

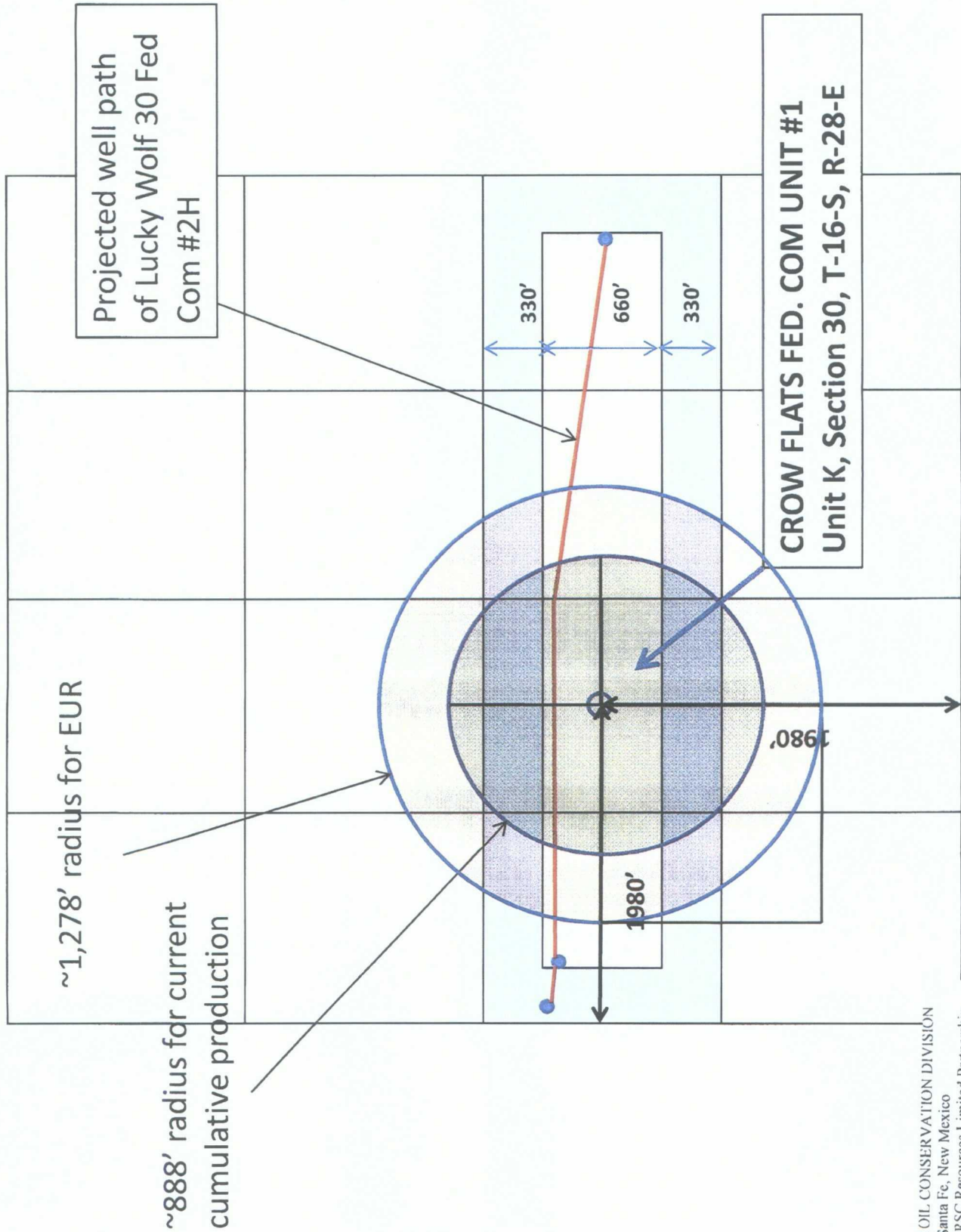
STATE OF NEW MEXICO

**ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT**

OIL CONSERVATION

CASE #: 14308

EXHIBIT C



**DRAINAGE CALCULATIONS FOR THE CROW FLATS FED COM UNIT #1
(30-015-23386) UNIT K, SECTION 30, T-16-S, R-28-E**

The subject well was completed in the Wolfcamp reservoir from 6429' to 6472' (more specifically the intervals 6429-37' [9'] and 6456-61' [6']) in October, 1990. **(See enclosed completion report)**

CALCULATION OF RESERVOIR PARAMETERS:

There are two open hole logs available on the subject well; Compensate Neutron-Formation Density log and Dual Laterolog Micro-SFL log **(copies of the interval in question are enclosed)** Data was interpreted from the logs and recorded in an excel spreadsheet **(Enclosed and titled, LOG ANALYSIS OF CROW FLATS FED COM UNIT #1)**

- Phi-H (porosity x height): porosity was determined using Schlumberger's Bulk Density vs Neutron Porosity Crossplot for salt water liquid filled holes **(enclosed)**. Reservoir rock was identified as having porosity greater than 4% crossplot porosity. Phi-H was calculated for the two intervals at 0.5679 and 0.7398. **A graphic representation of the crossplot porosity is enclosed.**
- Sw: water saturation was calculated from the resistivity log data and Archie's Equation with an assumed R_w of 0.05. The average water saturation calculates to 0.305 which is considered reasonable for a well that does not produce water.
- Boi: was estimated at 1.24 from the initial GOR (on completion report), gas gravity from a gas analysis, reported oil gravity and estimated reservoir temperature using a nomograph from Slider's "Practical Petroleum Reservoir Engineering Methods" **(enclosed)**.

3rd
page

DRAINAGE CALCULATIONS FOR THE CROW FLATS FED COM UNIT #1
(30-015-23386) UNIT K, SECTION 30, T-16-S, R-28-E

- RF (recovery factor): was estimated at 15% which is generous for a solution gas reservoir drive mechanism.

RESERVES ESTIMATION:

Current cumulative production through 11/2008 is 48,228 bbls oil and 82 mmcf. Using exponential decline analysis at 3.25% the estimated ultimate recoveries are 99,900 bbls oil and 161 mmcf. **The production graph is enclosed for reference.**

DRAINAGE AREA:

Using the formula for estimating reserves and solving for A (area in acres) with a recovery factor (RF) of 0.15 drainage radii were calculated for the current cumulative oil production and the estimated ultimate oil recovery.

$$STO \text{ (bbls)} = (7758 * H * A * \Phi * (1 - S_w) / B_{oi}) * RF$$

$$A = STO * B_{oi} / (7758 * H * \Phi * (1 - S_w) * RF)$$

Current cumulative oil production area = 57 acres (radius = 888')

Estimated ultimate oil area = 118 acres (radius = 1,278')

These areas are shown on the attached graphic that was constructed from Area Dedication Plats of the Crow Flats Fed Com Unit #1 and the Lucky Wolf 30 Fed. Com #2H (**attached**).

