

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

November 15, 1967

Mr. R. J. Scanlon
Scanlon & Shepard
Post Office Box 601
Farmington, New Mexico

Dear Sir:

Enclosed herewith is Commission Order No. R-3346, entered in Case No. 3681, approving the Burwinkle and Scanlon Chaco Wash Water-flood Project.

Injection is to be through the one authorized water injection well, which shall be equipped with 2 3/8 inch casing set at the top of the Mesaverde Red Mountain sand and cemented to the surface.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 140 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

-2-

Mr. R. J. Scanlon
Farmington, New Mexico
November 15, 1967

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

Enclosure
ALP/DSN/ir

cc: Oil Conservation Commission
Hobbs and Aztec, New Mexico

Mr. Frank Irby, State Engineer Office
Santa Fe, New Mexico

GOVERNOR
DAVID F. CARGO
CHAIRMAN

DM

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

1000 RIO BRAZOS ROAD
AZTEC

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

October 30, 1967

Burwinkle & Scanlon
120 Vassar Drive, S.E.
Albuquerque, New Mexico

Gentlemen:

This letter shall acknowledge receipt of forms C-101 and C-102 for your #6 and #7 wells on the Ohwell lease. It shall also confirm receipt of forms C-103 for wells #1, 2, 3, 5, 6, & 7 showing drilling and casing data.

Mr. R. J. Scanlon assured me that well signs will be set at each location in the immediate future as soon as the signs are completed.

Based upon the above information, this letter shall serve as your authority to proceed with your operations in the Chaco Wash - Mesaverde Oil Pool.

Yours very truly,

A. R. Kendrick
A. R. Kendrick
Engineer, District #3

ARK:ae

cc: NMOCC, Santa Fe
Mr. R. J. Scanlon

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DAVID F. CARGO
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State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
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1000 RIO BRAZOS ROAD
AZTEC

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

October 27, 1967

Mr. R. J. Scanlon
Scanlon & Shepard
P. O. Box 601
Farmington, New Mexico 87401

Dear Mr. Scanlon:

When you delivered the subsequent notices of abandonment of the Scanlon and Shepard wells in the Chaco Wash-Mesaverde Oil Pool, you told me that a location marker had been erected in each of the wells.

During a field inspection on October 26, 1967, I found that the markers have not been set.

Please cause the markers to be set immediately. Such markers must bear the information required by Rule 202 (a).

Statute Chapter 65, Article 3, Section 27 identifies the penalties for violating, evading, or aiding and abetting violations of the rules and regulations.

Enclosed is an information copy of a letter suspending current operations until compliance with all rules and regulations.

Yours very truly,

A. R. Kendrick
A. R. Kendrick
Engineer, District #3

ARK:mc
Encl.

cc: Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

XERO
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XERO
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XERO
COPY

Burwinkle and Scanlon
120 Vassar Dr. SE
Albuquerque, N.M.

10-11-67

Mr. Daniel S. Nutter
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Case 3681

Dear Mr. Nutter:

Pursuant to Rule 701 of the Commission, I hereby respectfully apply for a hearing to establish rules for a secondary (water Flood) program for the Chaco Wash-Mesa Verde Pool, McKinley County, New Mexico.

Initially, applicant desires to inject water into the Mesa Verde formation at an average depth of 517' in a pilot water flood in the NE 1/4 of the NW 1/4 Section 28, Township 20 North, Range 9 West, N.M.P.M., McKinley County, New Mexico

In the pilot program, a five spot pattern is planned employing wells to be drilled as follows:

1. 165' from the North line, 495 feet from the east line, production

2. 495' from the North line, 165 feet from the east line, production

3. 495' from the North line, 165 feet from the east line, production

4. 165' from the North line, 165 feet from the east line, production

5. 330' from the North line, 330 feet from the east line, injection —

Water will be supplied from the Chaco Oil Company #20-1 Santa Fe well, located 660 feet from the South and East lines of Section 20, T 20 N, R 9 W, N.M.P.M. which produces brackish artesian water from the Hospah and Gallup zones, between 2600 and 2900 feet.

