FLUID SAMPLE DATA

Sampler Pressure 275 P.S.I.G. at Surface
Recovery: Cu. Ft. Gas 2.1
cc. Oil 900
cc. Water
cc. Mud 400
Tot. Liquid cc. 1300
Gravity 42.8 ° API @ 60 °F.
Gas/Oil Ratio cu. ft./bbl.

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

Mud Weight 9.4 vis 38 sec.

Date 1-17-81 Ticket Number 821095
Kind of D.S.T. OPEN HOLE TEST Halliburton Location HOBBS
Tester ROBERTS-FLETCHER Witness STRIBLING
Drilling Contractor PARKER DRILLING COMPANY TJH S

EQUIPMENT & HOLE DATA

Formation Tested Seaman
Elevation 4130' Ft.
Net Productive Interval 18' Ft.
All Depths Measured From Kelly Bushing
Total Depth 11536' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 420' I.D. 2.50"
Drill Pipe Length 11013' I.D. 3.826"
Packer Depth(s) 11474' - 11481' Ft.
Depth Tester Valve 11439' Ft.

Cushion TYPE Water AMOUNT 1000 Ft. Depth Back Pres. Valve 1/4" Surface Choke 3/8" Bottom Choke .75"

Recovered 163 Feet of oil.
Recovered 80 Feet of gas cut oil.
Recovered 59 Feet of gas and oil cut drilling mud.
Recovered 1000 Feet of water blanket.
Recovered Feet of

Meas. From Tester Valve

Remarks SEE PRODUCTION TEST DATA SHEET . . .

TEMPERATURE	Gauge No. 7653 Depth: 11461 Ft.		Gauge No. 7652 Depth: 11533 Ft.		Gauge No. Depth: Ft.		TIME (00:00-24:00 hrs.)	
	24 Hour Clock		24 Hour Clock		Hour Clock		Tool Opened	1040
Est. °F.	Blanked Off NO		Blanked Off YES		Blanked Off			
Actual 158 °F.	Pressures		Pressures		Pressures		Opened Bypass	1607
	Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic	5571	5566.7	5563	5554.3				
First Period Flow Initial	526	521.9	532	563.1			—	—
First Period Flow Final	483	471.4	510	505.5			15	16
First Period Closed in	5243	5260.3	5209	5232.8			65	62
Second Period Flow Initial	483	486.8	510	507.7			—	—
Second Period Flow Final	548	532.8	577	558.7			62	65
Second Period Closed in	4893	4925.6	4898	4889.3			185	185
Third Period Flow Initial							—	—
Third Period Flow Final								
Third Period Closed in								
Final Hydrostatic	5571	5579.8	5563	5549.8			—	—

Legal Location Sec. - Twp. - Rng. 20 - 16S - 34E
Lease Name STATE L.F. 30
Well No. 1
Test No. 1
Field Area KENMITZ
Tested Interval 11481' - 11536'
County LEA
State NEW MEXICO
Lease Owner/Company Name TENNECO OIL COMPANY

FORM 181-R2 – PRINTED IN U.S.A.

FORMATION TEST DATA

6

LITTLE'S 111033 75C 2/80

asing perfs. _____ Bottom choke .75" Surf. temp _____ °F Ticket No. 821095

as gravity _____ Oil gravity _____ GOR _____

pec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

NDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date Time a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
2135					Testers on location.
0100					Picked up tools.
0238					Went in hole.
1040	Bubble Hose				Opened tool with a slight increasing
					blow.
1045	"	1/4			Increasing.
1050	"	1/2			"
1055	"	2 1/4			Closed tool. Fair blow. Bottom of
					bucket.
1200	1/4				Opened tool on choke with a slight
					increasing blow.
1205	"				Increasing.
1210	"	1/2			"
1215	"	1 1/2			" Fair blow bottom of
					bucket.
1220	"	2 3/4			"
1225	3/8	3 1/2			Changed choke.
1229	"	3			Gas to surface.
1230	"	3			Decreasing.
1235	"	2 1/2			"
1240	"	2			"
1245	"	1 1/2			"
1250	"	"			Steady.
1255	"	"			"
1302	"	"			" Closed tool.

asing perfs.________ Bottom choke________ Surf. temp________ °F Ticket No. 821095
as gravity________ Oil gravity________ GOR________ PAGE 2
pec. gravity________ Chlorides________ ppm Res.________ @________ °F

NDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED________

Date Time a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
1607					Bypassed tool.
					Jarred off bottom.
2330					Reversed out.

