HAYMAKER & ASSOCIATES

Professional Engineering Services

1720 S. Poplar, Suite 5, Casper, Wyoming 82601 Ph. (307) 234-6186

June 12, 1981

State of Utah
Department of Natural Resources
Division of Oil & Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84116

RECEIVED
JUN - 5 1981
DIVISION OF
OIL, GAS & MINING

Re: Drilling Application for Santa Fe Energy Company Lake Canyon Well #Fed. 1-27, Lease U12669, NW¼NW¼ Sec. 27-T36S-R25E., S. L. M., San Juan County, Utah

Gentlemen:

As required by your Rule C-4 Notice of Intention to Drill, we are enclosing for the subject well three copies of Notice of Intention to Drill with attached Surveyor's Plats filed with the U. S. Geological Survey.

Your prompt approval will be greatly appreciated.

Very truly yours,

HAYMAKER & ASSOCIATES

E. R. Haymaker

E. R. Haymaker P. E. #2140

Enclosures

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Santa Fe Energy Company

3. ADDRESS OF OPERATOR: c/o Haymaker & Associates
1720 South Poplar, Suite 5, Casper, Wyoming 82601

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 593' FNL & 751' FWL
At proposed prod. zone: Same NW¼NW¼

5. LEASE DESIGNATION AND SERIAL NO.: U-12669

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA

7. UNIT AGREEMENT NAME: NA

8. FARM OR LEASE NAME: Lake Canyon Prospect

9. WELL NO.: Federal 1-27

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: NW¼NW¼ Sec. 27, T. 36 S., R. 25 E.

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: This well site is located 17 miles from Dove Creek, Colo. on an azimuth of 238°.

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 593'

16. NO. OF ACRES IN LEASE: 160

17. NO. OF ACRES ASSIGNED TO THIS WELL: 40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: NA

19. PROPOSED DEPTH: 6,500'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5,957' Gr.

22. APPROX. DATE WORK WILL START*: As soon as approved

23. All new

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24# K-55 STC	1,600	1,000 sacks
7 7/8"	5 1/2"	15.5#K-55STC	6,500'	250 sacks

1. Propose to drill 12 1/4" hole to 1,050', set 8 5/8" casing and cement to surface.
2. Drill 7 7/8" hole to 6,500' or T.D.; if productive set 5 1/2" casing at T.D. and cement with 250 sacks.
This will be a Desert Creek test.

Exhibits Attached

A. Location and Elevation Plat
B. Ten point Compliance Program
C. Blowout Preventer Diagram
D. Multipoint Requirement for A.P.D.
E. Access Road Map
F. Radius Map of Existing Wells
G. Drill Rig Layout with Cross Sections

JUN 5 1981
DIVISION OF OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED George Sharp TITLE Regional Engineer DATE May 20, 1981

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY John L. Price TITLE District Supervisor DATE 6/9/81