Request is also made for administrative procedure to provide for expansion and unorthodox locations as needed in applicants lease from The State of New Mexico which encompasses all of Section 28, T 20 N, R 9 W.

A copy of the application complete with all attachments, will be furnished to the State Engineers office prior to 15 October, 1967.

Yours very truly,

John V Burwinkle Jr

Manager
Scanlon-Burwinkle

Copy: State Engineers Office
Enclosures: Exhibits

DOCKET MAILED

Date 10-25-67

Burnwinkle - Scanlon, Operator
N.M. State Lease - K1883

McKinley

County, New Mexico

Township 20 N Range 9 W

Township Range

Township 19 N Range 9 W

Township Range

Form 104-(Four on Township)

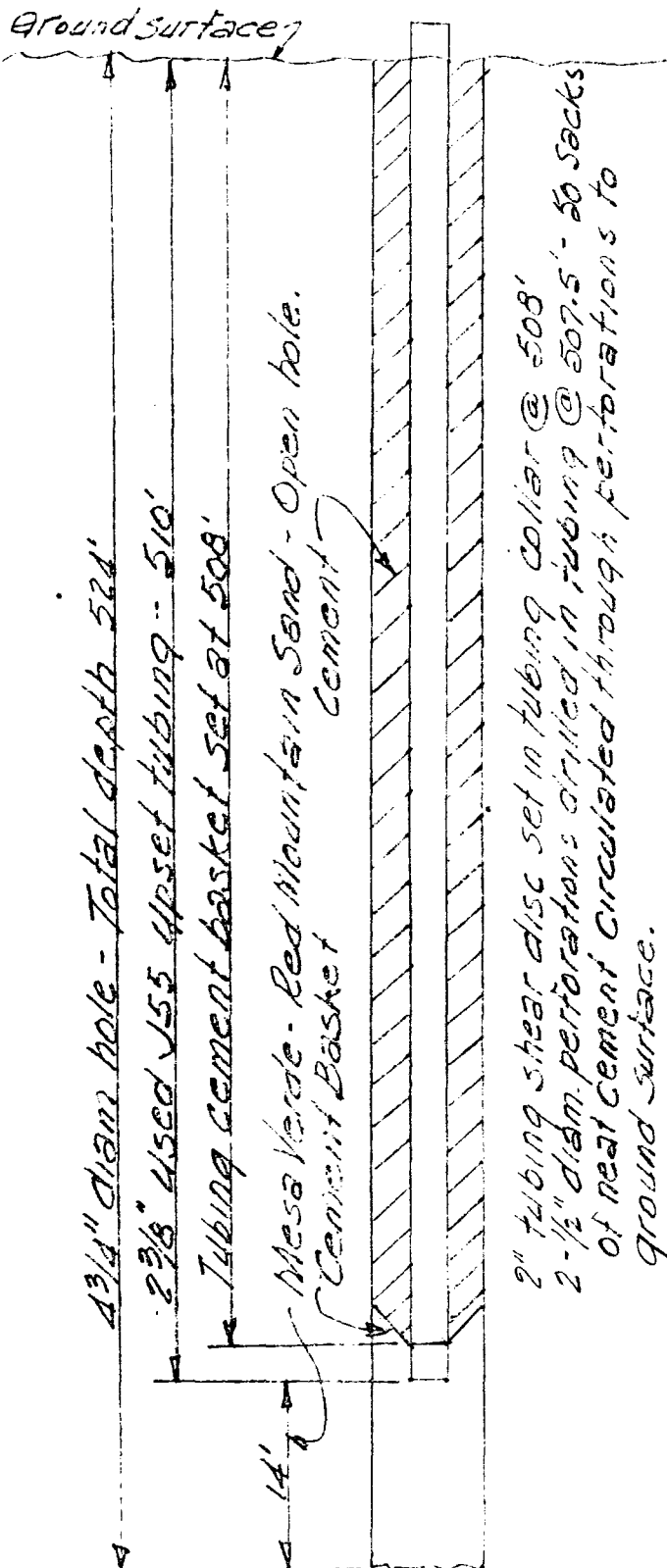
6	5	4	3	2	1	6	5	4	3	2	1
7	8	9	10	11	12	7	8	9	10	11	12
18	17	01 10 02 32 03 32 20 02	15	14	13	18	17	16	15	14	13
19	20	21	22	23	24	19	20	21	22	23	24
30	29	28	27	26	25	30	29	28	27	26	25
31	32	33	34	35	36	31	32	33	34	35	36
6	5	4	3	2	1	6	5	4	3	2	1
7	8	9	10	11	12	7	8	9	10	11	12
18	17	16	15	14	13	18	17	16	15	14	13
19	20	21	22	23	24	19	20	21	22	23	24
30	29	28	27	26	25	30	29	28	27	26	25
31	32	33	34	35	36	31	32	33	34	35	36

