JOHNSTON TESTERS

SURFACE INFORMATION

Description (Rate of Flow)	Time	Pressure (P.S.I.G.)	Surface Choke
Opened Tool STRONG BLOW	1625	-	1"
GAS TO SURFACE	1627	-	"
CLOSED FOR INITIAL SHUT-IN	1630	-	"
RE-OPENED TOOL	1705	-	"
GAS 3200 MCF/DAY	1710	115	"
GAS 4250 MCF/DAY	1715	150	"
GAS 4250 MCF/DAY	1720	150	"
CLOSED FOR FINAL SHUT-IN	1720	150	"
FINISHED SHUT-IN	1753	-	"
PULLED PACKER LOOSE	1754	-	"

RECOVERY DATA

Description	Amount
GAS CUT MUD	75' (1.07 BBLS)
HEAVY OIL AND GAS CUT MUD	330' (3.85 BBLS)

EQUIPMENT, HOLE & MUD DATA

Type Test: M. F. E.
Formation Tested: MORROW SAND
Elevation: 1844 Ft.
Net Productive Interval: 12 Ft.
Estimated Porosity: 10 %
All Depths Measured From: GROUND LEVEL

EQUIPMENT SEQUENCE

COMPONENTS	Size/Type	Depth/Length/I.D.
DRILL PIPE	4½" FH	5205'/ 3.8"
CIRCULATING SUB	4½" B	
DRILL PIPE	4½" FH	30'/3.8"
DRILL COLLARS	4½" XH	90'/2.25"
MULTI-FLOW EVALUATOR	3½"	
BY-PASS VALVE	3½" MFE	
JARS	3½" TR63	
SAFETY JOINT	3½" BOWEN	
SAFETY SEAL	3½" MFE	
CONV. PACKER	6 5/8"	5354'
BOB-TAIL PACKER	6 5/8"	5360'
PERF. ANCHOR	4 3/4" HVY	17'
DRILL COLLARS	4½" XH	27'/2.25"
PERF. ANCHOR	4½" HVY	15'
RECORDER CARRIER	4 7/8" T	6'
RECORDER CARRIER	4 7/8" J	6'

Total Depth: 5431 Ft.
Main Hole/Casing Size: 7 7/8"
Rat Hole/Liner Size: -
Bottom Choke Size: 1"
Mud Type: STARCH Wt. 9.7
Viscosity: 45 Water Loss 6.0 C.C.

Cushion Type	Amount	Pressure
	NONE	

Remarks: TOP RECOVERY SAMPLE (MUD): RESISTIVITY = .42 AT 56°F; TOP RECOVERY SAMPLE (MUD FILTRATE): RESISTIVITY = .23 AT 58°F; MIDDLE RECOVERY SAMPLE: 18% MUD, 2% WATER, AND 80% OIL; BOTTOM RECOVERY SAMPLE: 10% MUD, 8% WATER, AND 82% OIL; PIT MUD SAMPLE: CHLORIDE CONTENT = 100,000PPM, RESISTIVITY = .22 AT 58°F; PIT MUD FILTRATE SAMPLE: RESISTIVITY = .16 AT 59°F.

Address: 1112 ELEVENTH STREET; WOODWARD, OKLAHOMA

Company: SINCLAIR OIL AND GAS COMPANY Field: SITKA
Well: GRACE E. SMITH #1 Location: SEC. 14, 34-S, 22-W
Test Interval: 5360' TO 5431' Test #: 1 Date: 1-28-66

County: CLARK State: KANSAS Field Report No.: 23773 A
Technician: RINE (WOODWARD) Test Approved By: MR. DOYLE CHEATWOOD No. Reports Requested: 5 XXX

JOHNSTON TESTERS

MULTI-FLOW EVALUATOR
FLUID SAMPLE REPORT

Date 1-28-66 Field Report No. 23773 A

Company SINCLAIR OIL AND GAS

Well GRACE E. SMITH #1 Field SITKA

County CLARK State KANSAS

Test Interval 5360' To 5431' Test No. 1

Type of Test M. F. E. Recovery Description 75' OF GAS CUT MUD,

AND 330' OF HEAVY OIL AND GAS CUT MUD.

Bot. Hole Temp. 123 °F.

Recorded Pressures:
ISI 1547 psig.
SSI - psig.
FF 684 psig.
FSI * 1536 psig.

*Shut-in Pressure did not reach static reservoir pressure.