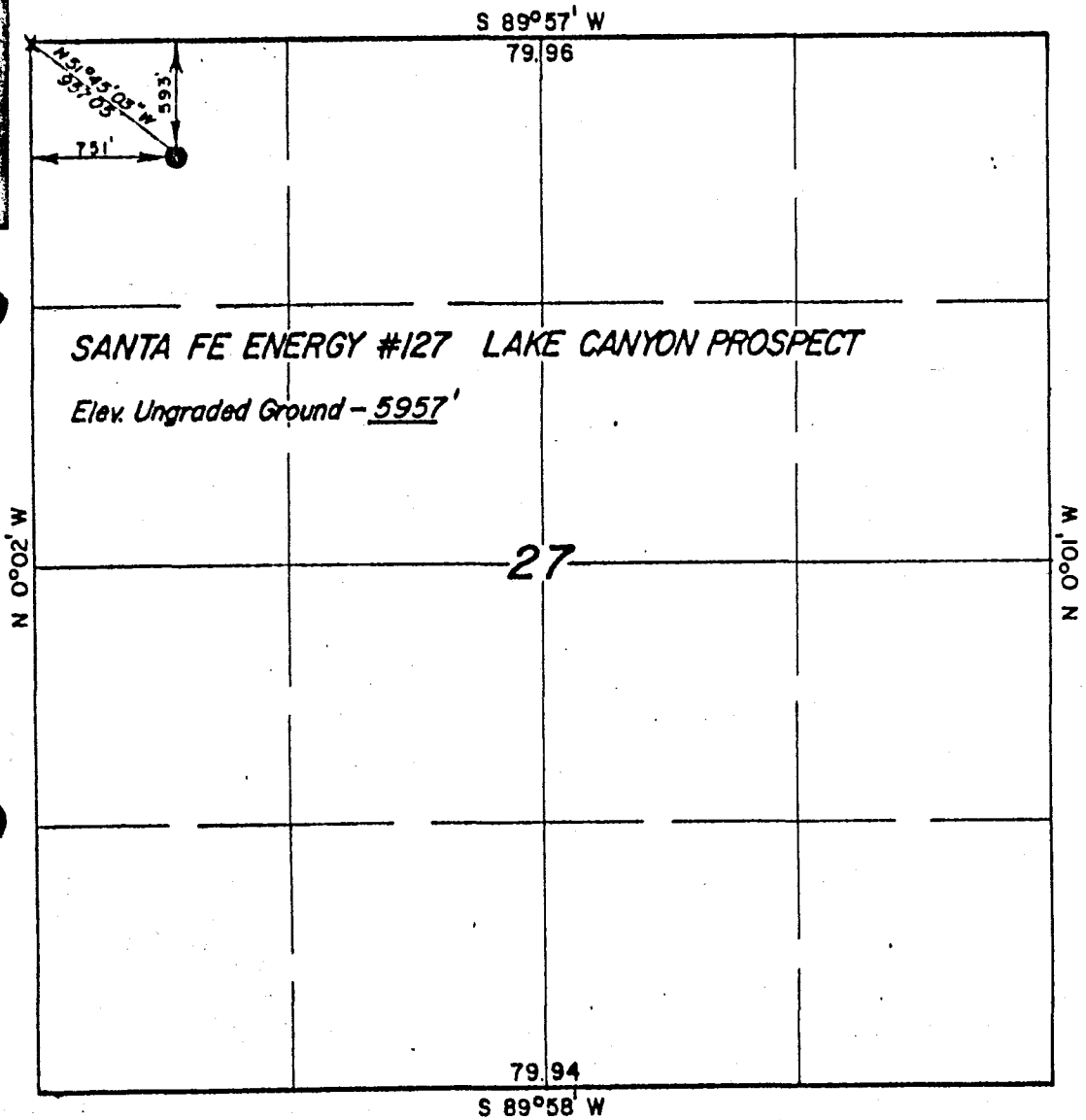
CONDITIONS OF APPROVAL, IF ANY:

operator

[redacted]

EXHIBIT A

T 36 S, R 25 E, S.L.B.&M.



X = Section Corners Located

PROJECT

SANTA FE ENERGY

Well location, *SANTA FE ENERGY #127*, located as shown in the NW 1/4 NW 1/4 Section 27, T 36 S, R 25 E, S.L.B. & M. San Juan County, Utah.

NOTE: Basis of bearings is from Solar Observations of the Sun.

N

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Laurence R Kay

REGISTERED LAND SURVEYOR
REGISTRATION Nº 3137
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P. O. BOX Q — 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 5/4/81
PARTY RK BK FCO	REFERENCES GLO Plat
WEATHER Partly Cloudy / Warm	FILE SANTA FE ENERGY

** FILE NOTATIONS **

DATE: July 1, 1981

OPERATOR: Santa Fe Energy Co.

WELL NO: Lake Canyon Prospect Fed. #1-27

Location: Sec. 27 T. 36S R. 25E County: San Juan

File Prepared: ✓ Entered on N.I.D: ✓

Card Indexed: ✓ Completion Sheet: ✓

API Number 43-037-30692

CHECKED BY:

Petroleum Engineer:

Director: OK as per Rule C-3

Administrative Aide: ok as per Rule C-3, ok on boundaries, ok on any other oil or gas wells.

APPROVAL LETTER:

Bond Required: Survey Plat Required:

Order No. O.K. Rule C-3

Rule C-3(c), Topographic Exception - company owns or controls acreage within a 660' radius of proposed site

Lease Designation Fed Plotted on Map

Approval Letter Written

Hot Line ✓ P.I. ✓

July 2, 1981

Santa Fe Energy Company
1720 So. Popular, Ste. #5
Casper, Wyoming 82601

RE: Well No. Lake Canyon Prospect Fed. #1-27
Sec. 27, T. 36S, R. 25E,
San Juan County, Utah

Insofar as this office is concerned, approval to drill the above referred to oil well is hereby granted in accordance with Rule C-3, General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

MICHAEL T. MINDER - Petroleum Engineer
Office: 533-5771
Home: 876-3001

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (acquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-037-30692.

Sincerely,

DIVISION OF OIL, GAS, AND MINING

Cleon B. Feight
Director

MTM/db
CC: USGS

SANTA FE ENERGY COMPANY

ROCKY MT. REGION, 2600 SECURITY LIFE BLDG., DENVER, CO. 80202, TELEPHONE: (303) 825-5101

June 30, 1981

State of Utah
Department of Natural Resources
Division of Oil & Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84116

Re: Lake Canyon Federal #1-27
Sec 27-T36S-R25E
San Juan County, Utah

Gentlemen:

Please find enclosed in triplicate Form OGC-1b showing the spud and setting of surface casing for the subject well.

