1.	Purpose: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Xyes Ino	
II.	Operator: READING & BATES PETROLEUM CO.	
	Address: 2412 N. Grandview, Suite 201, Odessa, Texas 79761	
	Contact party: Donald J. Kipgen Phone: (915) 362-6302	
111.	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?	
٧.	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. See attached	
VI.	Attach a tabulation of data on all wells of public record within the area of review whi 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 litholog 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.	
XĮĮ,	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 gource of drinking water.	
ш,	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 correcto to the best of my knowledge and belief.	
	Name: Donald J. Kipgen Title Area Superintendent Date: March 6, 1986	
	Signature: Jane 186	

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

See attached information

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 footace 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.

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 sincle 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 herring with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 vithin 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.

Only one well is in the area of review: it is our VI. producing well Dickinson Cattle Co. "33" No. 1.

January 23, 1982 Spudded:

> Originally drilled as a Devonian wildcat to 13360'. it was non-productive and was plugged back to the Wolfcamp as follows:

Plug No. 1: 50 sx 13230-13130/ Top of Devonian

Plug No. 1: Plug No. 2: 50 sx 11850-11750' Top of Mississippian

125 sx 9900-9600' Lower Wolfcamp Plug No. 3:

Drilled out to 9659'

Casing program as follows:

Surface: 13-3/8" to 528'; 550 sx to surface

Intermediate: 9-5/8" to 4911'; 2600 sx; two stages

> through stage collar at 2010' - 1300 sx around shoe and 1300 sacks through stage collar. 1st stage circulated 210 sx off

top of staging collar and 2nd stage circulated 102 sacks to surface.

5-1/2" to 9659'; 225 sacks, top of Long String:

cement 8346'.

Perforations: 9409-9434' in Wolfcamp

VII: Data on the proposed operation:

1. Proposed average and maximum daily rate and volume of fluids to be injected:

Average 1000 bbls. Maximum 2000 bbls.

- 2. System is closed.
- 3. Proposed average and maximum injection pressure:

Average 500# Maximum 1000#

- 4. Disposal system. Source of water to be disposed of is from the Wolfcamp formation. (Analysis attached.
- 5. There is no San Andres or Glorieta oil or water production in the area so water samples are not available.

From communication with chemical companies and water analysis laboratories, the best we can do is approximation based on wells ten to fifteen miles away. The results are as follows:

Specific Gravity 1.035, ph 7

	MG/L
Calcium	3,070
Magnesium	1,780
Sodium	14,400
Bicarbonates	840
Sulfates	3,250
Chlorides	30,000

Total dissolved solids 53,340

Carbonate sealing index is .8 Sulfate scaling index is 10-20 which is typical for the region.

Disposal well will be monitored for scaling indications and appropriate preventive measures will be followed, ie. scale corrosion inhibitor will be applied when needed.

VIII. Geological Data:

The San Andres zone is principally dolomitic and is approximately 800 feet thick from 4700 to 5500'.

The Glorieta is a limestone with fractured chert in the loss zone at 6060′-6400′, the Glorieta being approximately 340 feet thick.

Drinking water depths, etc. are as follows:

Tertiary (Ogalala) water sands at maximum depth 150'.

Water analysis in surrounding water wells attached.

There are no drinking water zones below the injection interval.

IX. Proposed stimulation program:

1000 gallons 15% NE/FE H.C.L.

X. Logging & test data on well.

Logs have been previously submitted. Mud logs attached.

XI. Chemical analysis of fresh water.

Note attachments.

XII. Affirmative statement:

After complete study of the area, both on the surface and sub-surface, I find no indication of faults in the San Andres or overlying zones to indicate any possibility of injected water from this well coming as high as the base of the Ogalala.

XIII. Proof of Notice.

See attached.

XIV: Certification:

