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BEFORE THE OIL AND GAS CONSERVATION
COMMISSION OF THE STATE OF COLORADO

IN THE MATTER OF THE APPLICATION)
BY CARDINAL PETROLEUM COMPANY FOR)
APPROVAL OF UNDERGROUND DISPOSAL)
OF WATER IN LADDER CREEK FIELD,)
CHEYENNE COUNTY, COLORADO)

CAUSE NO.

A P P L I C A T I O N

COMES NOW the Applicant, Cardinal Petroleum Company, a Delaware Corporation, duly authorized to do business in the State of Colorado, and respectfully presents this application to the Oil and Gas Conservation Commission of the State of Colorado, and in support of this application shows the following:

1. Cardinal Petroleum Company owns an undivided interest in and operates oil and gas leases in Ladder Creek Field, Cheyenne County, Colorado, covering the following described land:

TOWNSHIP 15 SOUTH, RANGE 45 WEST, 6TH P.M.

Section 12: E $\frac{1}{2}$; NW $\frac{1}{4}$

TOWNSHIP 14 SOUTH, RANGE 44 WEST, 6TH P.M.

Section 6: All

2. Applicant is requesting as Operator for a cooperative disposal system for Ladder Creek Field on behalf of Inexco Oil Company and Champlin Petroleum Company covering their respective leasehold interests in the N $\frac{1}{2}$ Section 7, Township 15 South, Range 44 West, and the E $\frac{1}{2}$ and SW $\frac{1}{4}$ Section 1, Township 15 South, Range 45 West, Cheyenne County, Colorado. Said parties to enter into a Water Disposal Agreement mutually accepted and to be filed with the Oil and Gas Commission after being duly executed.

3. In support of Applicant's underground disposal of water pursuant to Rule No. 327, Applicant respectfully submits the following:

(a) Exhibit A being a plat showing the location of the disposal well and the location of all oil and gas wells, including

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abandoned wells and dry holes. Said Exhibit showing the names of the owners of record of the respective wells and further showing surface owners within one-half mile of the proposed disposal well and owners of record for the field.

Exhibit B being a plat showing the usage of surface, there are no domestic or irrigation wells within a two-mile radius of Section 12, Township 15 South, Range 45 West on file with the State Engineer's Office as of October 8, 1971. Plat shows domestic wells believed to exist, but not filed with the State Engineer.

Exhibit C being a copy of all plans and specifications for the system and its appurtenances.

(b) Water is proposed to be injected into the Mississippian formation initially into the Osage formation from 5400' to 5440'; and into the Warsaw formation from 5365' to 5390'; and into the Spergen formation from 5266' to 5330'.

(c) The disposal well proposed to be used is the Miller #1, located SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 12, Township 15 South, Range 45 West, Cheyenne County, Colorado. Said well having been drilled and is shut in as an oil producer because the water-oil ratio is so high that it is uneconomical to produce. Copy of Mississippian section shown as Exhibit D.

(d) Casing in the proposed disposal well is as follows:

13-3/8" casing, set at 190', cemented to surface;

8-5/8" casing, set at 924', cemented with 650 sacks;

5-1/2" casing, set at 5410', cemented with 100 sacks.

(e) Source of water to be injected is from the Spergen section, Mississippian formation, in the wells producing in Ladder Creek Field. Analysis of this water is submitted as Exhibit E, and it is believed that the water in the proposed injection zones is the same type. No treatment of injected water is anticipated at this time.

(f) The minimum and maximum water to be injected daily is 2,000 bbls. to 6,000 bbls., and it is anticipated that it will be injected under gravity. In the event water will not go under gravity, it

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is anticipated that a pump will be installed and water will be injected not to exceed a pressure of 1,000 lbs.

(g) The names and addresses of those notified are listed on Exhibit F.

(h) In the event more than one disposal well is needed at the time of using additional wells, we will furnish the Commission our log and plan for the respective well to be used.

(i) Copy of the Disposal Agreement between Operators will be furnished the Commission when duly executed.

WHEREFORE, Applicant prays that this matter be set down for hearing thereof, notice be given as required by law, and that the Commission enter its Order approving said disposal program pursuant to Rule 327 and for such other relief as the Commission may in its discretion direct.

Dated at Denver, Colorado, this 18th day of October, 1971.

Respectfully submitted,


Robert E. Johnson

Address of Applicant:

1135 Petroleum Club Building
Denver, Colorado 80202

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CARDINAL PETROLEUM COMPANY

LADDER CREEK WATER DISPOSAL SYSTEM
CHEYENNE COUNTY, COLORADO

Plans and specifications for the system and
its appurtenances will be tendered at the hearing;
or in absence of a hearing, prior to any work being
done.

EXHIBIT "C"

MISS
5133

COMPANY NUCLEAR CORP.
WELL MILLER # 1
FIELD WILDCAT
County CHEYENNE State COLO.

