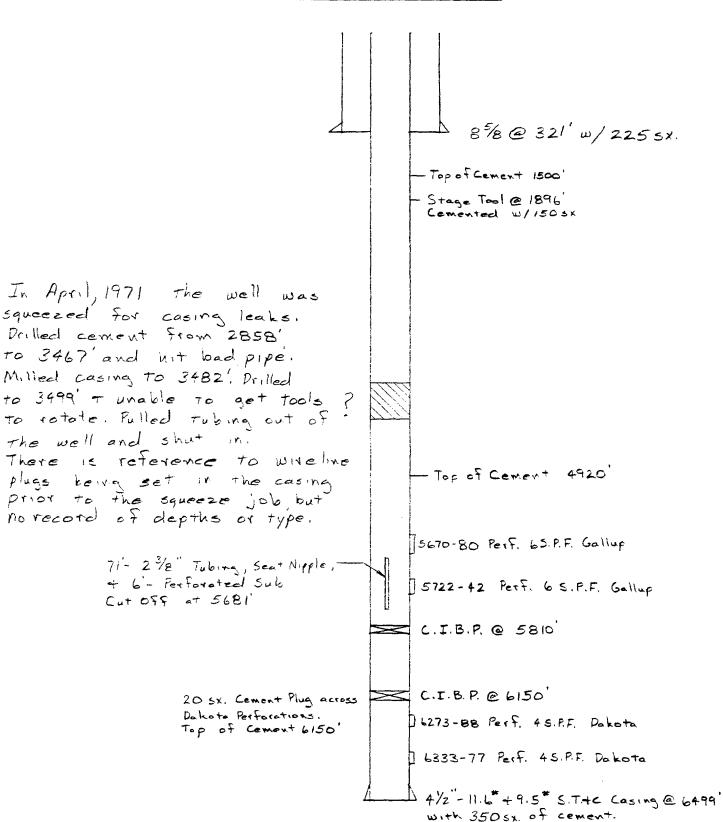
S.E. Cha Cha Unit Well #32 Unit D-Sec. 22, T28N, R13W

Well Schematic

Drilled cement from 2858' to 3467' and but load pipe. Milled casing to 3482', Drilled

The well and shut in.

of 6'- Perforated Sub Cut 055 at 5681'

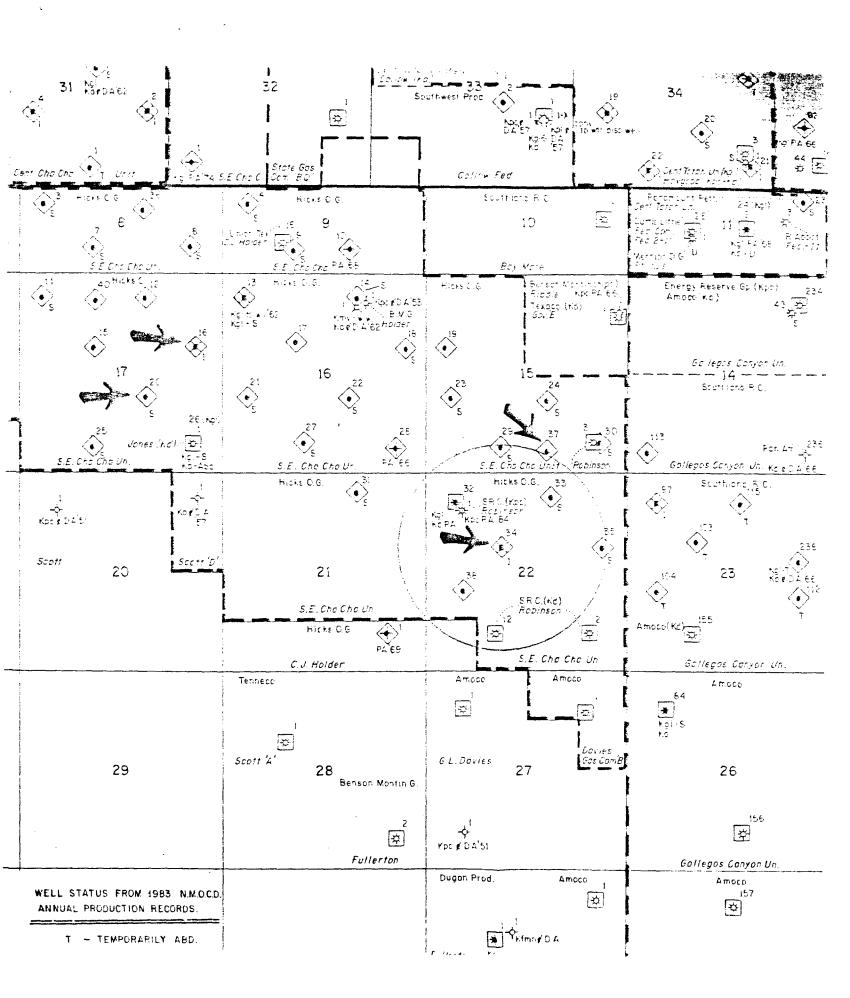


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DIL CONSERVATION DIVISION POST OFFICE BOX \$086 \$1411 LANC OFFICE \$UNDING \$4414 FE NEW MEXICO \$7501

