



KIRBY EXPLORATION COMPANY OF TEXAS

November 25, 1986

New Mexico Oil Conservation Commission
Attn: Mr. Ernie Busch
1000 Rio Brazos
Aztec, New Mexico 87410

Re: Boling Federal No. 9-22
Sec 22-T19N-R3W
Sandoval County, NM

Dear Mr. Busch:

Per your telephone request regarding the Application for Authorization to Inject on the subject well, I am enclosing the schematics of the two plugged wells, that were omitted in the original application.

Also enclosed is a copy of the Bureau of Land Management Sundry Notice on the Boling Federal No. 5. This copy is for your information only, as I understand it will be necessary for the Bureau of Land Management to forward an approved copy to you.

I trust this will clear all discrepancies and omissions. Thank you for all of your assistance.

Sincerely,

Judi Nelson
Regulatory Clerk

encl.

DEC 03 1986
OIL CON. DIV.
DIST. 3

42 381 30 SHEETS 3 SQUARE
42 382 100 SHEETS 3 SQUARE
42 383 100 SHEETS 3 SQUARE
42 384 100 SHEETS 3 SQUARE
NATIONAL

12 1/4" HOLE

PUMPED 160 SKS CMT
TO SURFACE.

7 7/8" HOLE

8 5/8" @ 214'

CMT WITH 175 SACKS: CMT. CIRC.

CIBP @ 794'

PERFS: 2784-2910, 2964-3058, 3176-3263
3290-3371, 3374-3378

4 1/2" @ 3453'

CMT. WITH 322 SACKS.

Top CMT = 953' by TEMP. SURVEY

ATTACHMENT FOR APPLICATION FOR AUTHORIZATION TO INJECT
KIRBY EXPLORATION COMPANY OF TEXAS
BOLING FEDERAL NO. 9-22, SANDOVAL COUNTY, NEW MEXICO
SECTION VI

42 381 30 SHEETS 3 SQUARE
42 382 100 SHEETS 3 SQUARE
42 389 200 SHEETS 3 SQUARE



30' (CEMENT BETWEEN
8 5/8" X 4 1/2" (10 SACKS)

CEMENT FROM 125 TO
SURFACE (10 SACKS)

12 1/4" HOLE

8 5/8" @ 233',
CMT. WITH 175 SKS.

7 7/8" HOLE

CEMENT FROM 2300' - 2000'
(35 SACKS)

CEMENT FROM 3075 - 2775
(35 SACKS)

RECEIVED
DEC 05 1986
OIL CON. DIV.
DIST. 3

PERMS: 2826-36, 2838-49, 2856-60, 2872-78
2900-2916, 2926-30, 2933-42, 2950-54, 3013-19

4 1/2" @ 3102
CMT. WITH 350 SKS.

ATTACHMENT FOR APPLICATION FOR AUTHORIZATION TO INJECT
KIRBY EXPLORATION COMPANY OF TEXAS
BOLING FEDERAL NO. 9-22, SANDOVAL COUNTY, NEW MEXICO
SECTION VI

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no
- II. Operator: Kirby Exploration Company of Texas
Address: P. O. Box 1745, Houston, Texas 77251
Contact party: Judi Nelson Phone: 713/629-9370
- 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 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.
- * 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 source 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: Judi Nelson Title Regulatory Clerk
Signature: Judi Nelson Date: 11-10-86
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance 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 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.

** SEE BELOW

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, P. O. Box 2088, Santa Fe, New Mexico 87501 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.

** KIRBY EXPLORATION COMPANY OF TEXAS OPERATES ALL WELLS WITH IN A 1/2 MILE RADIUS. THE BUREAU OF LAND MANAGEMENT IS THE SURFACE OWNER, A COPY OF THE CERTIFIED NOTICE IS ATTACHED.

