NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT [illegible] ONE POINT BACK PRESSURE TE[illegible] FOR GAS WELL

Form C-122
Revised 10-1-65

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O. C. C.

ARTESIA, OFFICE

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FEB 25 1977

U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

Type Test: ☒ Initial ☐ Annual ☐ Special				Test Date: 1-4-77	
Company: McCLELLAN OIL CORP.	Connection: TO AIR				Unit
Pool: High Nitro Premier	Formation: PREMIER SAND OF GRAYBURG				
Completion Date: 1-4-77	Total Depth: 2360'	Plug Back TD		Elevation: 3704 GR.	Farm or Lease Name: HINKLE FEDERAL
Csg. Size: 4½" / Wt.: 9.5# / d: 4.090" / Set At: 2356'				Perforations: OPEN HOLE From 2358' To 2360'	Well No.: 4
Tbg. Size: 1 JOINT / Wt. / d / Set At				Perforations: From To	Unit: H / Sec.: 9 / Twp.: 16S / Rge.: 29E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE				Packer Set At	County: EDDY
Producing Thru: CASING	Reservoir Temp. °F: 87 @ 2360'	Mean Annual Temp. °F: 30		Baro. Press. – P_a: 13.2	State: NEW MEXICO

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
.		0.7585	-0-	30.46	-0-	POSITIVE CHOKES		

NO.	FLOW DATA: Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI	POSITIVE CHOKE						536.0		
1.	8/64	518.0		65			518.0	65	120 MIN
2.	12/64	493.0		67			493.0	67	120 MIN
3.	16/64	457.0		62			457.0	62	120 MIN
4.	20/64	418.0		62			418.0	62	120 MIN
5.	20/64	397.0		60			397.0	60	16.5 HRS

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	0.2618	-	531.2	.9952	1.148	1.035	164.4
2.	0.6101	-	506.2	.9933	1.148	1.033	363.8
3.	1.112	-	470.2	.9981	1.148	1.031	617.7
4.	1.771	-	431.2	.9981	1.148	1.029	900.4
5.	1.771	-	410.2	1.0000	1.148	1.029	858.2

NO.	P_t	Temp. °R	T_r	Z
1.	0.86	525	1.60	.934
2.	0.82	527	1.60	.937
3.	0.76	522	1.59	.940
4.	0.70	522	1.59	.944
5.	0.67	520	1.58	.944

P_f 591.2 P_f^2 349.5

NO	P_t^2	P_s	P_s^2	$P_f^2 - P_s^2$
1	282.2	562.2	316.1	33.4
2	256.2	537.2	288.6	60.9
3	221.1	498.2	248.2	101.3
4	185.9	455.2	207.2	142.3
5	168.3	443.2	196.4	153.1

Gas Liquid Hydrocarbon Ratio NIL Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons NIL Deg.

Specific Gravity Separator Gas 0.7585 XXXXXXXXX

Specific Gravity Flowing Fluid XXXXX

Critical Pressure 616 P.S.I.A. ____ P.S.I.A.

Critical Temperature 339 R ____ R

(1) $\frac{P_f^2}{P_f^2 - P_s^2} = 2.4361$

(2) $\left[\frac{P_f^2}{P_f^2 - P_s^2}\right]^n = 2.4361$

AOF = Q $\left[\frac{P_f^2}{P_f^2 - P_s^2}\right]^n = 2211$

Absolute Open Flow 2211 Mcfd @ 15.025 | Angle of Slope θ 45° | Slope, n 1.00 LIMIT

Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA GAUGE @ 2360 FEET
GOOD POINT ALIGNMENT, BUT SLIGHTLY IN EXCESS OF 1.000 LIMITS.