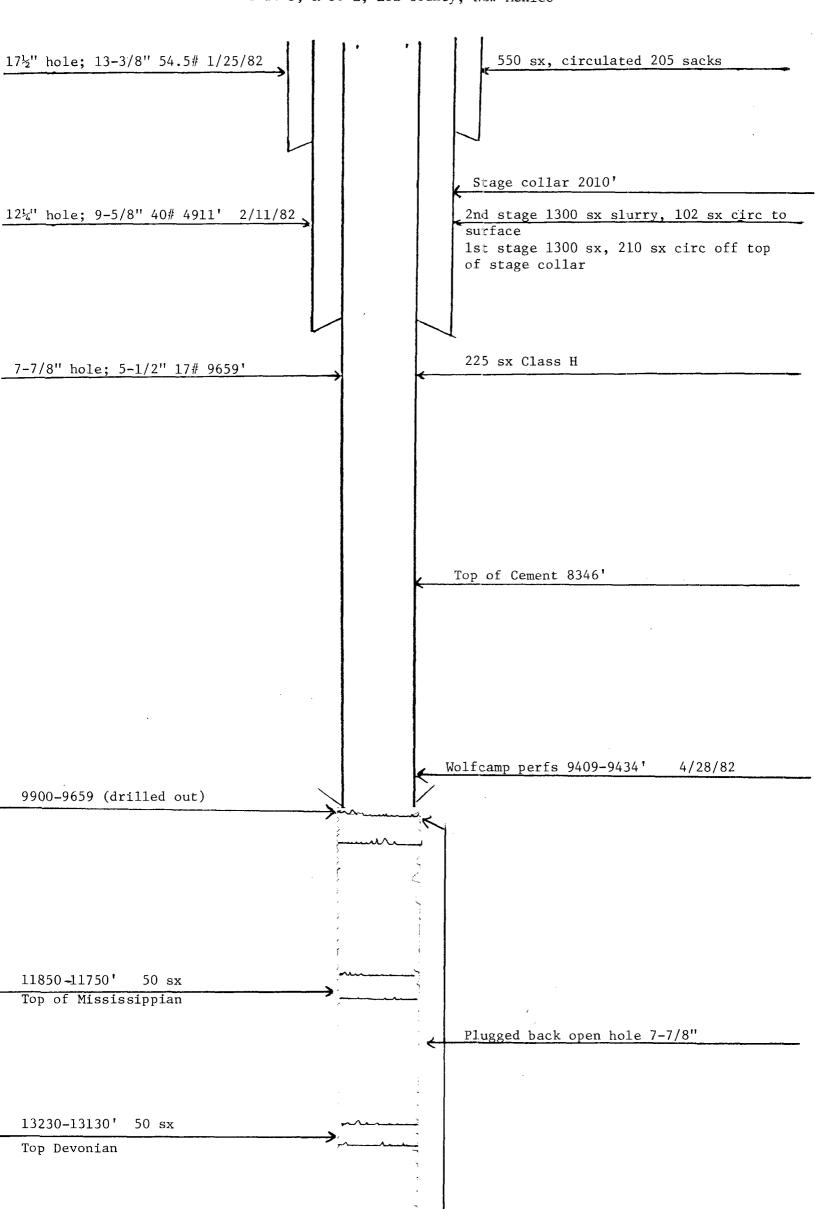
See attached.

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READING & BATES PETROLEUM CO.

DICKINSON CATTLE CO. 33-1

660 FSL & 1980 FWL of Section 33 T-14-S, R-38-E, Lea County, New Mexico



AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.
1,
Robert L. Summers
of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for a period
of
One weeks.
Beginning with the issue dated
March 3 , 19 86
and ending with the issue dated
March 3 , 19 86
Publisher.
Sworn and subscribed to before
me this day of
March 1986
Vesa Muchey Notary Publif.
My Commission expires
This newspaper is duly qualified

to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been

made.

LEGAL NOTICE
MARCH3, 1986
CONTACT PARTY:
DONALD J. KIPGEN
PHONE NO.
(915) 362-6302
Reading & Bates Petroleum
Co., 2412 N. Grandview, Soite
201, Odessa, Texas 79761, intends to re-enter and complete
as a sait water disposal well
their Dickinson Cathle Company "33" Well Number 2,
located 600' FSL and 560' FWL
of Section 33 in Township 14
South, Range 38E, at depths of
5500' (San Andres Fermation)
and 6200' (Glorieta Formation).

Maximum injection rate will
be 2000 barrels sait water per
day at a pressure of 1000 psi
Interested parties must file
objections or requests for
hearing with the Oil Conservation Division, P. O. Box 2088,
Santa Fe, New Mexico \$7501,
within 5 days.
SIGNED: Donald J. Kipgen
Area Supt.
2412 N. Grandview,
Suite 201
Odessa, Texas 79761
(915) 362-6302

4 at . . .

READING & BATES PETROLEUM CO.

2410 N. Grandview, Suite 201 Odessa, Texas 79761 915 362-6302

FEBRUARY 21, 1986

CONTACT PARTY: DONALD J. KIPGEN PHONE NO. (915) 362-6302

READING & BATES PETROLEUM CO., 2412 N. GRANDVIEW, SUITE 201, ODESSA, TEXAS 79761, INTENDS TO RE-ENTER AND COMPLETE AS A SALT WATER DISPOSAL WELL THEIR DICKINSON CATTLE COMPANY "33" WELL NUMBER 2, LOCATED 660' FSL AND 560' FWL OF SECTION 33 IN TOWNSHIP 14 SOUTH, RANGE 38E, AT DEPTHS OF 5500' (SAN ANDRES FORMATION) AND 6200' (GLORIETA FORMATION).