INJECTION WELL DATA SHEET -- SIDE 2

Tubing size 2-7/8" lined with NONE set in a

(material)

Baker Model R-3

(brand and model)

packer at

3000

feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Entrada

2. Name of Field or Pool (if applicable) Media Entrada Southwest

3. Is this a new well drilled for injection? ☒ Yes ☒ No

If no, for what purpose was the well originally drilled? Producing oil well

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

5330'-5334' - Squeezed with 100 sxs of cement

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. above - Menefee & Gallup

BOLING FEDERAL No. 5

13 3/4" HOLE

10 3/4" @ 241', LMT W/150 SX. LMT. CIRCULATED

8 3/4" HOLE

TOP OF LMT = 3020'
By CBL Log

PERFS - 5346-76

7" @ 5436', LMT. W/450 SX

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42-381 50 SHEETS 5 SQUARE
42-382 100 SHEETS 5 SQUARE
42-389 200 SHEETS 5 SQUARE
NATIONAL



BOWLING FEDERAL 6-22

15" HOLE

10³/₄" @ 257', LMT w/ 200 SX LMT CIRCULATED ✓

8³/₄" HOLE

TOC 4037' *ok*

TOP OF LINER @ 5206

7" @ 5274', LMT w/ 225 SX. TOC UNKNOWN

6¹/₈" HOLE

TOC calc @ 4037'

@ 70% fill *DR*

4¹/₂" @ 5495', LMT w/ 100 SX. LMT CIRCULATED

Perf
5300-5313

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Bowling FEDERAL No. 8

15" HOLE

10³/₄" @ 508', Cmt w/ 400 SX, Cmt CIRCULATED

TOP OF CEMENT = 2400' *OK*

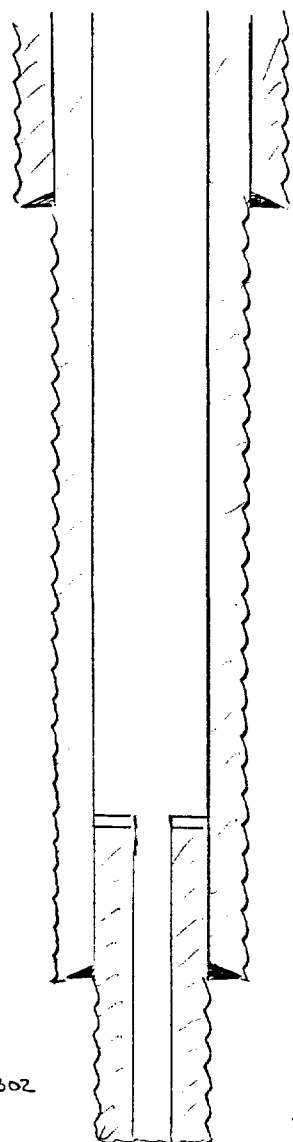
8³/₄" HOLE

Perf - 5306-5311

7" @ 5406', Cmt w/ 700 SX

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MILLER FEDERAL 7-22



15" HOLE

10³/₄" @ 228', CMT w/ 225 SX, CMT. CIRC.

8³/₄" HOLE

TOP OF LINER @ 5081'

7" @ 5265', CMT w/ 835 SX, CMT. CIRC.

6¹/₈" HOLE

4¹/₂" @ 5465', CMT w/ 50 SX.

Perf-

5292 - 5302

Circulated

ATTACHMENT FOR APPLICATION FOR AUTHORIZATION TO INJECT
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SECTION VI

APPLICATION FOR AUTHORIZATION TO INJECT
 KIRBY EXPLORATION COMPANY OF TEXAS
 BOLING FEDERAL NO. 9-22, SANDOVAL COUNTY, NEW MEXICO