FORM D-108 Revised 7-1-81

I.	Purpose: Secondary Recovery Pressure Maintenance XX Dirantal Storage Application qualifies for administrative approval? yes XX no		
11.	Operator: Hicks Oil & Gas, Inc.		
	Accress: P.O. Drawer 3307, Farmington, N.M. 87499		
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xıv.	Certification		
	I hereby certify that the information submitted with this application is true and correto the best of my knowledge and belief.		
	Name: Mike Hicks Title President		
	Signature: Date: 1/17/85		



INJECTION WELL DATA SHEET Hicks Oil & Gas. Inc. S.E. Cha Cha Unit

34	1980' FNL & 1980'	FWL 22	28N	13W
WELL NO.	FUUTAGE EUCATION	SECTION	TUWNSHIP	RANGE
	•		in terminaphan e a sa Alexandronia de per aprova referibles a particular a referibles a	
Schei	matic .	1	Tabular Data	
		Surface Casing		
		Size 8 5/8"-24#	" Cemerited w	ith 165 sx.
		Toc Surface	feet determined	by Circulation
		Hole size 12½"	The cloud 44 for 1 collections down to the state of the collection	
	85/2-24*	Intermediate Casing		
	@192' W/165 sx	Size	• Cemented w	ithsx.
of Cement 1500+		TOC		
- 1- 1000	2 1 2 3/2 '	Hole size		
mented W/	Proposed 23/8"	•		
50 sx	Steel or Fiberglass	Long string		
	Tubing	Size 4½"-9.5&11.6# 1st stage 4950	"Cemented w)!	ith 400 sx.
		roc 2nd stage 4958		temperature surv
		Hole size 7 7/8	The state of the s	•
of Cement 3150		Total depth 5802	2	
21'-3886'		Injection interval		
sing Failure		5689 feet (perforated or open-hi	to 5696'	fee t
sing failure ucezed w/		(perforated or open-h	ole, indicate which	in)
o 5x.				
			,	
pof Cement +				
	Proposed Baker 1	Model D Packer		
	= Perforations 56	89-5696 Gallup		
	C.I.B.P. @5716			
	Perforations 5	-		
21	4½-4.5 64-5 4½-11.6* 0-64	4 5454-5802' CEMENT	ed $w/250$ sx. 1st	Stage
Tubing size	2 3/8" linea	with plastic or	fiberglass	set in a
	ker Model "D"	packer a		feet
	no and model)			
	any other casing-tubing	sear).		
Other Data				
	the injection formation			
	Field or Pool (if applic		na	
3. Is this	a new well drilled for i	injection? /// Yes	<u>/X</u> 7 No	
If no, f	or what purpose was the	well originally, drilled	d? Oil Well	
4. Has the	well ever been perforate	ed in any other zonc(s)	? tist all such p	erforated intervals
and give	plugging detail (sucks	of cement or bridge plo	ug(s) used) <u>Gall</u>	up periorated
57	33-57, Cast Iron Bridge	Plug set at 5716'.		
	depth to and name of an Picture Cliff			

Hicks Oil & Gas. Inc.

P. O. DRAWER 3307 FARMINGTON, NM 87499 505-327-4902

APPLICATION FOR SALT WATER DISPOSAL S.E. CHA CHA UNIT WELL #34

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DRINKING WATER SOURCES cont.

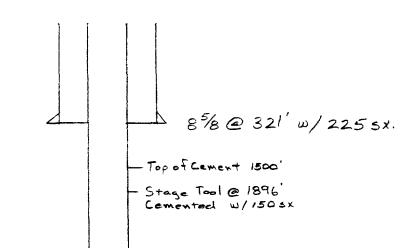
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TABULATION OF WELLS
WITHIN 1/2 MILE RADIUS
OF PROPOSED SALT WATER DISPOSAL WELL
S.E. CHA CHA UNIT WELL # 34

S.E. Cha Cha Unit Well #32 Unit D-Sec. 22, T28N, R13W

Well Schematic



In April, 1971 the well was squeezed for casing leaks. Drilled coment from 2858' To 3467' and hit load pipe. Milled casing to 3482', Drilled to 3499' + unable to get tools to rotate. Pulled tubing out of The well and shut in. There is reference to wineline plugs being set in the casing prior to the squeeze job but no record of depths or type.

- Top of Cement 4920'

15670-80 Perf. 65. P.F. Gallup

71- 23/8" Tubing, Seat Nipple, + 6'- Perforated Sub Cut OFF at 5681'

5722-42 Perf. 6 S.P.F. Gallup

S L.I.B.P. @ 5810

20 sx. Cement Plug across C.I.B.P. @ 6150' Dakota Perforations. Top of Cement 6150'

1 6273-88 Perf. 45.P.F. Dakota

1 6333-77 Peif. 45.P.F. Dakota

4/2"-11.6"+9.5" S.T.+c Casing @ 6499" with 350sx of cement.



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (505) 334-6178

OIL CONSERVATION DIVISION BOX 2088 SANTA FE, NEW MEXICO 87501	t en fan San San San San San San San San San S	
DATE 3-20-85	•	
RE: Proposed MC Proposed DHC Proposed NSL Proposed SWD Proposed WFX Proposed PMX		
Gentlemen: I have examined the application dated	3-5-85	
for the Hicks Dil + Gas S.E. CHO		F -22-280-13W Unit, S-T-R
and my recommendations are as follows:	March 27th	
Yours truly,		
Swell .		