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE*

(See other In-
structions on
reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

444
page

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other _____

b. TYPE OF COMPLETION:

NEW WELL ☐ WORK OVER ☐ DEEP EN ☐ PLUG BACK ☐ DEEP REPAIR ☐ Other _____

2. NAME OF OPERATOR

Cheyenne Resources

3. ADDRESS OF OPERATOR

P. O. Box 1813, Midland, Texas 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface

1980' FSL & 1980' FWL on Section 30

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

Sec. 30, T-16-S, R-28-E

12. COUNTY OR
PARISH

13. STATE

NM

15. DATE SPUDDED

16. DATE T.D. REACHED

17. DATE COMPL. (Ready to prod.)

10-14-90

18. ELEVATIONS (OF RKB, RT, GR, ETC.)*

GL 3547.8'

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

21. PLUG, BACK T.D., MD & TVD

6790'

22. IF MULTIPLE COMPL.
HOW MANY*

23. INTERVALS
DRILLED BY

ROTARY TOOLS

CABLE TOOLS

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

6429' to 6472' Wolfcamp

25. WAS DIRECTIONAL
SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN

27. WAS WELL CORED

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

CASING SIZE	WEIGHT, LB/FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-3/8"	6332'	6332'

31. PERFORATION RECORD (Interval, size and number)

6429' to 6472'
.31" diameter
15 holes

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6429' to 6472'	2000 gals. 15% HCL
6882'	60 sx below retainer & 92' cement above

33.* PRODUCTION

DATE FIRST PRODUCTION

10-14-90

PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)

Flowing

WELL STATUS (Producing or shut-in)

Producing

DATE OF TEST

10-24-90

HOURS TESTED

24

CHOKE SIZE

3/4"

PROD'N. FOR
TEST PERIOD

38

OIL—BBL.

38

GAS—MCF.

20 MCF

WATER—BBL.

--

GAS-OIL RATIO

526/1

FLOW. TUBING PRESS.

10 psi

CASING PRESSURE

Packer

CALCULATED
24-HOUR RATE

38

OIL—BBL.

38

GAS—MCF.

20 MCF

WATER—BBL.

--

OIL GRAVITY-API (CORR.)

40°

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

Vented

TEST WITNESSED BY

Gray Pumping Service

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

[Signature]

TITLE

Partner

DATE

10-26-90

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

Schlumberger**SIMULTANEOUS
COMPENSATED NEUTRON-
FORMATION DENSITY**5th
pageCOUNTY EDDY
FIELD WILDCAT
LOCATION CROW FLAT FED. COM
WELL UNIT #1
COMPANY EAGLE OIL & GAS CO.COMPANY EAGLE OIL AND GAS COMPANYWELL CROW FLAT FED. COM UNIT #1FIELD WILDCATCOUNTY EDDY STATE NEW MEXICOLOCATION 1980' FSL & 1980' FWL,

Other Services:

DLL

API SERIAL NO. 30 SEC. 16-S TWP. 28-E RANGEPermanent Datum: G.L.; Elev.: 3547.8
Log Measured From K.B., 18 Ft. Above Perm. Datum
Drilling Measured From K.B.Elev.: K.B. 3565.
D.F. 3547.
G.L. 3547.

Date	8-19-80				
Run No.	ONE				
Depth-Driller	9635				
Depth-Logger	9634				
Btm. Log Interval	9633				
Top Log Interval	SURF				
Casing-Driller	8 5/8@2150	@	@	@	@
Casing-Logger	2141				
Bit Size	7 7/8				
Type Fluid in Hole	SALT MUD				
Dens.	9.6	46			
pH	9	4.4 ml	ml	ml	ml
Fluid Loss					
Source of Sample	PIT				
Rm @ Meas. Temp.	.06 @ 75 °F	@ °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.05 @ 75 °F	@ °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F	@ °F
Source: Rmf	M				
Rmc					
Rm @ BHT	.03 @ 142 °F	@ °F	@ °F	@ °F	@ °F
Circulation Stopped	0200				
Logger on Bottom	0800				
Max. Rec. Temp.	142 °F	°F	°F	°F	°F
Equip.	8141	HOBBS			
Location					
Recorded By	MOBARAK				
Processed By	PACE	-			

NFDC

502

500

CPS

9 9 9 9 9 9

PARAMETERS

NAME	UNIT	VALUE	NAME	UNIT	VALUE
DO		0.0	BHS		CASE
BHF		WATE			FPHI
					PHIX

GR (GAPI)

100.0 200.0

CALI(IN)

6.000 16.00

GR (GAPI)

0.0 100.0

DRHD(G/C3)

-0.050

0.4500

NPHI()

0.3000

RHOB(G/C3)

2.000

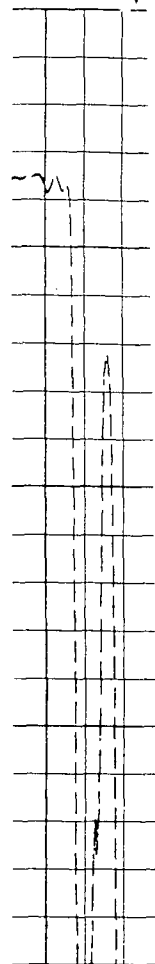
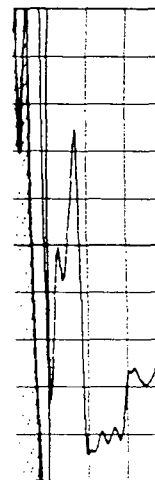
3.000