MAXIMUM INJECTION RATE WILL BE 2000 BARRELS SALT WATER PER DAY AT A PRESSURE OF 1000 PSI.

INTERESTED PARTIES MUST FILE OBJECTIONS OR REQUESTS FOR HEARING WITH THE OIL CONSERVATION DIVISION, P. O. BOX 2088, SANTA FE, NEW MEXICO 87501, WITHIN 5 DAYS.

SIGNED: Kipgen, Area Supt.

DATE: 3/21/80

di

REPRESENTATIVE



OFFICE & PLANT P. O. BOX 6305

WATER ANALYSIS REPORT

OMPANY READING & BATES	ADDRESS _			
DICKENSON 33-1	DATE SAMP	r 1	-85	
ANALYSIS	P P M or Mg/L	E P M or Meq./L		Ionic P P M
1. PH 6.80				
2. His Way is diselled gas in aprice	>	20		
3. CO ₂				
4. Specific Gravity 1.040				
5. Phenol Alkalinity (CoCO3)	0.0			
6. M.P. Alkalinity (CoCO ₃)	860.0			
7. Bicarbonate (C°CO3)	860.0	17.2	H€O3	1,049.2
8. Chlorides (CI)	35,000.0	985.9	CL	35,000.0
9. Sulphates (SO ₄)	3,875.0	80.7	SO₄	3,875.0
10. Total Hardness (CoCO ₃)	7,250.0			
11. Calcium (CoCO ₁)	6,250.0	125.0	Ca	2,500.0
12. Magnesium (CoCO ₃)	1,000.0	20.0	Mg	244.0
13. Sodium (Na)		938.8	Na	21,592.4
14. Barium (Ba)			Ва	-
15. Iron (Fe)				0.2
16. Total Disolved Solids				64,260.8
marks:				
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Reading & Bates Petroleum Co.

Dickinson Cattle Co. 2-33

560 FWL 660 FSL Sec. 33

14S, 38E, Lea County, New Mexico

Fresh Water Wells Where Samples Were Taken

2	Snediger Lowe Ld.Co.	Anadarko 9·11·87 Anadarko 9·6·87 J.L. Towns	UnionTx.E.KMiCart'L 8 5 91 Anadarko 9-24-87 NZNE FWM. A. Eners, M. Iff Grace Beauchamp, M. I. U. L. Cox Towns	Wolfcamp 1985 Venture 11-18-65 11-12-85 J.L. Towns Tenned H.C.Griffin	O ke M.
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Tom Belco . (5) Mitchell P220 Wc Disc. Plg. 28 Th Mary Grif R.L., A.W. E. Kathr Dick inson	Avanti Ener, etal 1.15.84 1.13.84 Lab # 34-1 Lundmill Fin, cro. yn Mitchell, M	Maguire	14879Ac 12 14031Ac / 196, Bates 6 .88 7ind mill -ab#344	Trigation hab.	Jarry Larry Larry M. J. Schullt L. M. I. 19 30 88 L. artholomew, Est.
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COMPANY: READING & BATES PETROLEUM CO. DATE: 03-04-86

2412 GRANDVIEW - SUITE 201 RECEIVED DATE: 02-28-86

ODESSA, TEXAS 79761

This well produces from the Ogalala

ATTENTION OF: MR. DAVID MAGQUIRK at approximately 110'.

WATER ANALYSIS: DICKINSON CATTLE CO. 2-33 - #1 D.C.C. 1-33, LAB NO. 341

CAILONS	DISSOLVED SOLIDS MEQ/L	IONIC MG/L
SODIUM, Na	3.79	87
CALCIUM, Ca	3.04	51
MAGNESIUM, Me	1.60	20
ANIONSL		
CHLORIDE, C1	1.90	67
SULFATE, SO4	3.33	160
BICARBONATE, HCO3	3,20	195
IOIAL DISSOLVED SOLI	DS	590
	OTHER PROPERTIES	
PH7.78	P-ALKALINITY AS CaCO3	O MG/L
IRONO MG/L	M-ALKALINITY AS CaCO3	160 MG/L
H2SO MG/L	SPECIFIC GRAVITY	1.000
CO24 MG/L	CONDUCTIVITY	450 MICROMHOS/CM
	CALCIUM HARDNESS	152 MG/L
	MAGNESIUM HARDNESS	80 MG/L
	TOTAL HARDNESS	232 MG/L

COMPANY: READING & BATES PETROLEUM CO. DATE: 03-04-86

2412 GRANDVIEW - SUITE 201 RECEIVED DATE: 02-28-86

ODESSA, TEXAS 79761

This well produces from the Ogalala

ATTENTION OF: MR. DAVID MAGOUIRK at approximately 110'.