EVALUATOR SAMPLER UNIT

Sample Drained: ☐ On Location ☒ Service Center ☐ Other

☐ Laboratory-Name
Address

Sampler Pressure 280 psig. at Surface

Recovery:
Cu. Ft. Gas 1.76
cc. Oil -
cc. Water -
cc. Mud -
Total Liquid cc. -

Gravity - °API - °F.
Gas/Oil Ratio -

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	- @ - °F.	- ppm.
Recovery Mud	- @ - °F.	
Recovery Mud Filtrate	- @ - °F.	- ppm.
Mud Pit Sample	- @ - °F.	
Mud Pit Sample Filtrate	- @ - °F.	- ppm.

Remarks THIS APPEARS TO BE A TEST OF A HYDROCARBON BEARING FORMATION.

JOHNSTON TESTERS

PRESSURE DATA

Instrument No.		J-038		
Capacity (P.S.I.G.)		6400		
Instrument Depth		5425'		
Instrument Opening		OUTSIDE		
Pressure Gradient P.S.I./Ft.		-		
Well Temperature °F.		123		
Initial Hydrostatic Mud	A	2737		
Initial Shut-in	B	1547		
Initial Flow	C	728		
	C-2	680		
	C-3	680		
Final Flow	D	684		
Final Shut-in	E	* 1536		
Final Hydrostatic Mud	F	2707		
Remarks:	C-1	848		
	C-4	615		

Field Report No. 23773 A

TIME DATA

	Time Given	Time Computed
Initial Flow	35 Mins.	36 Mins.
Initial Shut-in	5 Mins.	5 Mins.
C-2	- Mins.	- Mins.
C-3	- Mins.	- Mins.
Final Flow	15 Mins.	15 Mins.
Final Shut-in	33 Mins.	32 Mins.

*Shut in pressure did not reach static reservoir pressure.

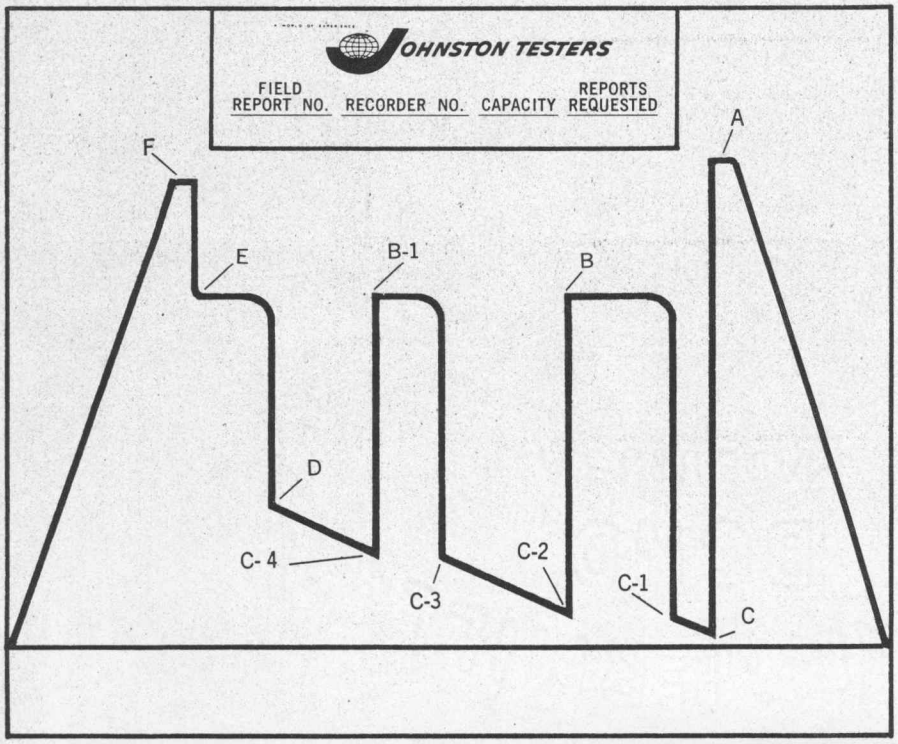
Clock Travel 0.02147 inches per min.