Please advise if additional information is required.

Sincerely,

George E. Shipp

George E. Shipp
Regional Engineer

/tf
Enclosure

RECEIVED
JUL 0 3
DIVISION OF
OIL, GAS & MINING

Form OGC-1b

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Santa Fe Energy Company

3. ADDRESS OF OPERATOR: 2600 Security Life Bldg., Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 593' FNL & 751' FWL NW/NW Sec 27-T36S-R25E

5. LEASE DESIGNATION AND SERIAL NO.:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Lake Canyon

9. WELL NO.: Federal 1-27

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 27-T36S-R25E

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5957' GR

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Spud & setting surf casing			[ ]
(Other)			[ ]				

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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.)*

6-22-81: Spud 17 1/2" hole @ 6:45 a.m. 6/21/81. Drl conductor hole. Ran 1 jt 13 3/8" 68#, K-55 csg. Set @ 40' KB. Cmtd w/50 sxs Class 'B' cmt w/2% $CaCl_2$. PD @ 3:15 p.m. 6/21/81. Circ 3 bbls cmt. WOC 7 1/2 hrs. Cut off conductor. NU to drl surf. RIH w/12 1/4" bit. Start drlg surf @ 11:45 p.m. 6/21/81.

6-23 thru 6-25-81: Drlg ahead.

6-26-81: RU to test pipe rams @ 1608'. Ran 38 jts 9 5/8", 36#, K-55, ST&C csg. Set @ 1608' KB. Cmtd w/780 sxs HOWCO lite w/2% $CaCl_2$ & 1/4# per sx flocele. Tail in w/200 sxs Class 'B' cmt w/2% $CaCl_2$ & 1/4# per sx flocele. Good circ thruout job. Circ 122 bbls cmt. PD @ 5:00 p.m. 6/25/81. WOC 8 hrs. NU BOP. Tested blind rams to 1000 psi for 30 mins. Held OK.

6-27-81: Drlg ahead.

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

SIGNED George E Shipp TITLE Regional Engineer DATE June 30, 1981

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SANTA FE ENERGY COMPANY

ROCKY MT. REGION, 2600 SECURITY LIFE BLDG., DENVER, CO. 80202, TELEPHONE: (303) 825-5101

July 31, 1981

State of Utah
Department of Natural Resources
Division of Oil & Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84116

Re: Lake Canyon Federal 1-27
Sec. 27-T36S-R25E
San Juan County, Utah

Gentlemen:

Please find enclosed in triplicate Form OGC-1b reporting plugging and abandonment of subject well.

Please advise if additional information is required.

Sincerely,

K. C. Wardwell

K. C. Wardwell
Regional Exploration Manager

KCW:mco

Enclosures

RECEIVED
AUG 3 1981
DIVISION OF
OIL, GAS & MINING

Form OGC-1b

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER DRY HOLE

2. NAME OF OPERATOR: Santa Fe Energy Company

3. ADDRESS OF OPERATOR: 2600 Security Life Bldg., Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 593' FNL & 751' FWL

5. LEASE DESIGNATION AND SERIAL NO.: U-12669

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Lake Canyon Federal

9. WELL NO.: 1-27

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 27-T36S-R25E

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5957' GL

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	X
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			☐
(Other)	☐						

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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.)*

7-16-81: Reached TD 5909'. Circ & cond mud. POOH to log. RU Dresser Atlas. Started logging. Well began flowing. TOH. RD Dresser Atlas. TIH to kill well. Mix mud. Kill well. Circ mud.

7-17-81: Mix mud. Circ - well not flowing. TOH. Started flowing. TIH. WO mud. Mix, circ & cond mud. TOH for logs. RU Dresser Atlas. TIH & start logging.

7-18-81: Finish logging. TOH w/Dresser Atlas & RD same. WOO 12 1/4 hrs. POOH. LD DC. TIH openended. Circ.

7-19-81: Received verbal approval fr Carl Barrick, Durango USGS office, to plug well as follows:
60 sxs fr 5909'-5700'; 60 sxs fr 4985'-4785'; 45 sxs fr 3015'-2865'; 30 sxs fr 1666'-1566' & 10 sxs @ surf w/dry hole marker. Used Class 'B' neat cmt. LD DP. ND. Clean pits. Rel rig @ 12:00 a.m. 7/20/81.