WATER ANALYSIS: DICKINSON CATTLE CO. 2-33 - #2 D.C.C. 1-33, LAB NO. 342

CATIONS	DISSOLVED SOLIDS MEQ/L	IONIC MG/L
SODIUM, Na	4.19	96
CALCIUM, Ca	2.64	53
MAGNESIUM, Ma	1.48	18
ANIONS:		
CHLORIDE, C1	1.80	64
SULFATE, SO4	3.23	155
BICARBONATE, HCO3	3.28	200
IOIAL DISSOLVED SOLI	DS	586
	OTHER PROPERTIES	
PH7.78	P-ALKALINITY AS CaCO3	O MG/L
IRONO MG/L	M-ALKALINITY AS CaCO3	164 MG/L
H2SO MG/L	SPECIFIC GRAVITY	1.000
CO24 MG/L	CONDUCTIVITY	445 MICROMHOS/CM
	CALCIUM HARDNESS	132 MG/L
	MAGNESIUM HARDNESS	74 MG/L
	TOTAL HARDNESS	206 MG/L

COMPANY: READING & BATES PETROLEUM CO. DATE: 03-04-86

2412 GRANDVIEW - SUITE 201 RECEIVED DATE: 02-28-86

ODESSA, TEXAS 79761

This well produces from the Ogalala

ATTENTION OF: MR. DAVID MAGOUIRK at approximately 110'.

WATER ANALYSIS: DICKINSON CATTLE CO. 2-33 - #3 SEC 33-148-38E SW #1 DCC, LAB NO. 343

CATIONS	DISSOLVED SOLIDS MEQ/L	IONIC MG/L
SODIUM, Na	3.95	91
CALCIUM, Ca	3.00	60
MAGNESIUM, Ma	1.60	20
ANIONS:		
CHLORIDE, C1	1.90	67
SULFATE, SO4	3.13	150
BICARBONATE, HCC3	3.52	215
IOIAL DISSOLVED SOLI	os	603
	OTHER PROPERTIES	
pH7.95	P-ALKALINITY AS CaCO3	O MG/L
IRONO MG/L	M-ALKALINITY AS CaCO3	176 MG/L
H2S0 MG/L	SPECIFIC GRAVITY	1.000
CO24 MG/L	CONDUCTIVITY	445 MICROMHOS/CM
	CALCIUM HARDNESS	150 MG/L
	MAGNESIUM HARDNESS	80 MG/L
	TOTAL HARDNESS	230 MG/L

COMPANY: READING & BATES PETROLEUM CO. DATE: 03-04-86

2412 GRANDVIEW - SUITE 201 RECEIVED DATE: 02-28-86

ODESSA, TEXAS 79761

This well produces from the Ogalala

ATTENTION OF: MR. DAVID MAGOUIRK at approximately 110'.

WATER ANALYSIS: DICKINSON CATTLE CO. 2-33 - #4 WINDMILL 1/2 S. DCC #1 SEC 4-155 NW/NW, LAB NO. 344

CATIONS	DISSOLVED SOLIDS MEQ/L	IONIC MG/L
SODIUM, Na	4.05	93
CALCIUM, Ca	3.20	64
MAGNESIUM, Ma	1.64	
ANIONS:		
CHLORIDE, C1	1.90	67
SULFATE, SO4	3, 23	155
BICARBONATE, HCO3	3.76	229
TOTAL DISSOLVED SOLI	OS	628
	OTHER PROPERTIES	
PH7.5	P-ALKALINITY AS CaCO3	O MG/L
IRONO MG/L	M-ALKALINITY AS CaCO3	188 MG/L
H2SO MG/L	SPECIFIC GRAVITY	1.000
CO24 MG/L	CONDUCTIVITY	440 MICROMHOS/CM
	CALCIUM HARDNESS	160 MG/L
	MAGNESIUM HARDNESS	82 MG/L
	TOTAL HARDNESS	242 MG/L