PRESSURE INCREMENTS

INITIAL SHUT-IN			FLOW PERIODS			FINAL SHUT-IN		
Point Minutes	Pressure	$\frac{T+\Delta t}{\Delta t}$	Point Minutes	Pressure	$\frac{T+\Delta t}{\Delta t}$	Point Minutes	Pressure	$\frac{T+\Delta t}{\Delta t}$
C-2 0	680		INITIAL FLOW			D 0	684	
3	1500		C 0	728		3	1471	
6	1528		2	748		6	1502	
9	1534		4	655		9	1515	
12	1537		C-2 5	680		12	1520	
15	1539					15	1525	
18	1541		FINAL FLOW			18	1528	
21	1542		C-3 0	680		21	1530	
24	1543		2	625		24	1532	
27	1545		4	632		27	1533	
30	1547		6	638		30	1534	
33	1547		8	655		E 32	1536	
B 36	1547		10	665				
			12	674				
			14	684				
			D 15	684				

More accurate with the JOHNSTON RECORDER

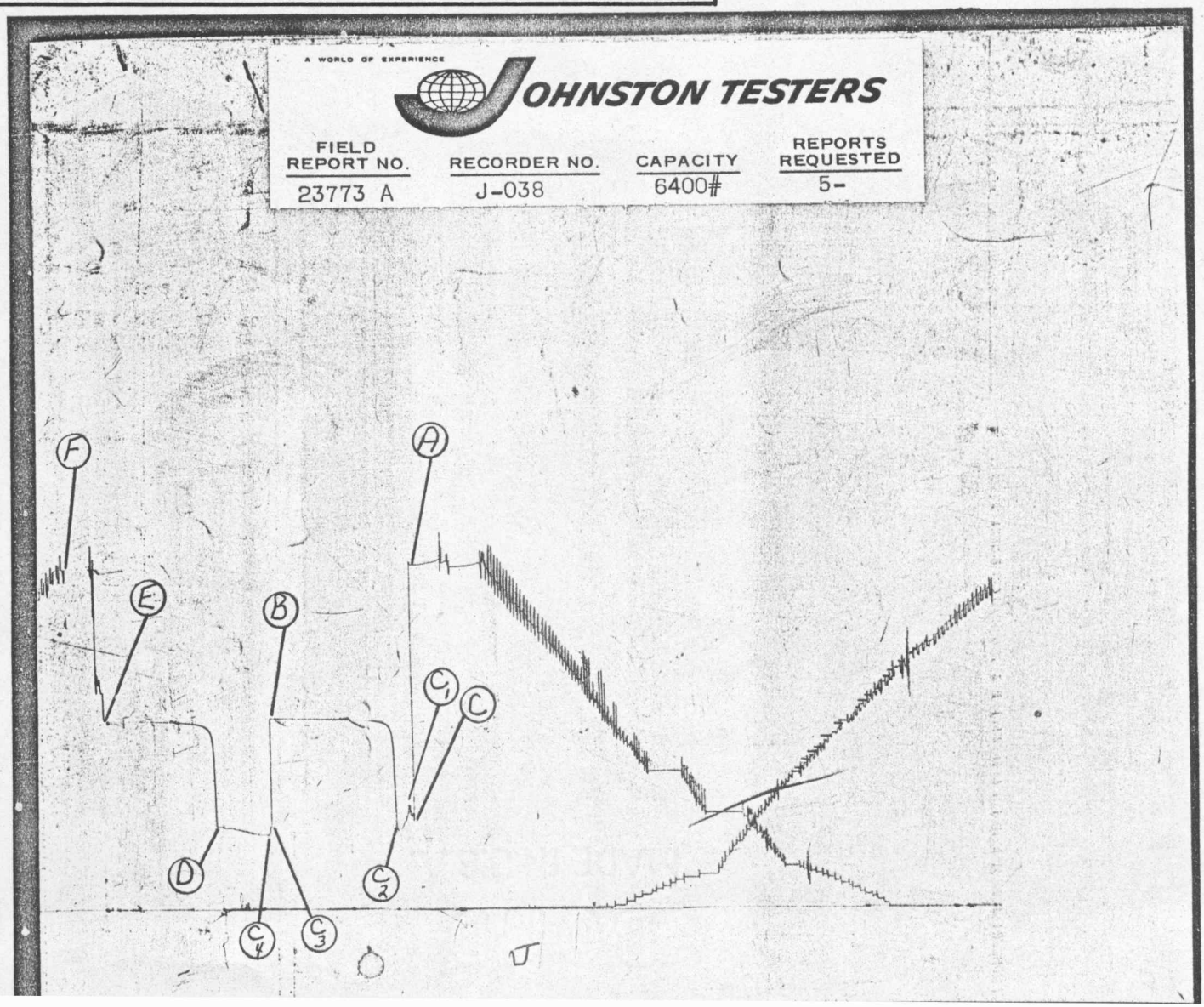
GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