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 8-11-81
BY:

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

SIGNED [signature] TITLE Regional Exploration Manager DATE July 31, 1981

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

DIVISION OF OIL, GAS AND MINING

PLUGGING PROGRAM

NAME OF COMPANY: Santa Fe Energy Company Tim Parker 303-825-5101

WELL NAME: Lake Canyon Federal 1-27

SECTION 27 TOWNSHIP 36S RANGE 25E COUNTY San Juan

VERBAL APPROVAL GIVEN TO PLUG AND ABOVE REFERRED TO WELL IN THE FOLLOWING MANNER:

TOTAL DEPTH: 5909'

CASING PROGRAM:

13 3/8" @ 40' (cement to surface)

9 5/8" @ 1606' (cement to surface)

7 7/8" openhole TD (in gage)

FORMATION TOPS:

Morrison-	surface
Navajo-	825'
Wingate-	1400'
Chinle-	1590'
Cutler-	2528'
Hemosa-	4390'
U. Ismay-	5514'
L. Ismay-	5692'
Gothic Shale-	5740'
Desert Creek-	5766'-TD

DST: 1) 5838-54' (SW)
2) 4842-87' (55 SGCM 217 SGSW)

Cored: 5737-97; 5815-75

PLUGS SET AS FOLLOWS:

1) 5905-5700'

2) 4985-4785'

3) 3015-2865'

4) 1666-1566'

5) 50'-surface

Place 11.3#, 48 vis. fresh water gel based mud between plugs; erect regulation dryhole marker; clean up, grade and resotre the location.

DATE 8-11-81 SIGNED MTM M. T. Minder

Form OGCC-3

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN DUPLICATE (See other instructions on reverse side)

RECEIVED AUG 27 1981 DIVISION OF OIL, GAS & MINING

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [X] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

2. NAME OF OPERATOR: Santa Fe Energy Company

3. ADDRESS OF OPERATOR: 2600 Security Life Building, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 593' FNL & 751' FWL NW NW
At top prod. interval reported below
At total depth

5. LEASE DESIGNATION AND SERIAL NO.: 12669

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Lake Canyon Federal

9. WELL NO.: 1-27

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec 27-T36S-R25E

14. PERMIT NO.: 43-037-30692 DATE ISSUED: 7/1/81

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
6-21-81	7-16-81	Dry hole	5957' GL	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
5909'	-------	------	→	X	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: DRY HOLE

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: GR/DIFL; GR/CDL; GR/BHC/AL

27. WAS WELL CORED: Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	68#	40' KB	17 1/2"	50 sxs Class 'B'	None
9 5/8"	36#	1606' KB	12 1/4"	780 sxs Lite, 200 sxs Class 'B'	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
N/A				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
N/A		

31. PERFORATION RECORD (Interval, size and number): DRY HOLE

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
N/A	

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
N/A	DRY HOLE	P&A

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
			→				

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
		→				

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS: DST reports, core analysis

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED K. C. Wardwell TITLE Regional Exploration Manager DATE July 31, 198

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

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: *"Sacks Cement":* Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
			SEE ATTACHED REPORTS

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
Entrada	approx 685'	
Navajo	approx 860'	
Kayenta	approx 1,220'	
Chinle	approx 1,590'	
Shinarump	2,337'	
Hermosa	4,378'	
Upper Ismay	5,510'	
Lower Ismay	5,685'	
Desert Creek	5,766'	
Akah Shale	5,862'	