PRODUCTION TEST DATA

Gauge No. 7653			Depth 11461				Clock No. 5979			24 hour	Ticket No. 821095	
	First Flow Period		First Closed In Pressure			Second Flow Period		Second Closed In Pressure			Third Flow Period		Third Closed In Pressure		
	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.
0	.0000	521.9	.0000		471.4	.0000	486.8	.0000		532.8					
1	.0033*	510.9	.0194**		2625.2	.0332***	486.8	.0558****		3960.7					
2	.0130	478.0	.0323		4258.2	.0698	497.8	.0951		4317.2					
3	.0228	469.3	.0452		4577.6	.1063	506.5	.1345		4483.5					
4	.0325	469.3	.0581		4763.6	.1429	513.1	.1739		4577.6					
5	.0423	469.3	.0710		4879.6	.1794	517.5	.2133		4647.7					
6	.0520	471.4	.0839		4962.8	.2160	532.8	.2526		4706.7					
7			.0968		5017.5			.2920		4750.5					
8			.1097		5067.8			.3314		4787.7					
9			.1226		5113.7			.3707		4816.1					
10			.1355		5144.4			.4101		4840.2					
11			.1484		5175.0			.4495		4864.3					
12			.1613		5201.3			.4888		4884.0					
13			.1742		5223.1			.5282		4899.3					
14			.1871		5242.8			.5676		4912.4					
15			.2000		5260.3			.6070		4925.6					
Gauge No. 7652			Depth 11533				Clock No. 6525			24 hour		
0	.0000	563.1	.0000		505.5	.0000	507.7	.0000		558.7					
1	.0033*	549.8	.0198**		2269.7	.0331***	512.1	.0567****		3914.0					
2	.0130	509.9	.0331		4139.3	.0695	527.7	.0967		4265.4					
3	.0228	501.1	.0463		4513.2	.1058	536.5	.1367		4438.0					
4	.0325	501.1	.0595		4699.1	.1422	541.0	.1768		4546.4					
5	.0423	501.1	.0727		4827.4	.1786	545.4	.2168		4619.4					
6	.0520	505.5	.0859		4909.2	.2150	558.7	.2568		4674.7					
7			.0992		4984.5			.2968		4719.0					
8			.1124		5044.3			.3368		4756.6					
9			.1256		5084.2			.3769		4785.4					
10			.1388		5115.2			.4169		4809.7					
11			.1520		5146.3			.4569		4831.8					
12			.1653		5170.7			.4969		4849.5					
13			.1785		5195.1			.5369		4865.0					
14			.1917		5215.0			.5770		4878.3					
15			.2050		5232.8			.6170		4889.3					
Reading Interval	3		4			11		12							

REMARKS: * - first interval is equal to 1 minute, ** - 6 minutes, *** - 10 minutes, **** - 17 minutes.

Minutes

FORM 183 R1—PRINTED IN U.S.A.

SPECIAL PRESSURE DATA

LITTLE'S 96673 75C 8/74

142-A

HALLIBURTON DIVISION LABORATORY

HALLIBURTON COMPAN
LOVINGTON, NEW MEXICO

TICKET NO. 821095

LABORATORY WATER ANALYSIS

No. W81-049

To TENNECO OIL COMPANY
6800 PARK TEN BLVD.
SUITE 200 NORTH
SAN ANTONIO, TX

Date 1-19-81

Submitted by _____ Date Rec. 1-19-81

Well No. STATE "LF" 30 #1 Depth 11536' Formation SEAMAN

County LEA Field KEMNITZ Source DST #1

	TOOL TOP	CHANGE OF FLUID	PIT SAMPLE
Resistivity	0.108 @ 74° F	0.550 @ 74° F	0.100 @ 74° F
Specific Gravity			
pH			
Calcium (Ca)			*MPL
Magnesium (Mg)			
Chlorides (Cl)	57,500	9,000	74,000
Sulfates (SO_4)			
Bicarbonates (HCO_3)			
Soluble Iron (Fe)			
TOP OF FLUID - 100% oil - API GR. @ 60° F - 39.7			
SAMPLER - 100% oil - API GR. @ 60° F - 42.8			

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: _____

cc:

HALLIBURTON COMPANY

By _____
CHEMIST

NOTICE

6

TICKET NO. 821095

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Drill Collars				
Reversing Sub	6.50"	3"	1'	11344'
Water Cushion Valve				
Drill Pipe	4.50"	3.826"	11013'	
Drill Collars	6.25"	2.50"	420'	
Handling Sub & Choke Assembly	6.50"	2.625"	1' X OVER	
Dual CIP Valve	5.625"	2.375"	1' X OVER	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	4'	11439'
Multiple CIP Sampler	5"	.75"	5'	
Extension Joint	5"	.87"	15'	
AP Running Case	5"	3.06"	4'	11461'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	3'	
Pressure Equalizing Crossover				
Packer Assembly	7"	1.53"	5'	11474'
Distributor	5"	1.68"	2'	
Packer Assembly	7"	1.53"	5'	11481'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint	5.75"	1.50"	4'	
X OVER	6.50"	2.75"	1'	
Side Wall Anchor				
Drill Collars	6.25"	2.50"	30'	
X OVER	6.50"	2.75"	1'	
Flush Joint Anchor	5.75"	3.50"	12'	
Blanked-Off B.T. Running Case	5.75"	3.50"	4'	11533'
Total Depth				11536'

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b_1	= Approximate Radius of Investigation (Net Pay Zone h_1)	Feet
D.R.	= Damage Ratio	——
El	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h_1	= Net Pay Thickness	Feet
K	= Permeability	md
K_1	= Permeability (From Net Pay Zone h_1)	md
m	= Slope Extrapolated Pressure Plot (Psi^2/cycle Gas)	psi/cycle
OF_1	= Maximum Indicated Flow Rate	MCF/D
OF_2	= Minimum Indicated Flow Rate	MCF/D
OF_3	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF_4	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_f	= Final Flow Pressure	Psig.
P_{ot}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q_1	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	——
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.