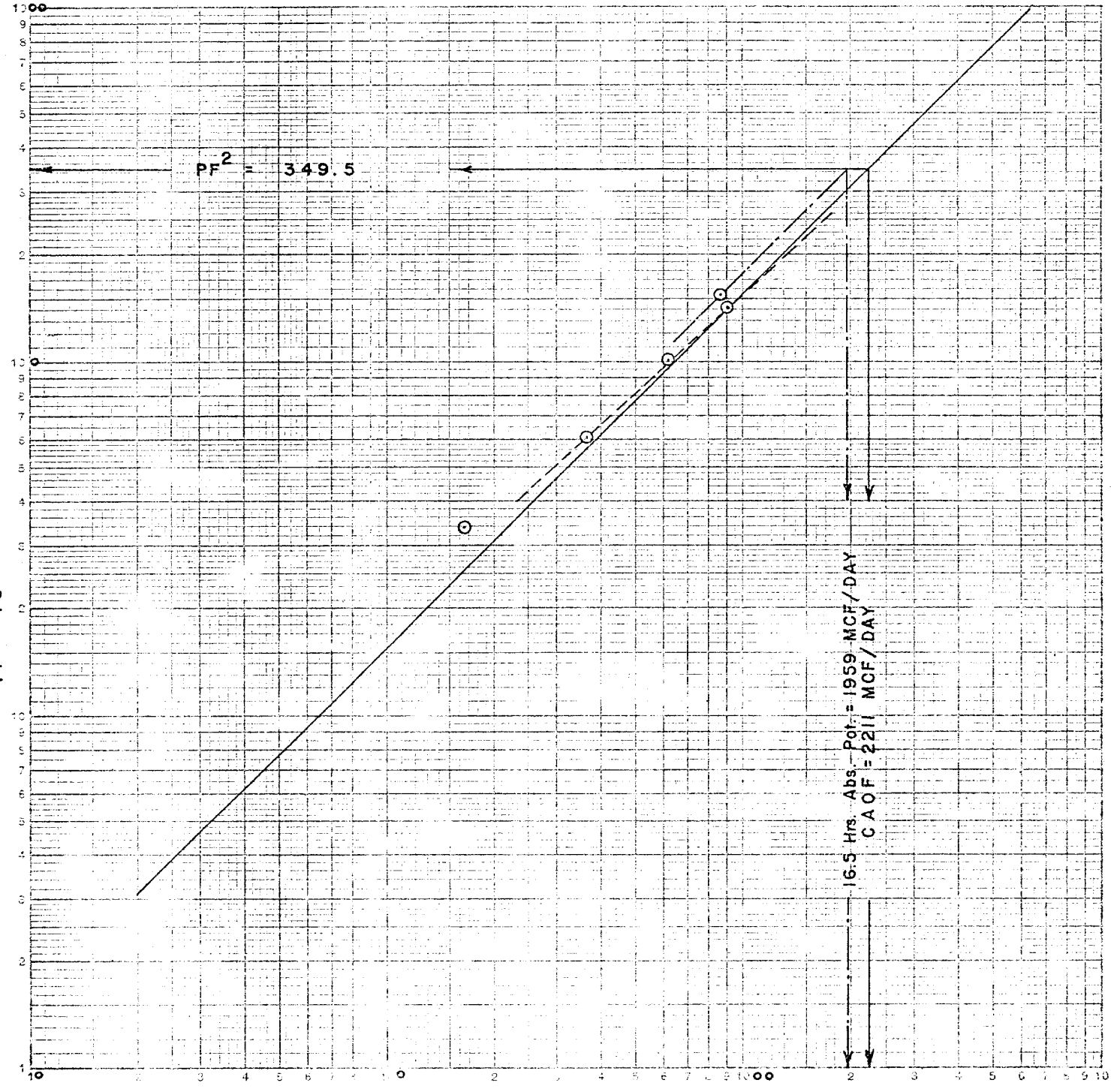
Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	G.J.P.	R.L.W.	J.W.W.