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE ANALYSIS REPORT

FOR

SANTA FE ENERGY

LAKE CANYON FEDERAL 1-27
WILDCAT
SAN JUAN COUNTY, UTAH

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

SANTA FE ENERGY
LAKE CANYON FEDERAL 1-27
WILDCAT
SAN JUAN COUNTY, UTAH

DATE : 7-29-81
FORMATION : DESERT CREEK
DRLG. FLUID: FRESH GEL
LOCATION : NW NW SEC. 27-36S-25E

FILE NO : RP-3-3112
ANALYSTS : GG;DS
ELEVATION: 5970 KB

CONVENTIONAL CORE ANALYSIS

SAMPLE NUMBER	DEPTH	PERM Ka MAXIMUM	POR. FLD	FLUID SATS. OIL	WTR	DESCRIPTION
	5745.0-76.0					NO ANALYSIS - SHL & LM
	5776.0-28.0					DRILLED
	5828.0-37.0					NO ANALYSIS - DOL & ANHY
1	5837.0-38.0	0.01	7.8	2.6	62.8	DOL-BRN,F XLN,SL/VUG,ANHY
2	5838.0-39.0	0.96	8.6	5.8	37.2	DOL-BRN,F XLN,SL/VUG,ANHY
3	5839.0-40.0	1644.*	10.8	6.5	25.0	DOL-BRN,F XLN,SL/VUG,ANHY
4	5840.0-41.0	232.	10.9	8.3	24.8	DOL-BRN,F XLN,SL/VUG,ANHY
5	5841.0-42.0	0.11	4.2	2.4	35.7	DOL-BRN,F XLN,SL/VUG,ANHY
6	5842.0-43.0	3.00	9.7	7.2	36.1	DOL-BRN,F XLN,SL/VUG,ANHY
7	5843.0-44.0	53.	7.2	9.7	34.7	DOL-BRN,F XLN,SL/VUG,ANHY
8	5844.0-45.0	216.	13.2	7.2	36.1	DOL-BRN,F XLN,SL/VUG,ANHY
9	5845.0-46.0	51.	8.5	2.4	44.7	DOL-LT BRN,F XLN,SL/VUG,ANHY
10	5846.0-47.0	85.	20.0	2.5	31.0	DOL-LT BRN,F XLN,SL/VUG,ANHY
11	5847.0-48.0	109.	11.7	1.7	48.7	DOL-LT BRN,F XLN,SL/VUG,ANHY
12	5848.0-49.0	284.	10.2	1.0	50.0	DOL-LT BRN,F XLN,SL/VUG,ANHY
13	5849.0-50.0	117.	11.1	1.0	44.1	DOL-LT BRN,F XLN,SL/VUG,ANHY
14	5850.0-51.0	147.	14.8	0.7	23.7	DOL-LT BRN,F XLN,SL/VUG,ANHY
15	5851.0-52.0	25.	14.2	0.0	45.8	DOL-LT BRN,F XLN,SL/VUG,ANHY
16	5852.0-53.0	5.00	10.6	0.0	48.1	DOL-LT BRN,F XLN,SL/VUG,ANHY
17	5853.0-54.0	527.	13.6	0.0	58.8	DOL-LT BRN,F XLN,SL/VUG,ANHY
18	5854.0-55.0	17.	12.4	0.0	46.8	DOL-LT BRN,F XLN,SL/VUG,ANHY
19	5855.0-56.0	488.	13.1	0.0	31.3	DOL-LT BRN,F XLN,SL/VUG,ANHY
20	5856.0-57.0	0.01	2.6	0.0	57.7	DOL-LT BRN,F XLN,SL/VUG,ANHY
21	5857.0-58.0	0.37	14.3	0.0	47.6	DOL-BRN,F XLN
22	5858.0-59.0	0.09	8.9	0.0	91.0	DOL-BRN,F XLN
23	5859.0-60.0	0.08	8.0	0.0	50.0	DOL-BRN,F XLN
	5860.0-87.0					NO ANALYSIS - DOL & SHL

*Fractured Permeability

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CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

SANTA FE ENERGY
LAKE CANYON FEDERAL 1-27
WILDCAT
SAN JUAN COUNTY, UTAH

DATE : 7-29-81
FORMATION : DESERT CREEK
DRLG. FLUID: FRESH GEL
LOCATION : NW NW SEC. 27-36S-25E

FILE NO : RP-3-3112
ANALYSTS : GG;DS
ELEVATION: 5970 KB

CONVENTIONAL CORE ANALYSIS

SAMPLE NUMBER	DEPTH	PERM Ka MAXIMUM	POR. FLD	FLUID SATS. OIL	WTR	DESCRIPTION
	5745.0-76.0					NO ANALYSIS - SHL & LM
	5776.0-28.0					DRILLED
	5828.0-37.0					NO ANALYSIS - DOL & ANHY
1	5837.0-38.0	0.01	7.8	2.6	62.8	DOL-BRN,F XLN,SL/VUG,ANHY
2	5838.0-39.0	0.96	8.6	5.8	37.2	DOL-BRN,F XLN,SL/VUG,ANHY
3	5839.0-40.0	1644.*	10.8	6.5	25.0	DOL-BRN,F XLN,SL/VUG,ANHY
4	5840.0-41.0	232.	10.9	8.3	24.8	DOL-BRN,F XLN,SL/VUG,ANHY
5	5841.0-42.0	0.11	4.2	2.4	35.7	DOL-BRN,F XLN,SL/VUG,ANHY
6	5842.0-43.0	3.00	9.7	7.2	36.1	DOL-BRN,F XLN,SL/VUG,ANHY
7	5843.0-44.0	53.	7.2	9.7	34.7	DOL-BRN,F XLN,SL/VUG,ANHY
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18	5854.0-55.0	17.	12.4	0.0	46.8	DOL-LT BRN,F XLN,SL/VUG,ANHY
19	5855.0-56.0	488.	13.1	0.0	31.3	DOL-LT BRN,F XLN,SL/VUG,ANHY
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23	5859.0-60.0	0.08	8.0	0.0	50.0	DOL-BRN,F XLN
	5860.0-87.0					NO ANALYSIS - DOL & SHL