LEASE NAME	WELL TYPE	SPUD DATE	COMPLETION DATE	TOTAL DEPTH	PLUG BACK TOTAL DEPTH	LOCATION
Boling Federal No. 5 Recompleted to Gallup	SWD	4-14-72	6-15-72 1-06-79	5450'	5394' 3800'	400' FNL & 1980' FWL Sec 22-T19N-R3W
Boling Federal No. 6	Oil	7-12-74	8-19-74	5495'	5409'	1650' FNL & 2310' FWL Sec 22-T19N-R3W
Boling Federal No. 8	Oil	1-27-78	3-22-78	5425'	5327'	990' FNL & 2160' FWL Sec 22-T19N-R3W
Federal Media No. 7	Oil	6-19-69	6-22-69	3445'	never reached the Entrada	1980' FNL & 1980' FEL Sec 22-T19N-R3W
Miller Federal No. 7-22	Oil	12-27-75	1-30-76	5465'		1335' FNL & 1980' FEL Sec 22-T19N-R3W
Boling Federal No. 9	SWD	4-23-86	7-01-86	5440'	5411'	1328' FNL & 1312' FWL Sec 22-T19N-R3W

OK *OK* *OK* *OK* *OK* *OK*

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other
instruction
reverse side)

Form approved,
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other _____				5. LEASE DESIGNATION AND SERIAL NO. NM 045884 A			
b. TYPE OF COMPLETION: NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other _____				6. IF INDIAN, ALLOTTEE OR TRIBE NAME			
2. NAME OF OPERATOR Petro-Lewis Corporation				7. UNIT AGREEMENT NAME			
3. ADDRESS OF OPERATOR P. O. Box 2250, Denver, CO 80202				8. FARM OR LEASE NAME Miller Federal			
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1335' FNL - 1980' FEL Sec.22-T19N-R3W At top prod. interval reported below Same At total depth Same				9. WELL NO. 722			
14. PERMIT NO.				DATE ISSUED 10-30-75			
15. DATE SPUDDED 12-27-75				16. DATE T.D. REACHED 1-15-76			
17. DATE COMPL. (Ready to prod.) 1-31-76				18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 6864 RT			
19. ELEV. CASINGHEAD 6852				10. FIELD AND POOL, OR WILDCAT SW Media - Entrada			
20. TOTAL DEPTH, MD & TVD 5465				21. PLUG, BACK T.D., MD & TVD 5435			
22. IF MULTIPLE COMPL., HOW MANY*				23. INTERVALS DRILLED BY →			
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* Top Entrada 5290 Bottom Entrada 5430				25. WAS DIRECTIONAL SURVEY MADE Yes			
26. TYPE ELECTRIC AND OTHER LOGS RUN IES, DIL, BHC-GR				27. WAS WELL CORED No			
28. CASING RECORD (Report all strings set in well)							
CASING SIZE		WEIGHT, LB./FT.		DEPTH SET (MD)		HOLE SIZE	
7"		20 & 23#		5285		8 3/4"	
						385 sxs from shoe & 450 sxs from 3000'	
10 3/4"		40.5		228		15"	
						225 sxs	
						None	
29. LINER RECORD							
SIZE		TOP (MD)		BOTTOM (MD)		SACKS CEMENT*	
4 1/2 - 11.6#		5081		5465		50 sx fr. bottom	
						None	
30. TUBING RECORD							
SIZE		DEPTH SET (MD)		PACKER SET (MD)			
3 1/2		3100'		None			
31. PERFORATION RECORD (Interval, size and number) 5292 - 5302 w/4 spf (40 1/2" holes)							
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.							
DEPTH INTERVAL (MD)				AMOUNT AND KIND OF MATERIAL USED			
33. PRODUCTION							
DATE FIRST PRODUCTION 3-25-76							
PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Pumping							
WELL STATUS (Producing or shut-in) Producing							
DATE OF TEST 3-25-76		HOURS TESTED 15 1/2		CHOKE SIZE		PROD'N. FOR TEST PERIOD →	
						OIL—BBL. 1100	
						GAS—MCF. 0	
						WATER—BBL. 0	
						GAS-OIL RATIO 0	
FLOW. TUBING PRESS.		CASING PRESSURE		CALCULATED 24-HOUR RATE →		OIL GRAVITY-API (CORR.)	
						32 degrees	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) None							
TEST WITNESSED BY Tom Evans							
35. LIST OF ATTACHMENTS Deviation Record							
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records							
SIGNED <u>[Signature]</u>				TITLE <u>Vice President</u>			
				DATE <u>4/8/76</u>			