Mc CLELLAN OIL CORPORATION HINKLE FEDERAL WELL 0.4 1/4-5/77

Abs. SLope (n) = 1.000 Limited

$$CAOF = 900.4 \left(\frac{349.5}{142.3}\right)^{1.000} = 2211 \text{ MCF / DAY}$$

$$16.5 \text{ Hrs. Abs. Pot.} = 858.2 \left(\frac{349.5}{153.1}\right) = 1959 \text{ MCF / DAY}$$



McCLELLAN OIL CORP.
HINKLE FEDERAL NO. 4
BOTTOM HOLE PRESSURES FOR CALCULATING
MULTI-POINT BACK PRESSURE TEST
TABULATION OF PRESSURE AND TIME

TEST CONDUCTED BY:
JOHN WEST ENGINEERING COMPANY

TEST DATE: JANUARY 4 & 5, 1976
TEST DEPTH: 2360 FEET
ELEMENT NO.: 9749 (0-1400 PSI)
OPER.: G.J.P.

DATE	TIME	CUM. HRS./MIN.		PSIG @ 2360 FEET	
1-4-77	10:50 AM			578	GAUGE REACHED 2360 FEET
1-4-77	11:00 AM	00 HRS.	00 MIN.	578	OPEN CHOKE 8/64
		00	30	553	
		01	00	551	
		01	30	549	
	1:00 PM	02	00	549	END RATE 1
		02	30	525	12/64 CHOKE
		03	00	525	
		03	30	524	
	3:00 PM	04	00	524	END RATE 2
		04	30	490	16/64 CHOKE
		05	00	487	
		05	30	485	
	5:00 PM	06	00	485	END RATE 3
		06	30	444	20/64 CHOKE
		07	00	442	
		07	30	442	
	7:00 PM	08	00	442	END RATE 4
		10	00	440	
1-4-77	11:00 PM	12	00	439	
1-5-77	1:00 AM	14	00	436	
		16	00	434	
		18	00	433	
		20	00	432	
		22	00	431	
1-5-77	9:40 AM	22	40	430	CLOSE CHOKE, END TEST
1-5-77	9:45 AM	22 HRS.	45 MIN.	535	GAUGE OFF BOTTOM

UNITE CHEMICAL CORPORATION

OF NEW MEXICO

P. O. BOX 1499 PHONE 505-393-7751

HOBBS, NEW MEXICO 88240

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O. C. C.
ARTESIA, OFFICE

No. 5657

P.O. No.

Date of Run 1-06-77

Date Secured 1-04-77

CERTIFICATE OF ANALYSIS

Sample of McClellan Oil Corporation Hinkle Federal #4

Secured from West Engineering

412 North Dal Paso

Hobbs, New Mexico 88240 Date

Sampling conditions Press

Temp

FRACTIONAL ANALYSIS

Percentage Composition

	VOL. %	LIQ. %	G.P.M.
Carbon Dioxide	Nil		
Air			
Nitrogen	30.456		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	58.844		
Ethane	6.480		1.728
Propane	3.121		.860
Butanes			
n-Butane	.297		.097
i-Butane	.584		.184
Pentanes			
n-Pentane	.106		.039
i-Pentane	.086		.031
Hexanes Plus	.026		.011
Heptanes			
TOTAL	100.000		2.950

Calc. Sp. Gr.— 0.7585

Calc. A.P.I.—

Tot. Vapor Press — PSIA

Sp. Gr.

Mol. Wt. 22.00

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M.	.860
Butanes Calc. G.P.M.	.281
Pentanes G.P.M.	.081
Ethane Calc. G.P.M.	1.728
Calc. LP Gasoline G.P.M.	

B.T.U. Cu. Ft. @ 14.696 P.S.I.A.

Dry Basis	825
Wet Basis	811

Sulphur Analysis by Titration

Grains Per 100 Cu. Ft.