-0.100

9 9 9 9 9 9 7 7 7 7 7 7 0

Crow Flat Fed. COM Unit #1
30-015-23386

Compensated Neutron
Formation Density



4th page

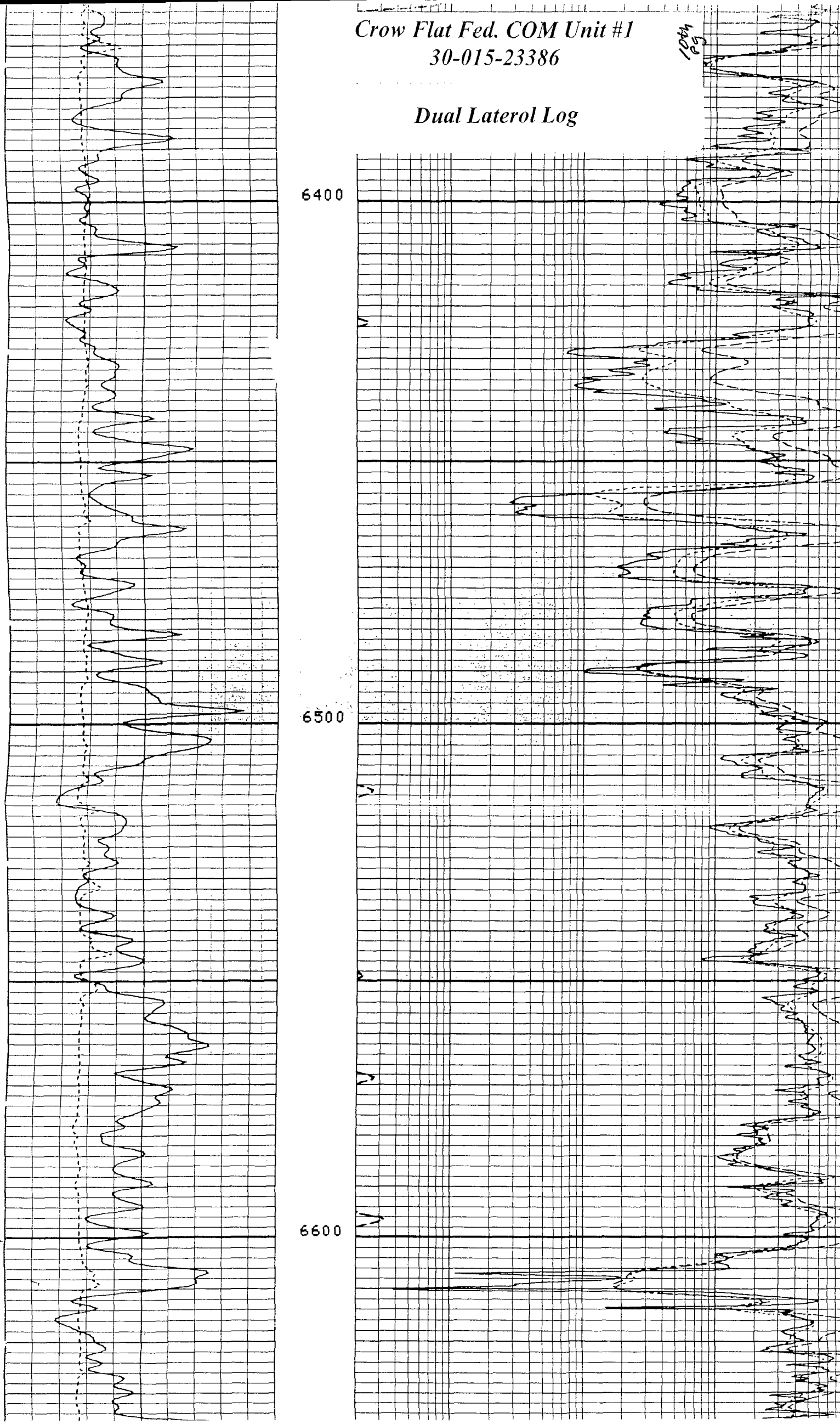
Schlumberger

SIMULTANEOUS
DUAL LATEROLOG
MICRO-SFL

COUNTY EDDY FIELD WILDCAT LOCATION CROW FLAT FED. COM WELL UNIT #1 COMPANY EAGLE OIL & GAS CO.	COMPANY		EAGLE OIL AND GAS COMPANY		
	WELL		CROW FLAT FED. COM UNIT #1		
	FIELD		WILDCAT		
	COUNTY		EDDY STATE NEW MEXICO		
LOCATION		1980' FSL & 1980' FWL,		Other Services:	
				CNL/FDC	
API SERIAL NO.		SEC.	TWP	RANGE	
		30	16-S	28-E	
Permanent Datum: G.L. _____; Elev.: 3547.8					
Log Measured From K.B. _____ 18 Ft. Above Perm. Datum					
Drilling Measured From K.B. _____					
Elev.: K.B. 3565.8					
D.F. _____					
G.L. 3547.8					
Date	8-19-80				
Run No.	ONE				
Depth-Driller	9635				
Depth-Logger (Schl.)	9634				
Btm. Log Interval	9633				
Top Log Interval	2141				
Casing-Driller	8 5/8@2150 @ @ @				
Casing-Logger	2141				
Bit Size	7 7/8				
Type Fluid in Hole	SALT MUD				
Dens.	Visc.	9.6	46		
pH	Fluid Loss	9	4.4 ml	ml	ml
Source of Sample	PIT				
Rm @ Meas. Temp.	.06 @75 °F	@ °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.05 @75 °F	@ °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F	@ °F
Source: Rmf	Rmc	M			
Rm @ BHT	.03 @142 °F	@ °F	@ °F	@ °F	@ °F
TIME	Circulation Stopped	0200			
	Logger on Bottom	1330			
	Max. Rec. Temp.	142 °F	°F	°F	°F
Equip.	Location	8141	HOBBS		
Recorded By	MOBARAK				
Witnessed By	PACE				