*(See Instructions and Spaces for Additional Data on Reverse Side)

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other Salt Water Disposal

2. NAME OF OPERATOR
Petro-Lewis Corporation

3. ADDRESS OF OPERATOR
P.O. Box 509, Levelland, Texas 79336

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 430' FNL & 1690' FEL
AT TOP PROD. INTERVAL: 2818'
AT TOTAL DEPTH: 3102'

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE,
REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>
ABANDON*	<input checked="" type="checkbox"/>
(other)	

SUBSEQUENT REPORT OF:

--	--	--	--	--	--	--	--

FEB 10 1978

NOTE: Report results of multiple completion or zone change on Form 9-330.)

CONFIDENTIAL

Sp. 10 F

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1-23-78

On 12-23-77, Petro-Lewis Corporation received approval from Jerry Long, USGS, Durango, Colo., to plug and abandon the above well, due to defective casing. This procedure will be conducted in the following manner:

1. Spot 300' of Class "C" cmt. between 3075'-2775', 35 sx.
2. Spot 300' of Class "C" cmt. between 2300'-2000', 35 sx.
3. Spot 10 sx. of Class "C" cmt. inside 4-1/2" csg. at surface.
4. Spot 30' plug between 4-1/2" and 8-5/8" surface with 10 sx.
Class "C".
5. Install abandonment marker and restore location.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby ~~certify~~ that the foregoing is true and correct

SIGNED B. M. Hupley TITLE Sr. Drlg. Foreman DATE 1/23/78

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____ DATE _____

*See Instructions on Reverse Side

JAN 25 1978

U. S. GEOLOGICAL SURVEY
DURANGO, COLO.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved
Budget Bureau

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL:		OIL WELL <input type="checkbox"/>	GAS WELL <input type="checkbox"/>	DRY <input type="checkbox"/>	Other _____		
b. TYPE OF COMPLETION:		NEW WELL <input type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	PLUG BACK <input checked="" type="checkbox"/>	DIFF. RESVR. <input type="checkbox"/>	Other <u>Re-Entry</u>
2. NAME OF OPERATOR						Petro-Lewis Corporation c/o Minerals Management Inc.	
3. ADDRESS OF OPERATOR						P. O. Box 2919	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*						Casper, Wyoming 82601	
At surface						NE/4 NE/4 (660' FNL, 660' FEL), Sec 22-19N-3W	
At top prod. interval reported below						Same	
At total depth						Same	
14. PERMIT NO.				DATE ISSUED			
USGS				6-23-69			
15. DATE SPUDDED		16. DATE T.D. REACHED		17. DATE COMPL. (Ready to prod.)		18. ELEVATIONS (DF, REB, RT, GR, ETC.)*	
6-24-69		6-28-69		2-8-74		6858' Gr.	
20. TOTAL DEPTH, MD & TVD		21. PLUG, BACK T.D., MD & TVD		22. IF MULTIPLE COMPL., HOW MANY*		23. INTERVALS DRILLED BY	
3421'		1730'		--		0-3421'	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*						25. WAS DIRECTIONAL SURVEY MADE	
1416-1618' - Upper Cretaceous						--	
26. TYPE ELECTRIC AND OTHER LOGS RUN						27. WAS WELL CORED	
Cement Bond, Gamma Ray Correlation						--	
28. CASING RECORD (Report all strings set in well)							
CASINO SIZE		WEIGHT, LB./FT.		DEPTH SET (MD)		HOLE SIZE	
8-5/8"		24#		113'		12-1/4"	
4-1/2"		9.5#		3421'		7-7/8"	
						175 sx Diamix, 175 sx Class	
						2 1/2" 44# Celloflakes & 3 sx cement	
29. LINER RECORD							
SIZE		TOP (MD)		BOTTOM (MD)		SACKS CEMENT*	
None						107 1/2	
30. TUBING RECORD							
SIZE		DEPTH SET (MD)		PACKER SET (MD)			
2"		1681'					
31. PERFORATION RECORD (Interval, size and number)							
3089-3112, 2989-3002, 2906-2916, 2796-2826, 1793-1798, 1776-1784. 1570-92				3089-1784			
1602-09, 1612-18, 1624-38, 1049-50.				1049-1050			
1416-26, 1602-09, 1612-18' one jet shot per foot.				1570-92			
				500 gal 28% acid 1 gal A-170-			
32. PRODUCTION							
DATE FIRST PRODUCTION				PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)			
2-22-74				Pumping			
DATE OF TEST		HOURS TESTED		CHOKE SIZE		PROD'N. FOR TEST PERIOD	
3-1-74		24		-		11	
FLOW, TUBING PRESS.		CASING PRESSURE		CALCULATED 24-HOUR RATE		OIL—BBL.	
5		0		11		TSTM	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)		TEST WITNESSED BY		DATE			
--		Joe Massey		May 17, 1974			
35. LIST OF ATTACHMENTS							
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records							
SIGNED		TITLE		DATE			
[Signature]		Production Manager		May 17, 1974			