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DRILL STEM TEST #1

Formation:	Hermosa
Interval:	4,843' to 4,887'
Reason for Test:	Drilling break from 4,845' to 4,865' produced 360 units total gas including IC_4 and NC_4.
Type Test:	Conventional open hole.
Testing Company:	Halliburton
Tester:	Larry Gibson, Ron Rockos
Water Cushion:	None
IF 30 Minutes:	Open tool with no blow, increase to 14 oz. @ 9 minutes, 15 oz. @ 16 minutes, 17 oz. @ 23 minutes, 18 oz. @ 28 minutes, close tool @ 29 minutes.
ISI 60 Minutes:	Steadily decreased below 10 oz.
FF 90 Minutes:	Open tool with 8 oz., 10 oz. @ 4 minutes, 12 oz. @ 17 minutes, 14 oz. @ 35 minutes, 15 oz. @ 47 minutes, 17 oz. @ 61 minutes, 19 oz. @ 72 minutes, 20 oz. @ 87 minutes, close tool @ 90 minutes.
FSI 155 Minutes:	Steadily decreasing below 10 oz.
Recovery:	372' total fluid, 55' slightly gas cut mud, 217' slightly gas cut saltwater.
Bottom Hole Sampler:	Pressure - 205 psig Recovery - 1 cu. ft. gas 1600 cc NaCl 100 cc mud 100 cc oil
Resistivity Data:	Drill pipe recovery: Top: Sl GCM - 1.36 @ 87°F 2,409 ppm Cl Mid: Sl GC NaCl H_2O .14 @ 90°F 106,062 ppm Cl Bot: Sl GC NaCl H_2O .14 @ 90°F 167,475 ppm Cl Sampler: .08 @ 94°F 170,775 ppm Cl Mud Pit: 4.6 @ 93°F 1,617 ppm Cl

Pressures:

Top Chart (4,820')	Bottom Chart (4,887')
IH: 2,323	IH: 2,405
IF: 53 to 80	IF: 79 to 105
ISI: 1,974	ISI: 1,981
FF: 106 to 186	FF: 132 to 238
FSI: 2,028	FSI: 2,061
FH: 2,296	FH: 2,326

DRILL STEM TEST #1 (Cont.)

Top Choke:	Adjustable
Bottom Choke:	3/4"
Bottom Hole Temperature:	120°F

DRILL STEM TEST #2

Formation:	Desert Creek
Interval:	5,834' to 5,887'
Reason for Test:	To test net 16' porosity from 5,838' to 5,854' which produced 2,624 units total gas while coring.
Packer Points:	5,834', 5,828'
Type Test:	Conventional OH - dual packer
Testing Company:	Halliburton
Tester:	Dell Gunn
Water Cushion:	None
IF 20 Minutes:	Opened/ strong blow 9 oz. in 2 minutes, 6½ psi @ 5 minutes, 10 psi @ 10 minutes, 17½ psi @ 15 minutes, 29½ psi @ 20 minutes.
ISI 234 Minutes:	Closed tool, 30+ psi GTS, 8' flare @ 3 minutes (1/8" scf choke), 2' @ 5 minutes (closed choke).
FF 89 Minutes:	Opened, 5 psi and GTS, 9½ psi @ 5 minutes, 17 psi @ 10 minutes, 30 psi @ 15 minutes, 75 psi @ 20 minutes, 115 psi @ 25 minutes, 185 psi @ 30 minutes, 50 psi @ 33 minutes (opened 1/8" sfc choke again), 3' flare 85 psi @ 40 minutes/ 4' flare, 20 psi @ 47 minutes/ 6-8' flare and GC Mud flowed to sfc, 4 psi @ 60 minutes/ 4' flare and GC Mud, 4½ psi @ 65 minutes/ 4' flare and GC Mud, 5 psi @ 70 min/ 4' flare and GC Mud, 5 psi @ 75 minutes/ 4' flare and GCOC Mud, 5 psi @ 89 minutes/ 4' flare and GCOC NaCl H_2O.
FSI 180 Minutes:	Closed/ 5 psi and bled off until dead.
Recovery:	5,709' sl OCGC NaCl H_2O reversed out - no samples caught - see sampler.
Bottom Hole Sampler:	Pressure - 1,650 psi Recovery - 2,100 cc sl OCGC NaCl H_2O and 2.5 cu. ft. gas
Resistivity Data:	Drill Pipe Recovery: Not Available Sampler: .08 @ 74°F 111,000 PPM Cl Mud Pit: (After test) .63 @ 74°F 5,454 PPM Cl

DRILL STEM TEST #2 (Cont.)