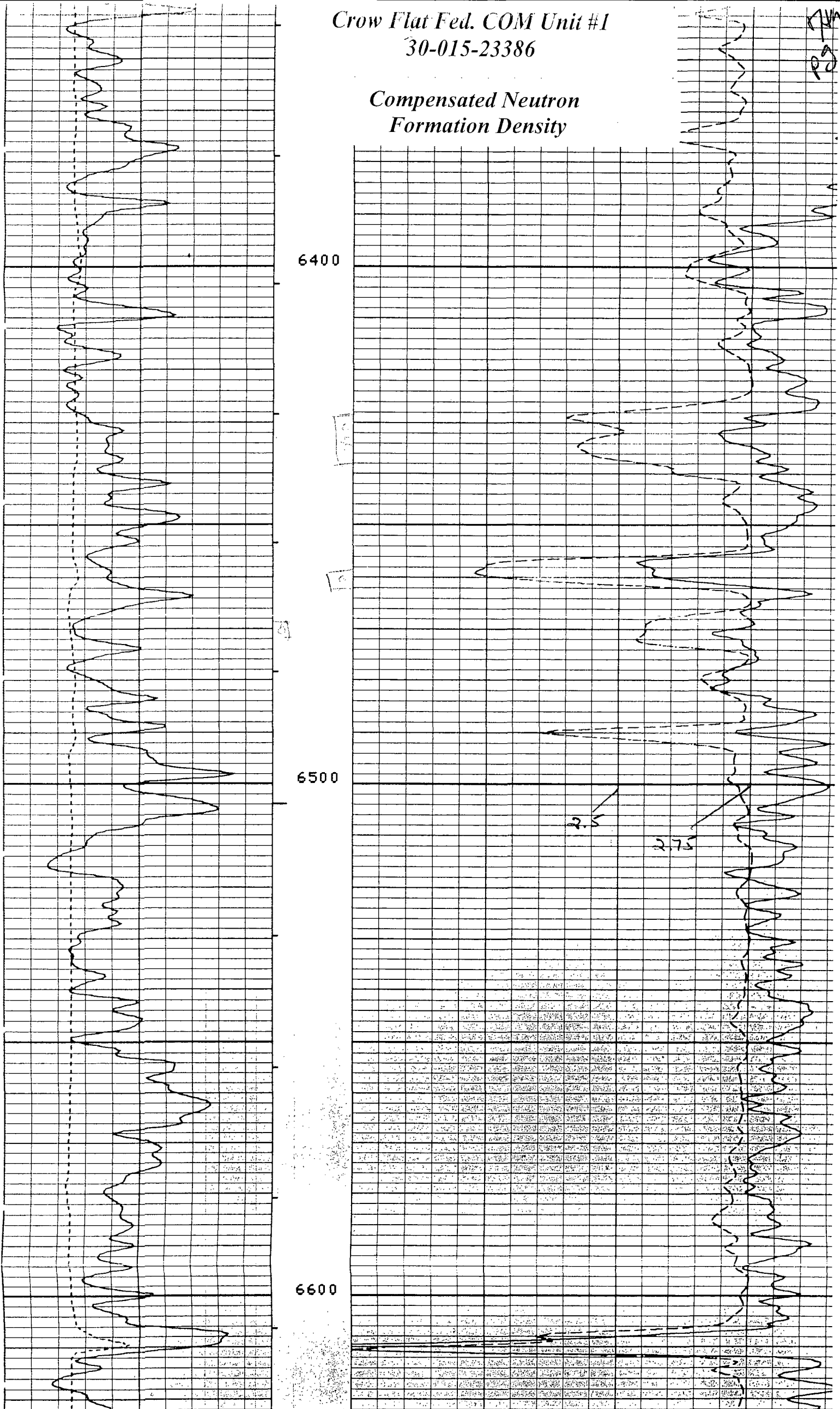
10th
Pg

Dual Laterol Log



Compensated Neutron
Formation Density

17/1
P3



11/14/84
pg

LOG ANALYSIS OF CROW FLATS FEDERAL COM UNIT #1

LOG: COMPENSATED NEUTRON-FORMATION DENSITY
by SCHLUMBERGER

TWO CURVES

NEUTRON POROSITY
BULK DENSITY

Parameters

a	1
m	2
n	2
Rw	0.05

EUR Area Calculation

Phi-H1	0.5679
Phi-H2	0.7398
Sw	0.308
Boi	1.24
EUR oil	99,913
EUR gas	160,861
EUR boe	126,723
RF	0.15
Area (acres)	118
Radius (ft)	1,278