*(See Instructions and Spaces for Additional Data on Reverse Side)

APPLICATION FOR AUTHORIZATION TO INJECT
KIRBY EXPLORATION COMPANY OF TEXAS
BOLING FEDERAL NO. 9-22
SANDOVAL COUNTY, NEW MEXICO

SECTION VII: PROPOSED OPERATIONS

1. Average and maximum daily rate and volume of fluids to be injected will be +2000 bbls.
2. The system will be closed.
3. Average pressure will be 100 psig, with a maximum injection pressure of 1500 psig.
4. The source will be reinjected produced water.
5. Question 5 is not applicable.

SECTION VIII: GEOLOGICAL DATA

The proposed injection zone is through perforations from 5330'-5334' in the top of the Jurassic Todilto limestone. The Todilto is a 20' thick grey to dark brown very finely crystalline shaley limestone containing abundant organic material. The Todilto is highly fractured and most of the injected fluids will be forced into the underlying Jurassic Entrada sandstone which is currently being utilized for injection in several other wells within 1-1/2 miles of the subject well. The Entrada is a very fine to medium grained calcareous sand with 8-20% porosity and exceeds 100' in thickness.

The geologic name and depth to sources of drinking water are not known. However, as Entrada formation water is currently being injected into the Gallup as shallow as 2894' and no fresh water sands either immediately overly or underly the Entrada it is safe to assume that further injection into the Todilto-Entrada will have no adverse affect on sources of drinking water.

SECTION IX: PROPOSED STIMULATION PROGRAM

1. 1500 gallons of 15% HCL acid.

SECTION X: LOGS AND TEST DATA

1. The logs with a letter of confidentiality have been previously submitted.

UNIONEN 10-30-86

707 NORTH LEECH

10-30-86

HOBBS, NEW MEXICO 80940

COMPANY : KIRBY EXPLORATION
DATE : 10-30-86
FIELD, LEASEWELL : MEDIA MESA
SAMPLING POINT: WATER WELL
DATE SAMPLED : 10-24-86

800' feet deep.