Hydrogen Sulfide

Mercaptans

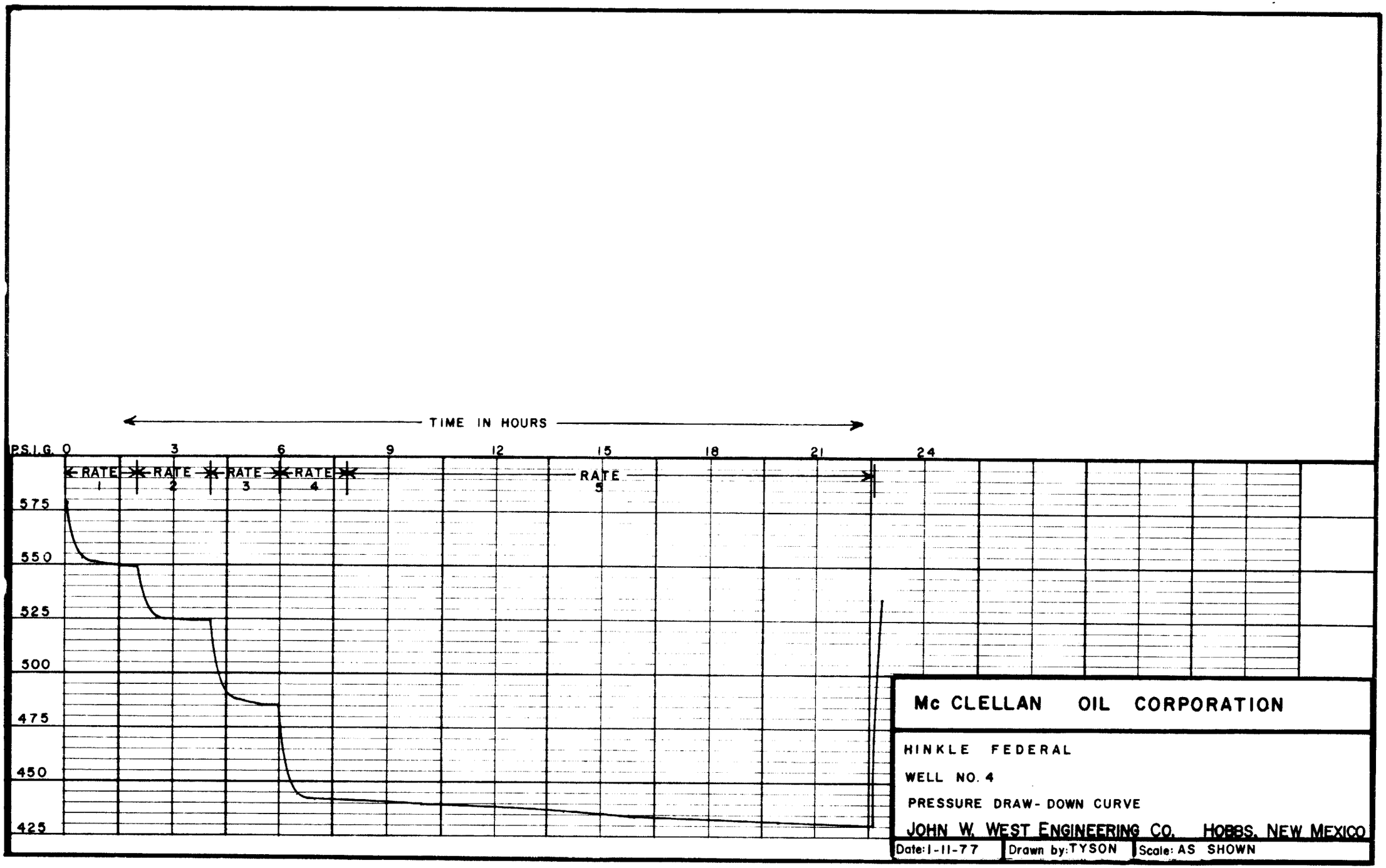
Sulfides

Sulphur Other

Total Sulphur

Run by Deane Simpson Checked by Approved by Deane Simpson

Additional Data and Remarks


TIME IN HOURS
P.S.I.G.
0
3
6
9
12
15
18
21
24
RATE 1
RATE 2
RATE 3
RATE 4
RATE 5
575
550
525
500
475
450
425
Mc CLELLAN OIL CORPORATION
HINKLE FEDERAL
WELL NO. 4
PRESSURE DRAW- DOWN CURVE
JOHN W. WEST ENGINEERING CO. HOBBS, NEW MEXICO
Date: 1-11-77
Drawn by: TYSON
Scale: AS SHOWN