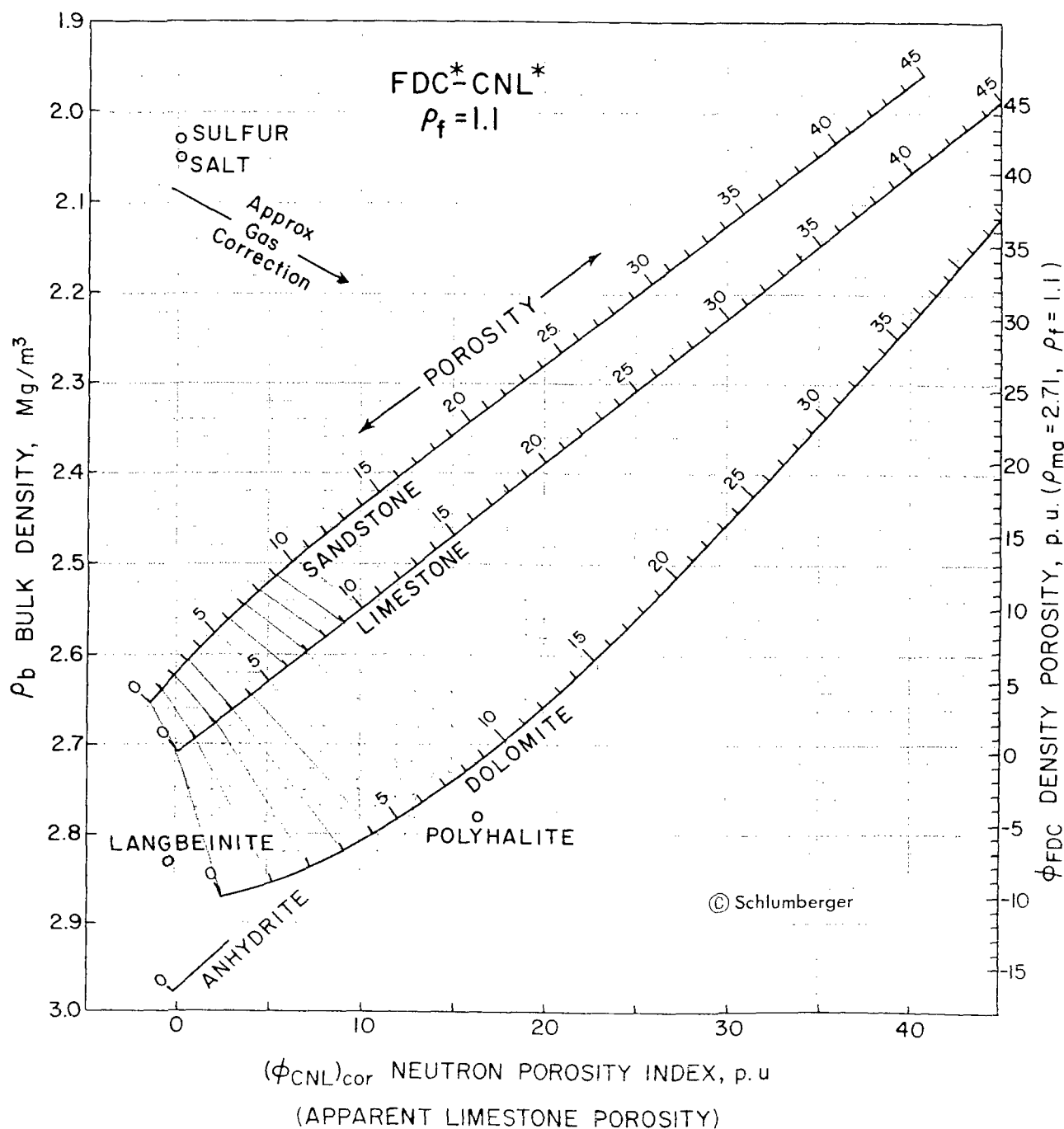
DEPTH	N-Φ	ρ _b	X-plot Φ	Rt	Sw	Bvw	Lithology
6421	0	2.83	0.0%		#DIV/O!	#DIV/O!	
6422	0	2.85	0.0%		#DIV/O!	#DIV/O!	
6423	0	2.83	0.0%		#DIV/O!	#DIV/O!	
6424	0	2.82	0.0%		#DIV/O!	#DIV/O!	
6425	1	2.85	0.0%		#DIV/O!	#DIV/O!	
6426	3	2.87	0.0%		#DIV/O!	#DIV/O!	
6427	6	2.87	1.0%	200	1.581	0.016	Salt
6428	11	2.82	3.5%	100	0.639	0.022	Salt
6429	14	2.74	7.0%	80	0.357	0.025	Dolomite
6430	12	2.76	5.5%	150	0.332	0.018	Dolomite
6431	10	2.75	4.8%	170	0.361	0.017	Dolomite
6432	10	2.69	6.0%	130	0.327	0.020	Mix
6433	12	2.7	7.0%	100	0.319	0.022	Mix
6434	13	2.72	7.0%	90	0.337	0.024	Dolomite
6435	13	2.76	6.0%	110	0.355	0.021	Dolomite
6436	12.5	2.78	5.0%	190	0.324	0.016	Dolomite
6437	11	2.76	5.0%	300	0.258	0.013	Dolomite
6438	8	2.77	3.3%	550	0.289	0.010	Dolomite
6439	6	2.82	1.5%	600	0.609	0.009	Dolomite
6440	5.5	2.78	2.0%	800	0.395	0.008	
6441	2.5	2.77	0.5%		#DIV/O!	#DIV/O!	
6442	1	2.81	0.0%		#DIV/O!	#DIV/O!	
6443	1	2.85	0.0%		#DIV/O!	#DIV/O!	
6444	1.5	2.85	0.0%		#DIV/O!	#DIV/O!	
6445	2	2.85	0.0%		#DIV/O!	#DIV/O!	
6446	1.7	2.87	0.0%		#DIV/O!	#DIV/O!	
6447	1	2.86	0.0%		#DIV/O!	#DIV/O!	
6448	0.7	2.83	0.0%		#DIV/O!	#DIV/O!	
6449	0.5	2.83	0.0%		#DIV/O!	#DIV/O!	
6450	0.5	2.82	0.0%		#DIV/O!	#DIV/O!	
6451	0.25	2.8	0.0%		#DIV/O!	#DIV/O!	
6452	0.25	2.77	0.0%		#DIV/O!	#DIV/O!	
6453	0.25	2.77	0.0%		#DIV/O!	#DIV/O!	
6454	0.25	2.78	0.0%		#DIV/O!	#DIV/O!	
6455	2	2.75	0.5%	100	4.472	0.022	
6456	10	2.65	7.0%	45	0.476	0.033	Mix
6457	19	2.54	15.0%	30	0.272	0.041	Mix
6458	20	2.56	15.0%	29	0.277	0.042	Mix
6459	21	2.57	15.0%	35	0.252	0.038	Mix
6460	19	2.58	14.0%	50	0.226	0.032	Mix
6461	13	2.68	8.0%	200	0.198	0.016	Mix
6462	5	2.79	1.5%		#DIV/O!	#DIV/O!	
6463	1	2.86	0.0%		#DIV/O!	#DIV/O!	
6464	0	2.8	0.0%		#DIV/O!	#DIV/O!	
6465	0	2.77	0.0%		#DIV/O!	#DIV/O!	
6466	1	2.75	0.0%		#DIV/O!	#DIV/O!	