SPECIFIC GRAVITY = 1
TOTAL DISSOLVED SOLIDS = 977
PH = 7.1

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	7.4	149.
MAGNESIUM	(MG)+2	5.1	62.3
SODIUM	(NA), CALC.	2.3	54.2
ANIONS			
BICARBONATE	(HCO3)-1	1.2	73.2
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	11.7	565
CHLORIDES	(CL)-1	2	73

DISSOLVED GASES		
CARBON DIOXIDE	(CO2)	NOT RUN
HYDROGEN SULFIDE	(H2S)	NOT RUN
OXYGEN	(O2)	NOT RUN
IRON(TOTAL)	(FE)	NOT RUN
BARIUM	(BA)+2	NOT RUN
MANGANESE	(MN)	NOT RUN

IONIC STRENGTH (MOLAL) = .027


SCALING INDEX	TEMP	
	30C	46.8C
	86F	120F
CARBONATE INDEX	.506	.909
CALCIUM CARBONATE SCALING	LIKELY	LIKELY
CALCIUM SULFATE INDEX	-10.	-10.
CALCIUM SULFATE SCALING	UNLIKELY	UNLIKELY

ATTACHMENT FOR APPLICATION FOR AUTHORIZATION TO INJECT
KIRBY EXPLORATION COMPANY OF TEXAS
BOLING FEDERAL NO. 9-22, SANDOVAL COUNTY, NEW MEXICO
SECTION XI

APPLICATION FOR AUTHORIZATION TO INJECT
KIRBY EXPLORATION COMPANY OF TEXAS
BOLING FEDERAL NO. 9-22
SANDOVAL COUNTY, NEW MEXICO

SECTION XII: AFFIRMATIVE STATEMENT

As a contract geologist for Kirby Exploration Company of Texas, the applicant, I have examined the available geologic and engineering data on the subject well and have found no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.



Lynn Six



KIRBY EXPLORATION COMPANY OF TEXAS

November 10, 1986

U.S. Dept. of the Interior
Bureau of Land Management
Caller Service 4104
Farmington, New Mexico 87499

Attn: Mr. Jim Lovato

Re: Boling Federal No. 9-22
Sec 22-T19N-R3W
Sandoval County, NM

Dear Mr. Lovato:

This letter is to serve as "Proof of Notice" to the Bureau of Land Management, as surface owner of the land on which the subject well is located, that Kirby Exploration Company of Texas is applying for Authorization to Inject (dispose) water in the same well. A copy of the application with all attachments is attached for your files.

If you have any questions, please give me a call.

Respectfully yours,

Judi Nelson
Regulatory Clerk

attach.

PS Form 3811, July 1983

<p>SENDER: Complete items 1, 2, 3 and 4.</p> <p>Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. <u>The return receipt fee will provide you the name of the person delivered to and the date of delivery.</u> For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.</p>	
<p>1. <input checked="" type="checkbox"/> Show to whom, date and address of delivery.</p> <p>2. <input type="checkbox"/> Restricted Delivery.</p>	
<p>3. Article Addressed to:</p> <p>Bureau of Land Management Attn: Mr. Jim Lovato Caller Service 4104 Farmington, New Mexico 87499</p>	
<p>4. Type of Service:</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail</p>	<p>Article Number</p> <p>P462-729-553</p>
<p>Always obtain signature of addressee <u>or</u> agent and DATE DELIVERED.</p>	
<p>5. Signature — Addressee</p> <p>X</p>	
<p>6. Signature — Agent</p> <p>X</p>	
<p>7. Date of Delivery</p>	
<p>8. Addressee's Address (<i>ONLY if requested and fee paid</i>)</p>	

DOMESTIC RETURN RECEIPT

P 462 729 553

RECEIPT FOR CERTIFIED MAIL

INSURANCE COVERAGE PROVIDED
BY U.S. AIR INTERNATIONAL MAIL
See Reverse

Bureau of Land Management

Caller Service 4104

Farmington, NM 87499

11-10-86

CERTIFIED

P 462 729 553



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

DATE 12-3-86

RE: Proposed MC _____
Proposed DHC _____
Proposed NSL _____
Proposed SWD X _____
Proposed WFX _____
Proposed PMX _____

SWD-316

Gentlemen:

I have examined the application dated 11-12-86

for the Kirby Exploration Company Texas Boling Federal #9 E-22-19N-3W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Do not approve - need additional info and Boling #5
fixed and Boling Federal #5 re-entered
and capping gas.

Yours truly,

Em Bural