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Location

SE-NE

Sec. 12 Twp 15S Rge. 45W

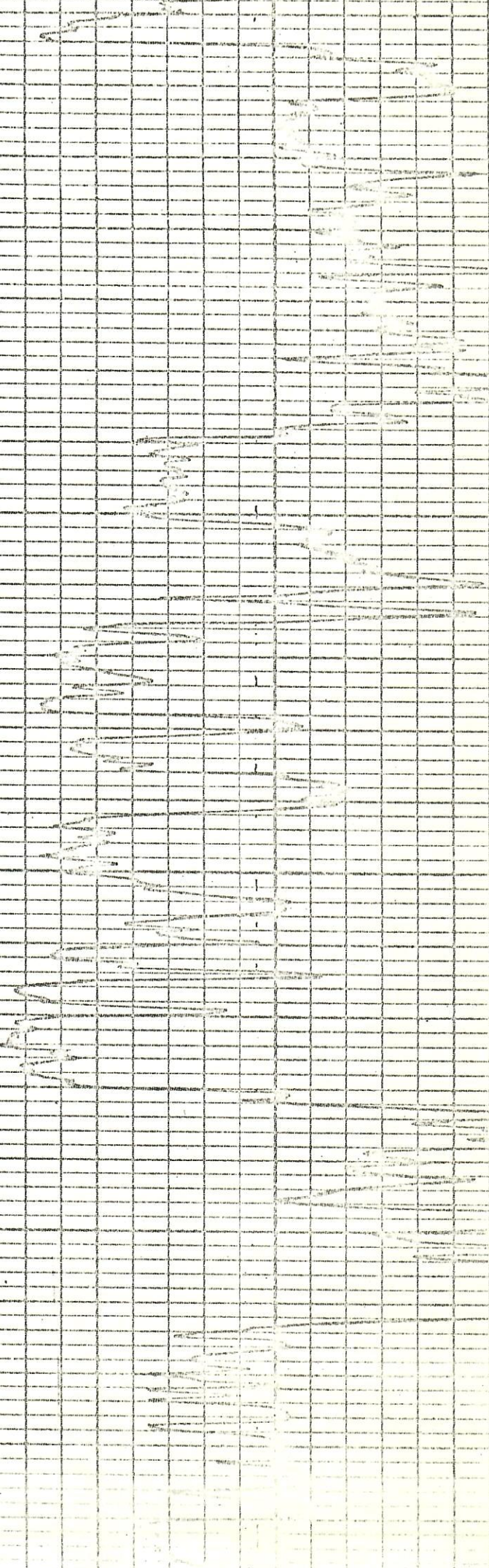
Exhibit "D"

5200

5300

-1050

OWC?



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JUN 4 1961
CHEYENNE COUNTY, COLORADO

CARDINAL PETROLEUM COMPANY

LADDER CREEK WATER DISPOSAL SYSTEM
CHEYENNE COUNTY, COLORADO

<u>Analysis For*</u>	<u>MILLER</u>	<u>URBAN</u>	<u>NEAHRING</u>	<u>BAUGHMAN</u>
Calcium	245	230	265	273
Magnesium	41.8	30.4	75.6	44.9
Chloride	2695	2340	2640	2640
Carbonate	< 0.1	< 0.1	< 0.1	< 0.1
Bicarbonate	94	86	144	62.8
Sulfate	360	21.4	771	853.
Sodium	2000	1575	1390	1500
pH	7.0	6.8	7.0	7.1
Resistivity (ohms)	1.4×10^2	1.6×10^2	1.3×10^2	1.4×10^2
Total Dissolved Solids	4480	4917	5802	5498

EXHIBIT "E"

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CARDINAL PETROLEUM COMPANY

LADDER CREEK WATER DISPOSAL SYSTEM
CHEYENNE COUNTY, COLORADO

Leasehold owners in the area are as follows:

Inexco Oil Company
308 Lincoln Tower Building
Denver, Colorado 80203

Champlin Petroleum Company
P.O. Box 1257
Englewood, Colorado 80110

Beardmore Oil Inc.
700 One-Twenty Building
Wichita, Kansas 67202

Robert J. Gutru
923 Union National Building
Wichita, Kansas 67202

Bethryn Oil Company
909 Bitting Building
Wichita, Kansas 67202

George Grenyo
714 Union Center
Wichita, Kansas 67202

Trend Exploration Ltd.
600 Capitol Life Center
Denver, Colorado 80203

C F Braun & Co.
Alhambra,
California 91802

John Neahring
1502 North Kennedy
Enid, Oklahoma 73701

T. N. Jordan, Jr.
600 Capitol Life Center
Denver, Colorado 80203

Anschutz Farms, Inc.
1110 Denver Club Building
Denver, Colorado 80202

Billy Dale Miller
Cheyenne Wells,
Colorado 80810

Wilma E. Stevens
12400 North Blue Sage Road
Oklahoma City, Oklahoma 73120

Homer Cott
Cheyenne Wells,
Colorado 80810

Mrs. Katie Urban
Ashland,
Kansas 67831

Rose H and R. E. Root
6402 Beady
Wichita, Kansas 672

Noha Joy
Route 4
Hutchinson, Kansas 67501

Ernest and Gunilda E. Froetschner
Offerle,
Kansas 67563

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Enid, Oklahoma 73701

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Oklahoma City, Oklahoma 73120