COMPANY: READING & BATES PETROLEUM CO. DATE: 03-06-86

2412 GRANDVIEW - SUITE 201 RECEIVED DATE: 03-05-86

ODESSA, TEXAS 79761

ATTENTION OF: MR. DON KIPGEN

WATER ANALYSIS: DICKINSON CATTLE CO. 33-1 - EAST IRRIGATION WELL NE/NW/NE, LAB NO. 359

CATIONS	DISSOLVED SOLIDS MEQ/L	IONIC MG/L
SODIUM, Na	3.92	90
CALCIUM, Ca	1.96	39
MAGNESIUM, Me	1.28	16
ANIONS:		
CHLORIDE, C1	2.00	71
SULFATE, SO4	2.60	125
BICARBONATE, HC03	2.56	156
IOIAL DISSOLVED SOLI	os	497
	OTHER PROPERTIES	
PH7.45	P-ALKALINITY AS CaCO3	O MG/L
IRONO MG/L	M-ALKALINITY AS CaCO3	128 MG/L
H2SO MG/L	SPECIFIC GRAVITY	1.000
CO27 MG/L	CONDUCTIVITY	480 MICROMHOS/CM
	CALCIUM HARDNESS	98 MG/L
	MAGNESIUM HARDNESS	64 MG/L
	TOTAL HARDNESS	162 MG/L



2410 N. Grandview, Suite 201 Odessa, Texas 79761 915 362-6302

March 7, 1986

Dickinson Cattle Co. P. O. Box 3408 Amarillo. Texas 79106

Attn: Dr. Walter Dickinson

Dear Dr. Dickinson:

Reading & Bates Petroleum Co. is planning on making their Dickinson Cattle Co. "33" No. 2 (presently plugged and abandoned well) a salt water disposal well into the San Andres and Glorieta formations at depths 5500 to 6400'. The volume of salt water to be disposed of will be from 1000 to 2000 barrels per day.

Casing is presently set at 4900' and cemented back to the surface. Also, there is surface casing in this well to a depth of 506' which was also cemented back to the surface as the accompanying schematic of the well indicates.

Our plan is to keep all wellhead connections and lines 18" below ground level and go back west from this well until we are outside the west fence line of the cultivated field. Our water transfer line from the Dickinson 33 No. 1 we plan to lay as follows:

Directly south from the tank battery at the No. 1 Dickinson along the east right-of-way of our lease road to the section or fence line and following the fence line west approximately 1800'. From that point north outside the west fence line of the cultivated field approximately 660' then east approximately 270' to our wellhead. All these lines will be buried as deep as possible in the rocky soil (a foot to foot and half).

In the event that we need pressure to dispose of this water we will need to set a plunger pump and salt water holding tank at that point 270' west of the well and outside the cultivated field approximately 100'. All this information is drawn out on the enclosed map of the lease.

If you agree with this please sign as a waiver in the provided space below.

Yours very truly,

READING & BATES PETROLEUM CO.

Donald J. Kipgen Area Superintendent

Approved as stated above:

DICKINSON CATTLE CO.

Dr. Walter Dickinson

Gordon Dickinson cc: P. O. Box 247

Roswell, New Mexico 88201

Dickle Wheeler Rt. 1. Box 505 Lovington, New Mexico 88260

Received	RECEIPT the numbered article described below.
ECISTERED NO.	# SIGNATURE OR NAME OF ADDRESSEE (Manhalmays be follows)
EKTIFIED NO. 307305 MSURED NO.	SIGNATURE OF ADDRESSEE'S AGENT, IF ANY SUSSI
DATE DELIVERED	SHOW WHERE DELIVERED (only if requested ET

RECEIPT FOR CERTIFIED MAIL-30¢

SENT TO Dickinson	Cattle Co.		POSTMARK OR DATE
P. O. Box	3408		
Amarillo,		06	8
Return	A SERVICES FOR ADDITION Receipt Shows to whom, date, and where delivered 35¢ fee	AL FEES Deliver to Addressee Only 50¢ fee	
POD Form 3800 NO	INSURANCE COVER	AGE PROVIDED-	(See other sid

No. 307305



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION HOBBS DISTRICT OFFICE

TONEY ANAYA

March 20, 1986

9951 2561 208 301730 T209 C4939 C3123M W3A 2880H 1818-888 (203)

RE: Proposed: MC DHC	14 14 14	· · · ·
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Gentlemen:		
I have examined the application for the:		
B 11 A B 1 B 1 B 1 B 1 B 1 B 1 B 1 B 1 B		
		33-14-38 S-T-R
Operator Lease & Well No and my recommendations are as follows:		
Operator Lease & Well No and my recommendations are as follows:		
Operator Lease & Well No ard my recommendations are as follows: OK Jerry SExton		