Current Cum Area Calculation

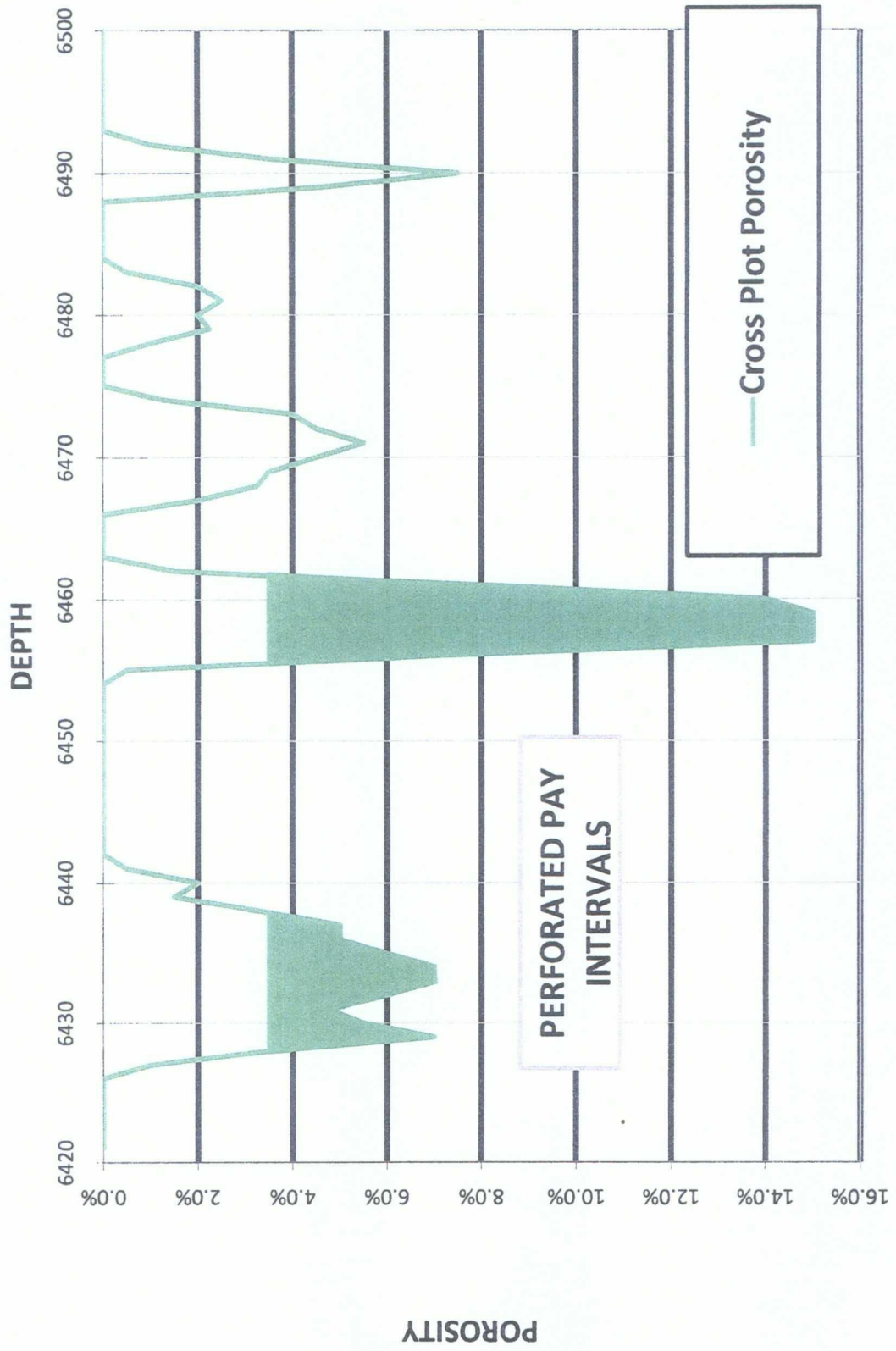
Phi-H1	0.5679
Phi-H2	0.7398
Sw	0.308
Boi	1.24
Current Cum oil	48,228
Current Cum gas	81,661
Current Cum boe	61,838
RF	0.15
Area (acres)	57
Radius (ft)	888

6 ft of net pay
avg Φ of 12.33%
avg Sw of 0.257
Phi-H of .7398Total Avg Sw:
0.308

POROSITY AND LITHOLOGY DETERMINATION FROM FORMATION DENSITY LOG AND COMPENSATED NEUTRON LOG (CNL*) SALT WATER, LIQUID-FILLED HOLES



CROW FLATS FED COM UNIT #1 - WOLFCAMP INTERVAL



Crow 2RATS FED Com Unit #1

14th
Page

90

Practical Petroleum Reservoir Engineering Methods

Flowing

API 40°

IP: 38° 20"