Lessees within 2 miles of Section 28

- Key
- 1. ELKO Dev. Co.
 - 2. Sullivan Inc
 - 3. George H. Fredericks
 - 4. Walter Duncan
 - 5. H.O. Carr

ILLEGIBLE

BURWINKLE-SCANLON, OPERATOR
 N. M. STATE LEASE - K 1883
 SEC. 28, T20N, R9W, MCKINLEY CO



DIAGRAMMATIC SKETCH
 OF
 PROPOSED WATER INJECTION WELLS
 FOR
 SECONDARY RECOVERY WATER FLOOD

BURWINKLE-SCANLON
 120 VASSER DR. S.E.
 ALBUQUERQUE, NEW MEXICO

Sept. 7, 1967

DRAWN BY R.J. SCANLON

Burwinkle-Scanlon,

Note:

The only known wells producing in the area are by Chaco Oil Company located in the N 1/2 of Section 29, and the S 1/2 of Section 20, T 20 N, R 9 W.

WATER ANALYSIS, HOSPAH-GALLUP ZONE, CHACO OIL CO.

No. 20-1 SANTA FE WELL, SE¹/₄ SE¹/₄ Sec. 20-20N-9W

SINCLAIR RESEARCH LABORATORIES

TULSA, OKLAHOMA

Sample # S-7104. Analyst: SIP:HE Formation: Gallup Depth: 2772'

Sample Taken 7-30-58; Rec'd: 8-11-58; Analyzed: 8-19-58

CONSTITUENTS, PARTS/MILLION		MEQ. PER LITER	REACTING VALUES, %
Potassium	None		
Sodium	338	14.71074	46.84 —
Lithium	None		
Calcium	10	0.49900	1.58 —
Magnesium	6	0.49344	1.58 —
Barium	None		
Strontium	None		
Manganese	None		
Carbonate	36	1.19880	3.81 —
Bicarbonate	381	6.24459	19.89 —
Hydroxide	None		
Sulphate	1,409	3.97339	12.65 —
Chloride	152	4.28640	13.65 —
TOTAL SOLIDS	2,332	Spec. Grav. 1.003 pH 8.26 @ 78°F	

Primary salinity: 52.50; Primary alkalinity: 41.08; Chloride salinity: 51.90

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

Page No. 1

CORE ANALYSIS RESULTS

Company BURSCAN OIL COMPANY Formation MESA VERDE File RP-3-2244
 Well OH #5 Core Type CONVENTIONAL Date Report 8/21/67
 Field WILDCAT Drilling Fluid FRESH WATER Analysts GRAHAM
 County McKINLEY State NEW MEX. Elev. _____ Location SEC. 28-T20N-R9W