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Mrs. Katie Urban
Ashland,
Kansas 67831

Rose H and R. E. Root
3633 - 22nd
Great Bend, Kansas 67530

Noha Joy
Route 4
Hutchinson, Kansas 67501

Ernest and Gunilda E. Froetschner
Offerle,
Kansas 67563

Township, 14 & 15 S Range, 44 & 45 W County, Cheyenne State, Colorado

R 45 W

R 4 4 W

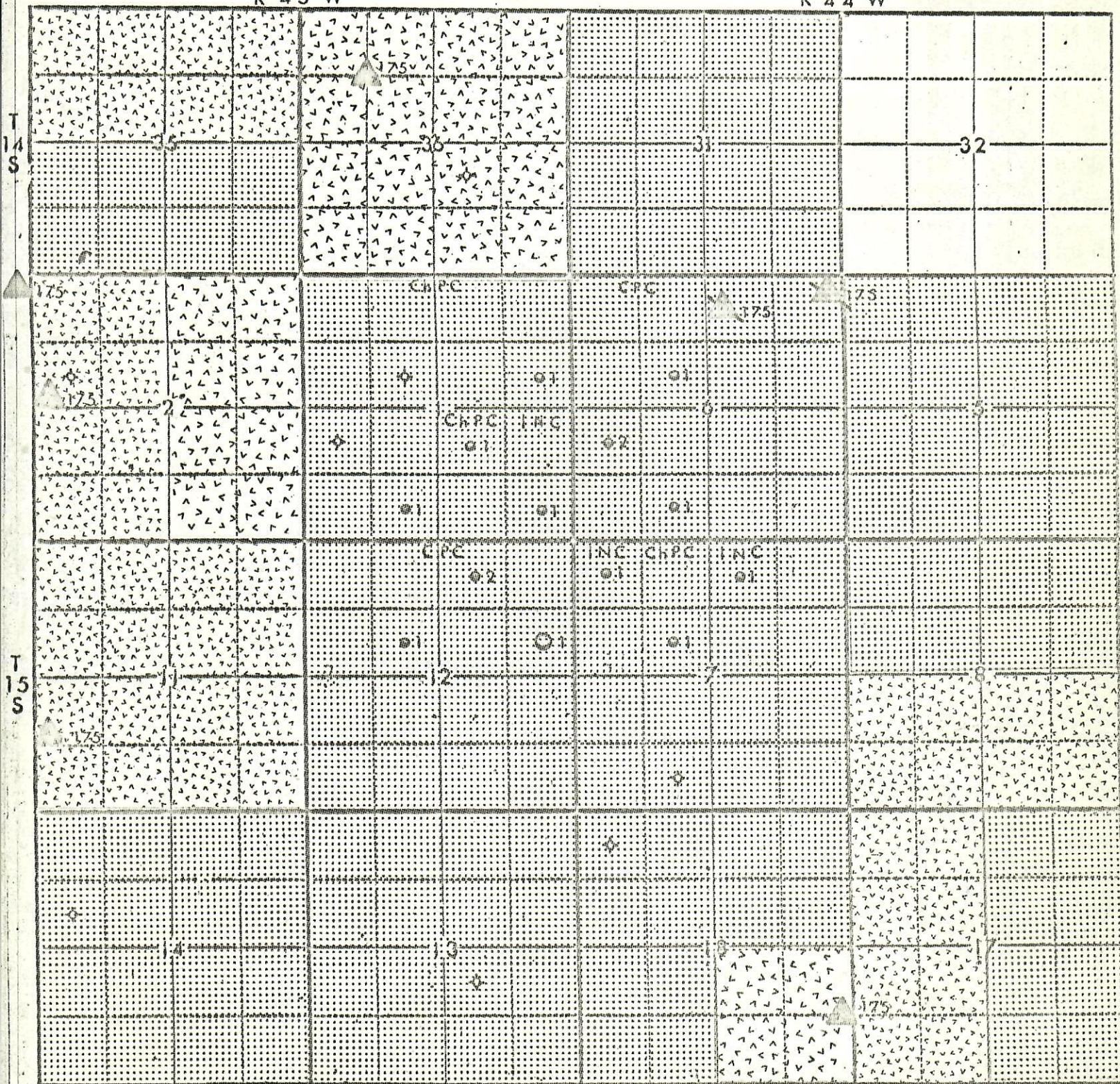


EXHIBIT "B"



Water Well



Form



Grazing

FORM 44

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Township, 14 & 15 S Range, 44 & 45 W County, Cheyenne COLO. OIL & GAS CONS. COMM. State, Colorado

R 45 W

R 44 W

T
14
S

T
15
S