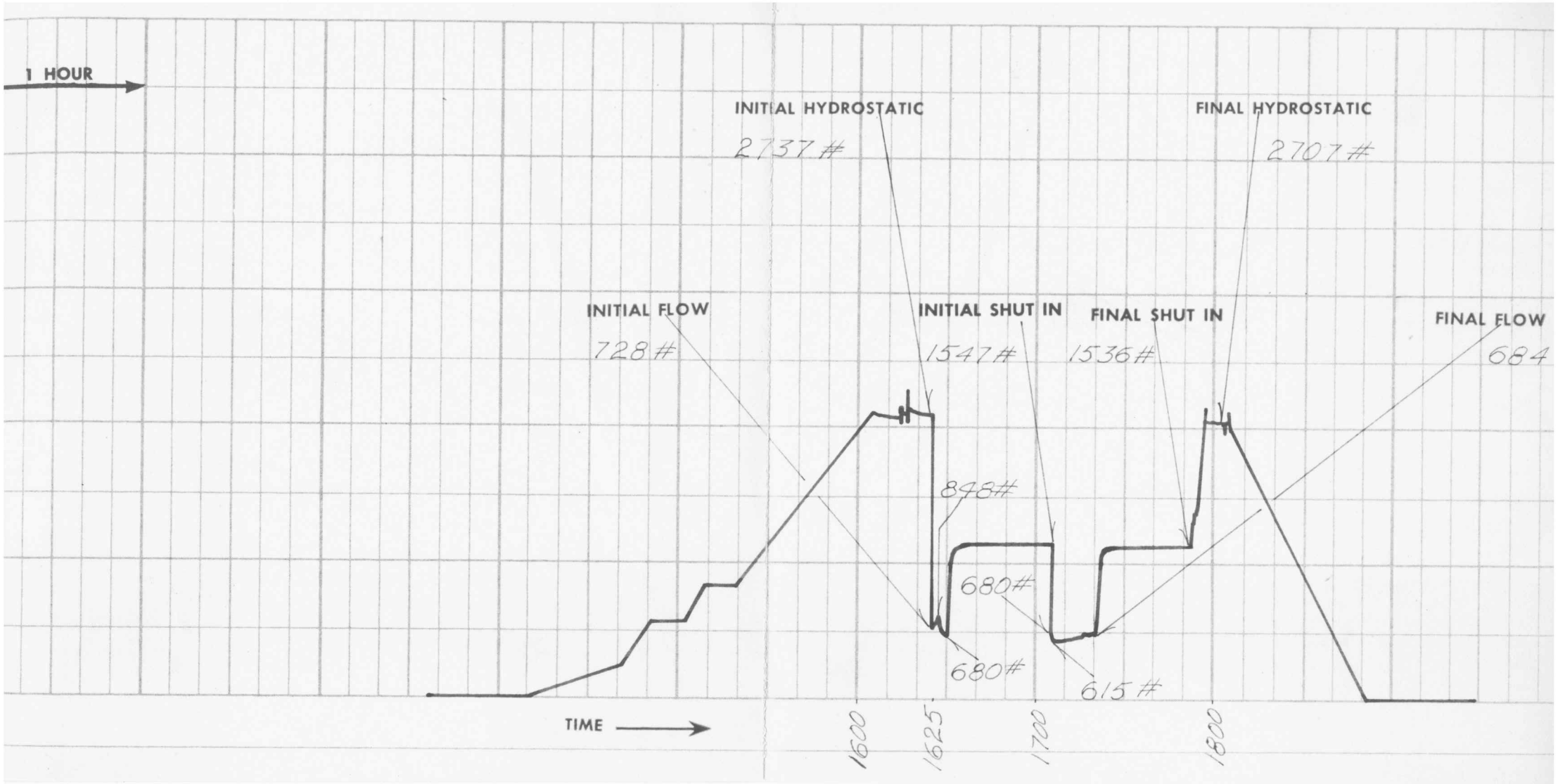


A. Initial Hyd. Mud
B. Initial Shut-in
C. Initial Flow
D. Final Flow
E. Final Shut-in
F. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings, (testing different zones).

A-1, A-2, A-3, etc. Initial Hyd. Pressures
B-1, B-2, B-3, etc. Subsequent Shut-in Pressures
C-1, C-2, C-3, etc. Flowing Pressures
D-1, D-2, D-3, etc. Subsequent Final Flow Pressures
E-1, E-2, E-3, etc. Subsequent Final Shut-in Pressures
F-1, F-2, F-3, etc. Final Hyd. Mud Pressures
Z — Special pressure points such as pumping pressure recorded for formation breakdown.




1 HOUR
INITIAL HYDROSTATIC
2737#
FINAL HYDROSTATIC
2707#
INITIAL FLOW
728#
INITIAL SHUT IN
1547#
FINAL SHUT IN
1536#
FINAL FLOW
684
878#
680#
680#
615#
TIME
1600
1625
1700
1800