Pressures:	Top Chart (5,816')	Bottom Chart (5,883')
	IH: 3,842	IH: 3,945
	IF: 713 to 1,769	IF: 773 to 1,814
	ISI: 3,664	ISI: 3,664
	FF: 1,849 to 3,204	FF: 1,894 to 3,208
	FSI: 3,664	FSI: 3,664
	FH: 4,414	FH: 4,414

Top Choke: Adjustable

Bottom Choke: 3/4"

Bottom Hole Temp: 138°F

Additional Remarks: Initial shut in extended while waiting on recovery tank.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE ANALYSIS REPORT

FOR

SANTA FE ENERGY

LAKE CANYON FEDERAL 1-27
WILDCAT
SAN JUAN COUNTY, UTAH

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CORE LABORATORIES, INC. CORE LAB *Petroleum Reservoir Engineering*

COMPANY SANTA FE ENERGY FILE NO. RP-3-3112

WELL LAKE CANYON FEDERAL 1-27 DATE 7-29-81

FIELD WILDCAT FORMATION DESERT CREEK ELEV. 5870 KB

COUNTY SAN JUAN STATE UTAH DRLG. FLD. FRESH GEL CORES

LOCATION NW NW SEC 27-36S-25E

CORRELATION COREGRAPH

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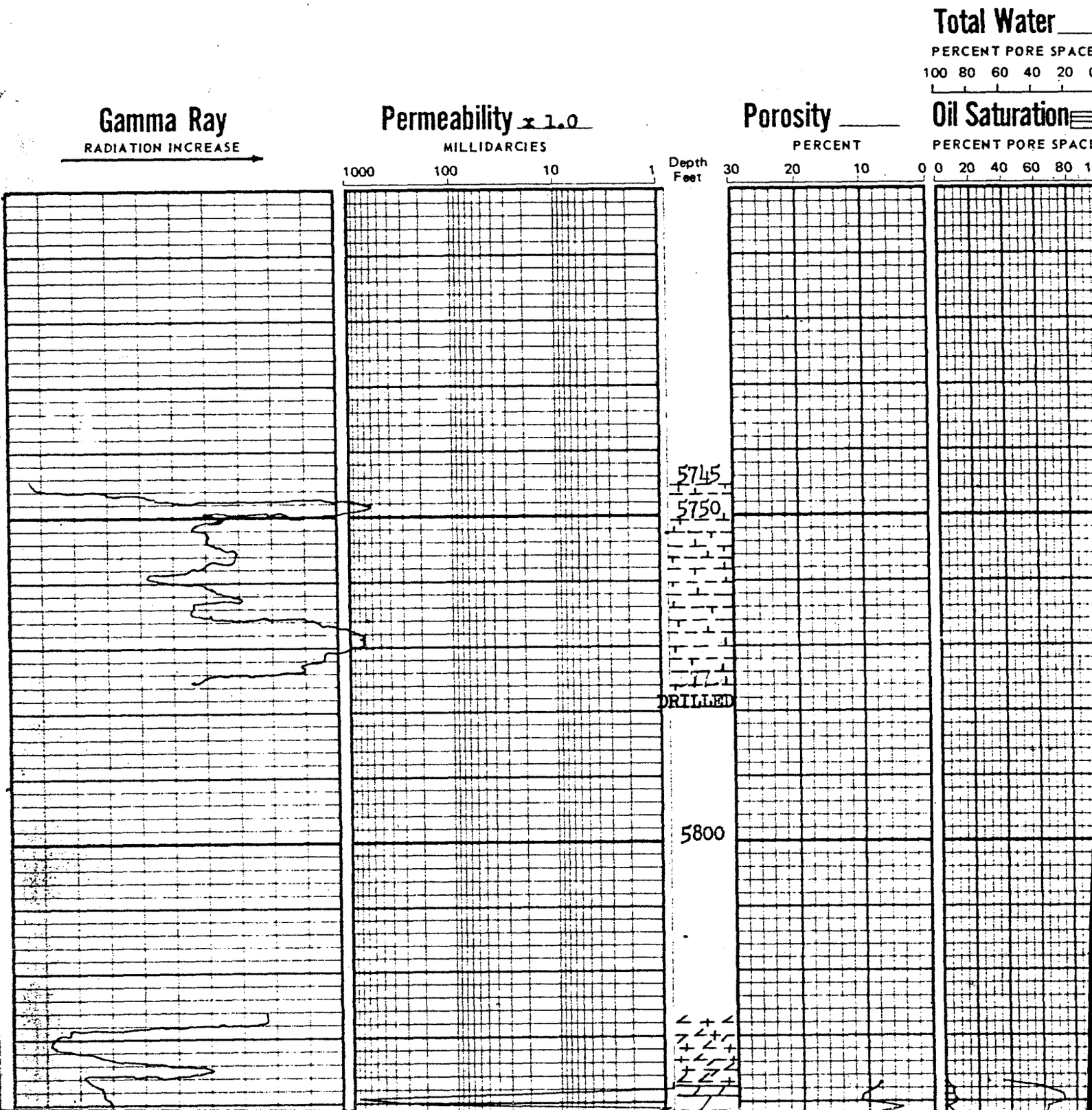
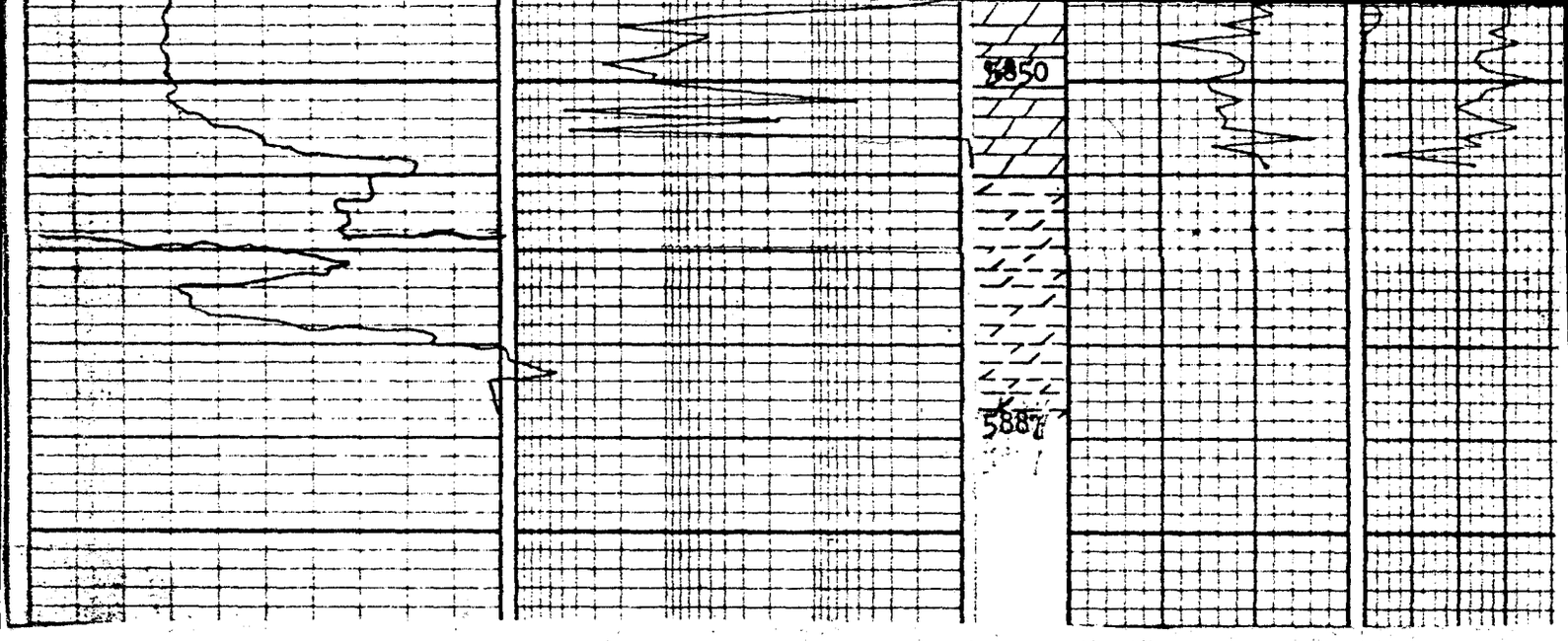
VERTICAL SCALE: 5" = 100'





CL-539

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: Desert Creek - 5838.0-5845.0 Feet

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	7	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	32.8
FEET OF CORE INCLUDED IN AVERAGES	7	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	30 (e)
AVERAGE PERMEABILITY: MILLIDARCYS	72.2	OIL GRAVITY: °API	39 (e)
PRODUCTVE CAPACITY: MILLIDARCY-FEET	505.1	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	9.2	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	1.35 (e)
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	6.7	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	370

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.)*

(c) Calculated (e) Estimated (m) Measured (*) Refer to attached letter.

INTERPRETATION OF DATA

5838.0-5845.0 Feet - Believed to be oil productive with high gas-oil ratio.
5845.0-5860.0 Feet - Water productive.

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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