Lithological Abbreviations

SAND-SO SHALE-SH LIME-LM	DOLOMITE-DOL CHERT-CH GYPSUM-GYP	ANHYDRITE-ANHY CONGLOMERATE-CONG FOSSILIFEROUS-FOSS	SANDY-SBY SHALY-SHY LIMY-LMY	FINE-FN MEDIUM-MED COARSE-CSE	CRYSTALLINE-XLN GRAIN-GRN GRANULAR-GRNL	BROWN-BRN GRAY-GY VUGGY-VGY	FRACTURED-FRAC LAMINATION-LAM STYLOLITIC-STY	SLIGHTLY-SL/ VERY-V/ WITH-W/
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs K A	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS		
				OIL	TOTAL WATER			
1	513-14	0.36	13.9	5.0	86.4	SS:GRY,FN,V/ARGIL,V/SLTY		
2	514-15	118.0	24.0	4.2	85.6	SS:LT GRY,FN,SLI/ARGIL		
3	515-16	88.0	27.3	6.6	81.6	SS:LT GRY,FN,SLI/ARGIL		
4	516-17	58.9	27.5	2.9	88.0	SS:LT GRY,FN,ARGIL,SLT STRNGRS,SLI/CALC		
5	517-18	187.0	29.0	5.9	84.2	SS:LT GRY,FN,SLI/ARGIL		
6	518-19	49.5	30.4	4.6	85.7	SS:LT GRY,V/FN-FN,ARGIL,SLT STRNGRS		

SERVICE #1-A

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Burwinkle - Spauldon, Operator