GOR: 526

Gas Gravity: .79

T = 120°

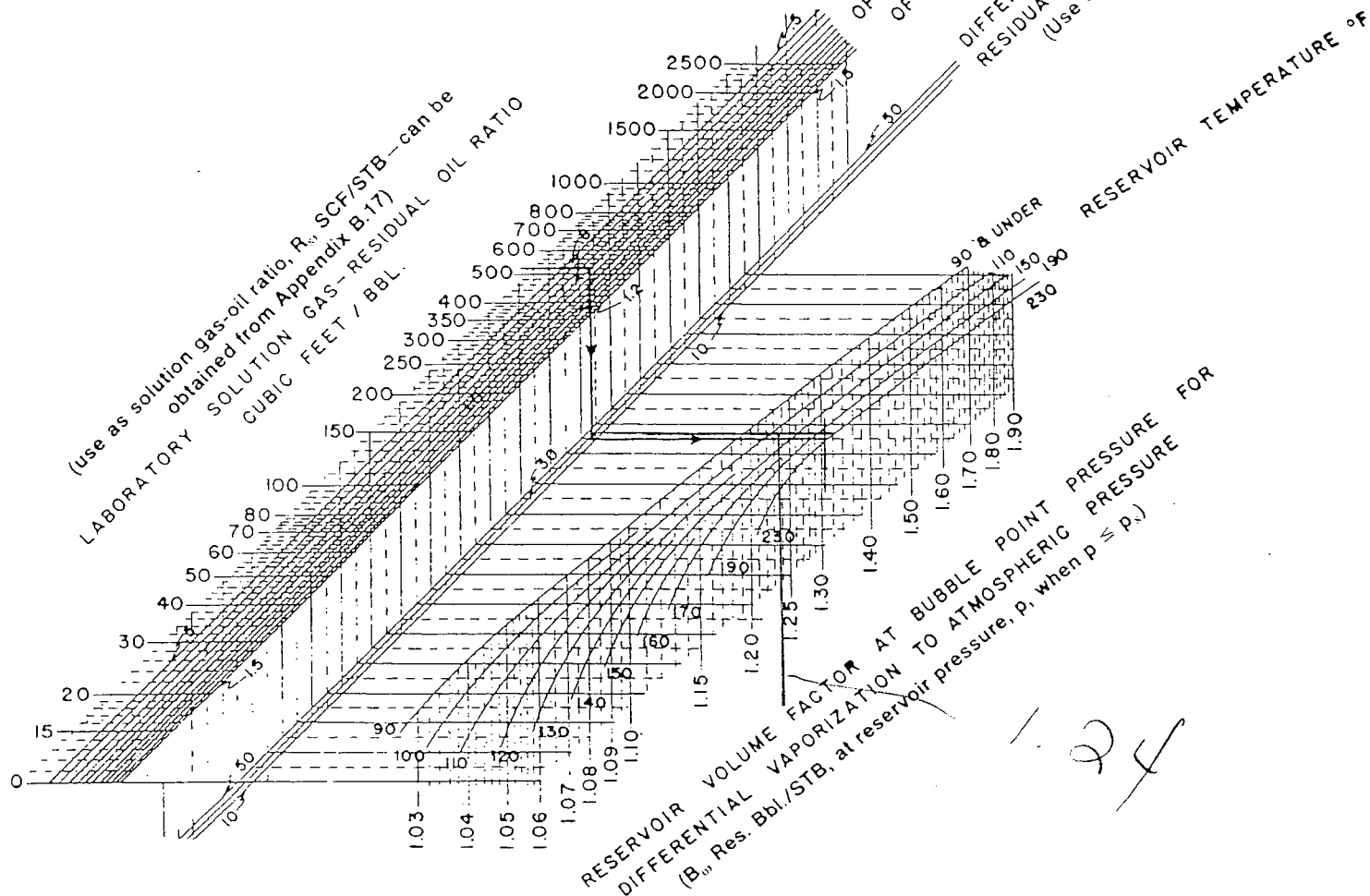
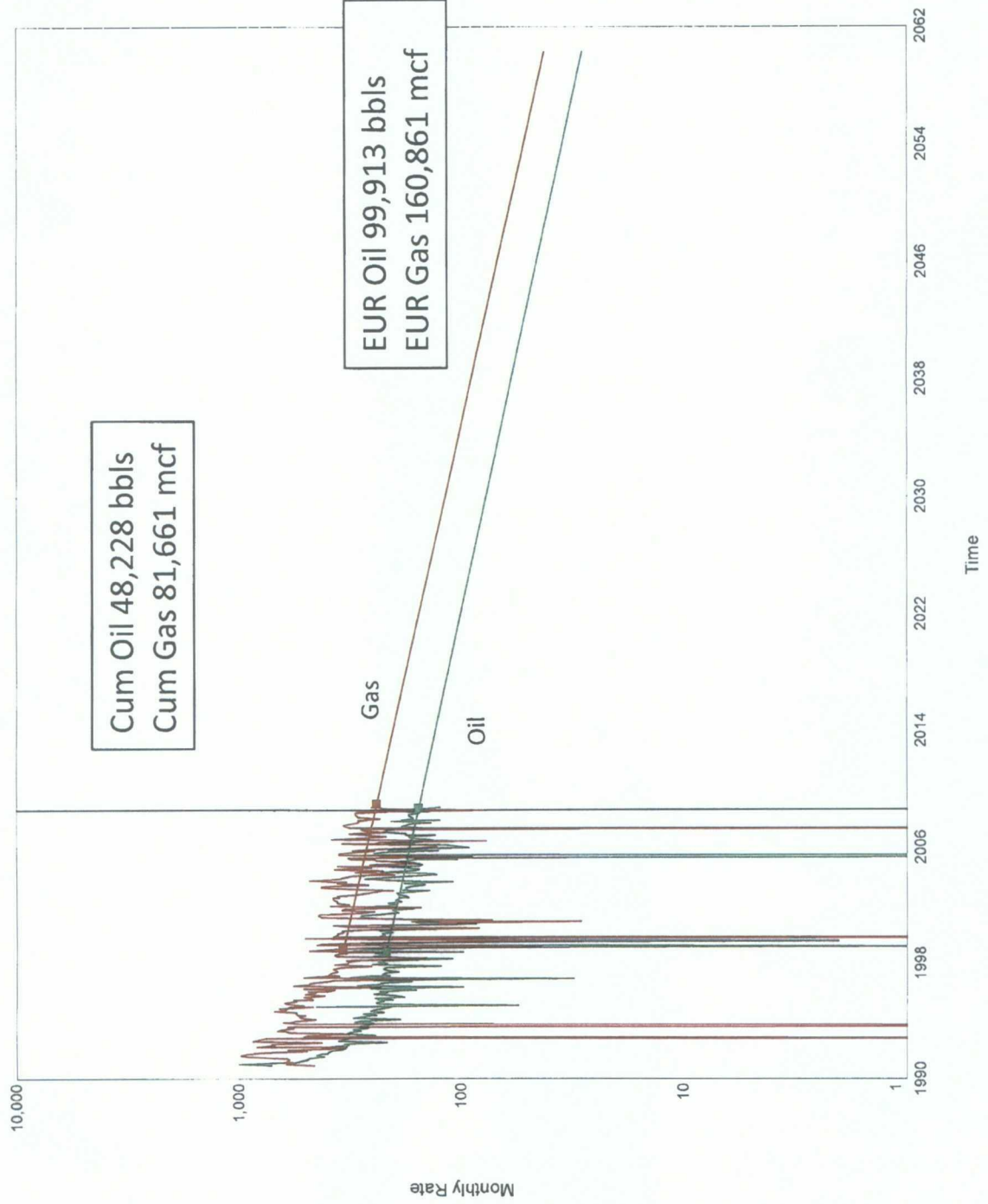


FIG. B.20 Oil formation volume factors (From Borden & Rzasa, "Correlation of Bottom Hole Sample Data," *Trans. AIME* 192, 19, 1951)

CROW FLATS FEDERAL COM - DOG CANYON



NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

16th page

All distances must be from the outer boundaries of the Section.

Operator Eagle Oil & Gas Co.		Lease Crow Flats Federal Comm.		Well No. 1
Unit Letter K	Section 30	Township 16 South	Range 28 East	County Eddy
Actual Footage Location of Well:				
1980 feet from the South line and		1980 feet from the West line		
Ground Level Elev. 3547.8	Producing Formation Morrow	Pool Wildcat Morrow	Dedicated Acreage: 320.350.42 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Communitization