N.M. State Lease - K1583

Sec 28, T20N, R9W McKinley Co

Flooding to begin in NE $\frac{1}{4}$ of NW $\frac{1}{4}$

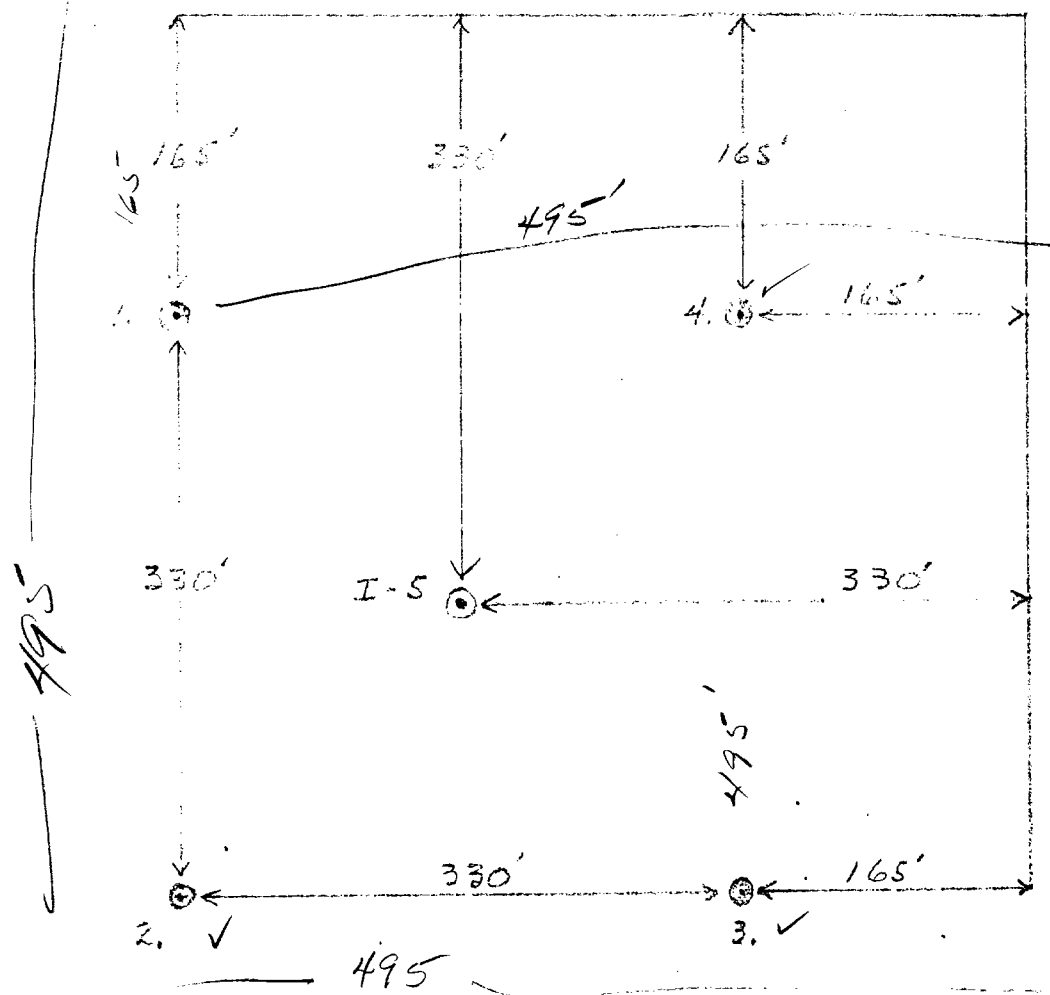


Diagram of spacing and pattern.
Wells 1, 2, 3, & 4 are production
wells, with I-5 the injection
well in the center of the
pattern

BURSCAN OIL COMPANY

FIELD WILDCAT

FILE RP-3-2244

OH #5

COUNTY MCKINLEY

DATE 8/21/67

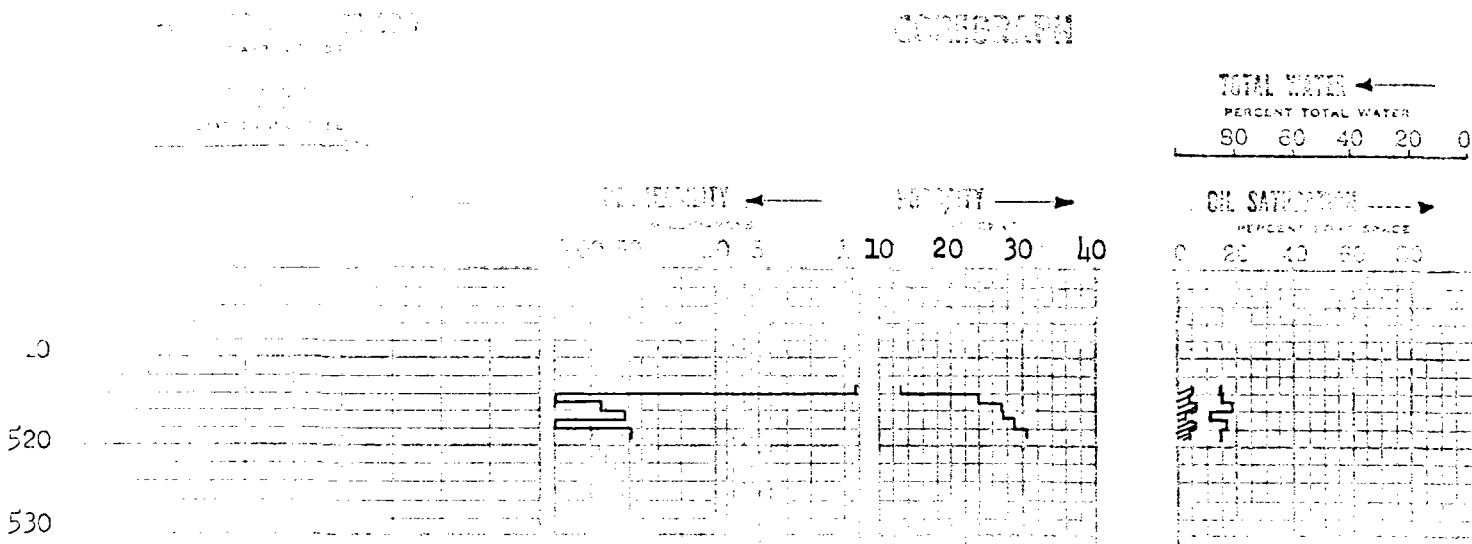
SEC. 28-T20N-R9W

STATE NEW MEXICO

ELEV.

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VERTICAL SCALE: 5" = 100'



CL-529

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: 513.0 to 519.0 feet - Mesa Verde

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	6	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	85.3
FEET OF CORE INCLUDED IN AVERAGES	6	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCY	83.6	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-Feet	502	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	25.7	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	4.9	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (Please refer to footnotes for further discussion of recovery estimates.)

INTERPRETATION OF DATA

513.0 - 519.0 feet - This interval will produce water and should be excluded from any completion attempts, due to higher than normal water saturations.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

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PROPERTY BURSCAN OIL COMPANY FIELD WILDCAT FILE RP-3-2244
OH #5 COUNTY MCKINLEY DATE 8/21/67
SECTION SEC. 28-T20N-R9W STATE NEW MEXICO ELEV.

CORE-GAMMA CORRELATION

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VERTICAL SCALES: 5" = 100'

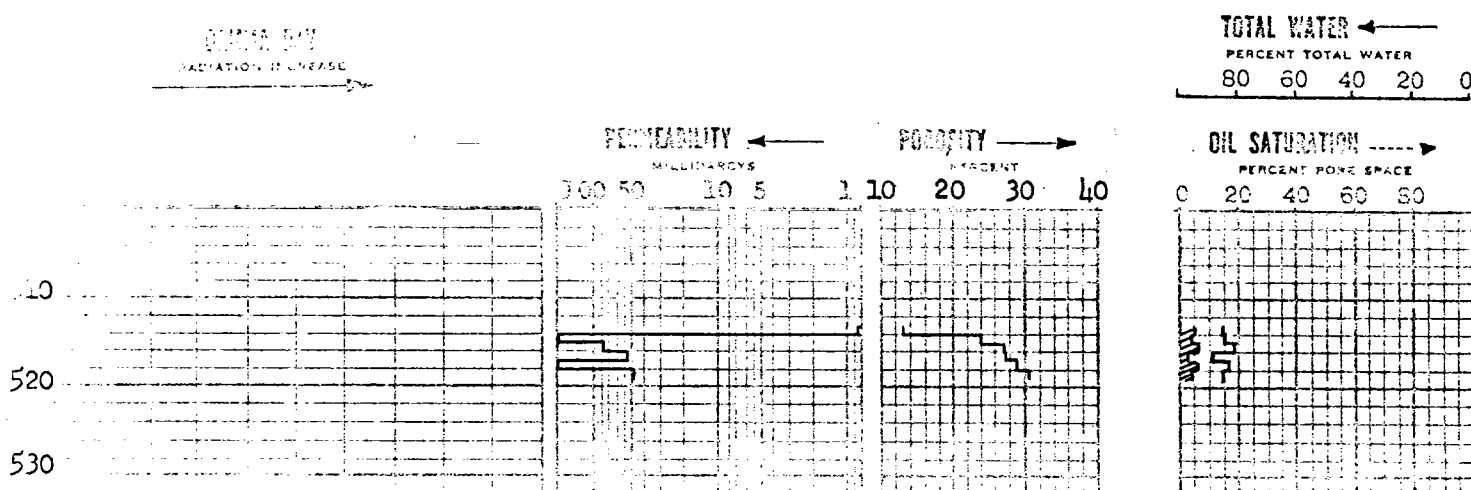
CORE-GAMMA CORRELATION LOG

DATE: 8/21/67

CORE-GAMMA

RADIATION INCREASE

COREGRAPH



CL-529

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

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