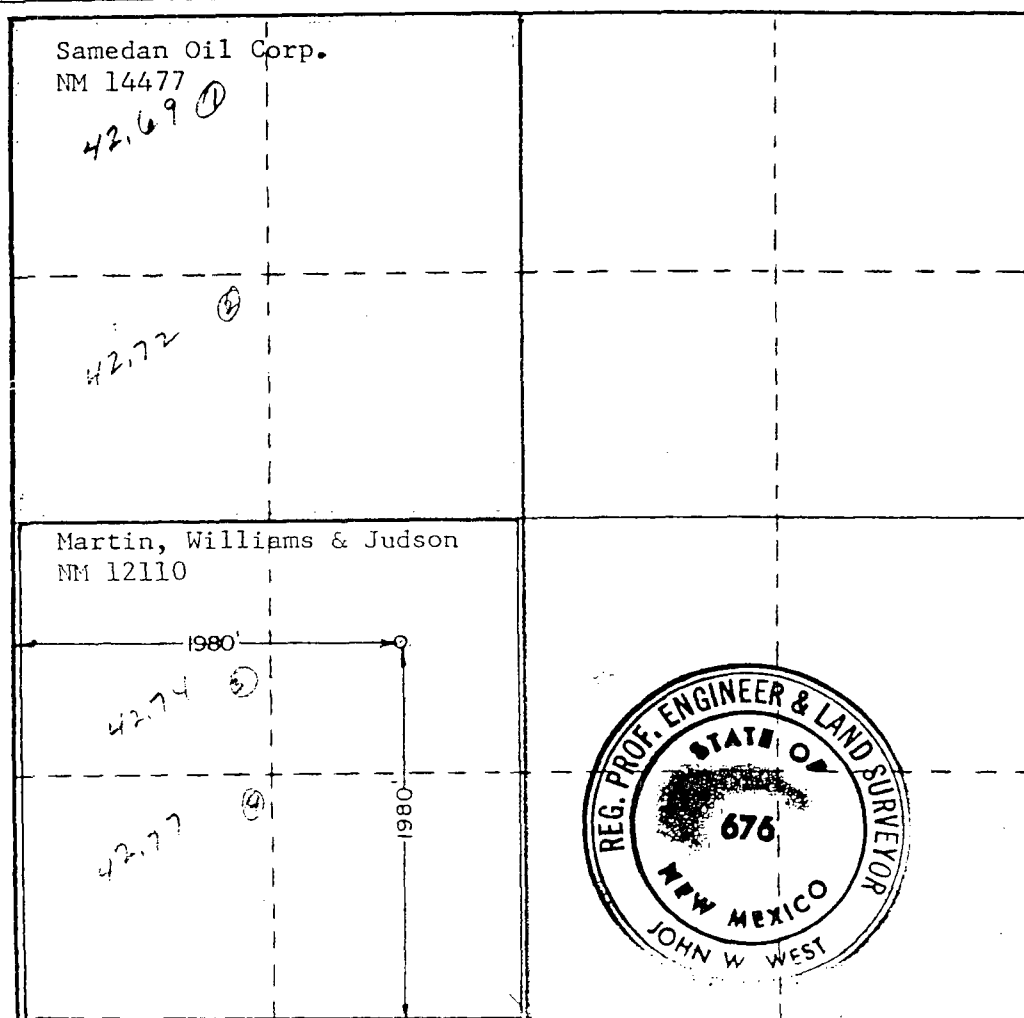
If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by unitization, force-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

RECEIVED

JUN 13 1980

U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

George R. Smith
Name

George R. Smith

Position

Agent for:

Company

Eagle Oil & Gas Co.

Date

June 6, 1980

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

May 29, 1980

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No. **JOHN W. WEST 378**
PATRICK A. ROMERO 5863
Ronald J. Biddis 1239

330 560 190 1320 1680 1980 2310 2640 2000 1500 1000 500 0

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease- 4 Copies
Fee Lease- 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name LUCKY WOLF 30 FED. COM	Well Number 2H
OGRIID No.	Operator Name RSC RESOURCES, L.P.	Elevation 3515.5'

Surface Location

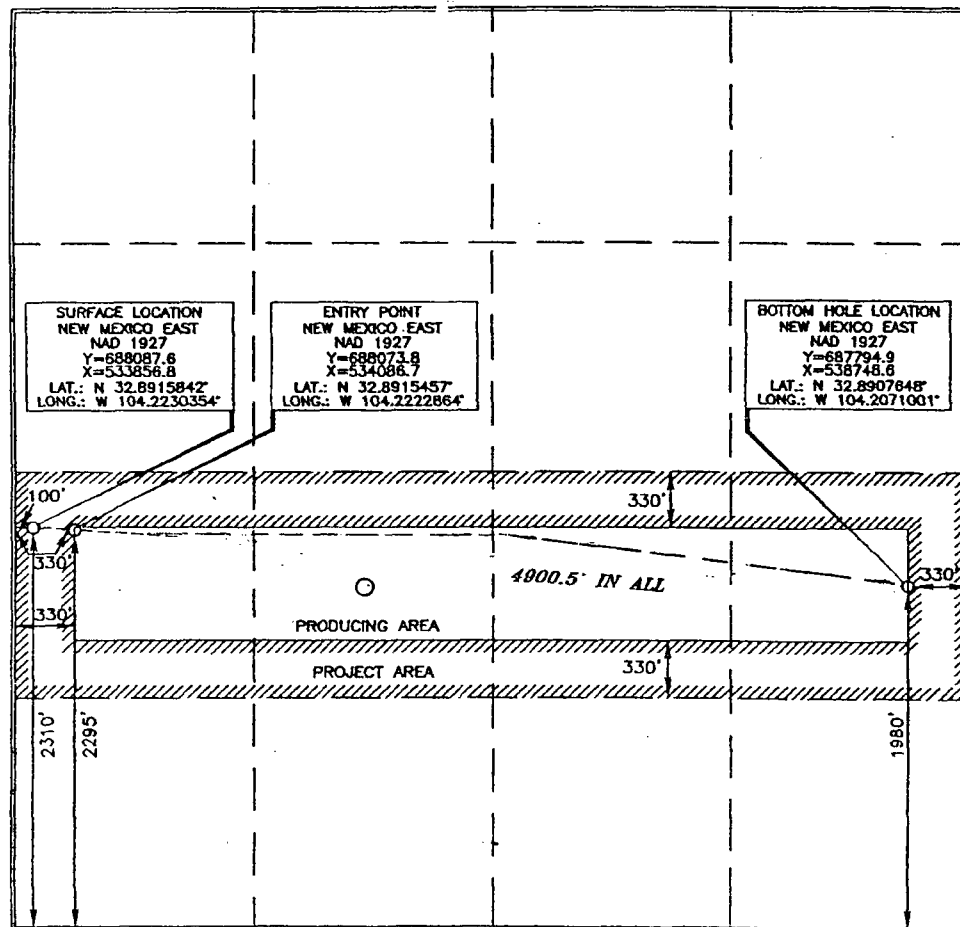
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	30	16 SOUTH	28 EAST, N.M.P.M.		2310'	SOUTH	100'	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	30	16 SOUTH	28 EAST, N.M.P.M.		1980'	SOUTH	330'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
-----------------	-----------------	--------------------	-----------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name _____

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

15079
JANUARY 6, 2009
Date of Survey

Signature and Seal of Professional Surveyor

Terry Paul 1/14/2009
Certificate Number 15079

WO# 081229WL-b (NA)