

FLUID SAMPLE DATA				Date 6-23-80		Ticket Number 820355	
Sampler Pressure <u>300</u> P.S.I.G. at Surface Recovery: Cu. Ft. Gas <u>.093</u> cc. Oil _____ cc. Water <u>2400</u> cc. Mud _____ Tot. Liquid cc. <u>2400</u> Gravity _____ ° API @ _____ °F. Gas/Oil Ratio _____ cu. ft./bbl.				Kind of D.S.T. <u>OPEN HOLE TEST</u> Halliburton Location <u>HOBBS</u> Tester <u>NORRIS MANNEY</u> Witness <u>STEWART HANSON</u> Drilling Contractor <u>WARTON DRILLING COMPANY #4</u> TJH S			
EQUIPMENT & HOLE DATA							
				Formation Tested <u>Lower Ranger Lake</u> Elevation <u>4219.5'</u> KB _____ Ft. Net Productive Interval <u>64'</u> _____ Ft. All Depths Measured From <u>Kelly Bushing</u> Total Depth <u>10420'</u> _____ Ft. Main Hole/Casing Size <u>7 7/8"</u> Drill Collar Length <u>586'</u> I.D. <u>2.50"</u> Drill Pipe Length <u>9726'</u> I.D. <u>3.826"</u> Packer Depth(s) <u>10349' - 10356'</u> _____ Ft. Depth Tester Valve <u>10317'</u> _____ Ft.			
TYPE		AMOUNT		Depth Back		Surface	
Cushion				Ft. Pres. Valve		Choke	
						<u>1" Adj. .75"</u>	
Recovered	<u>200</u>	Feet of	<u>drilling fluid.</u>				
Recovered	<u>6896</u>	Feet of	<u>formation water.</u>				
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Remarks <u>SEE PRODUCTION TEST DATA SHEET . . .</u>							
TEMPERATURE		Gauge No. <u>1928</u>		Gauge No. <u>1927</u>		Gauge No. _____	
		Depth: <u>10334</u> Ft.		Depth: <u>10416</u> Ft.		Depth: _____ Ft.	
		24 Hour Clock		24 Hour Clock		Hour Clock	
Est.	°F.	Blanked Off <u>NO</u>		Blanked Off <u>YES</u>		Blanked Off _____	
Actual <u>160 °F.</u>		Pressures		Pressures		Pressures	
		Field	Office	Field	Office	Field	Office
Initial Hydrostatic		<u>5472</u>	<u>5516.8</u>	<u>5584</u>	<u>5566.2</u>		
First Period	Flow Initial	<u>730</u>	<u>721.4</u>	<u>794</u>	<u>803.7</u>		
	Flow Final	<u>1794</u>	<u>1799.0</u>	<u>1815</u>	<u>1837.9</u>		
	Closed in	<u>3713</u>	<u>3731.3</u>	<u>3749</u>	<u>3754.0</u>		
Second Period	Flow Initial	<u>1930</u>	<u>1981.9</u>	<u>1954</u>	<u>2046.0</u>		
	Flow Final	<u>3217</u>	<u>3207.6</u>	<u>3198</u>	<u>3243.6</u>		
	Closed in	<u>3758</u>	<u>3769.7</u>	<u>3795</u>	<u>3802.3</u>		
Third Period	Flow Initial						
	Flow Final						
	Closed in						
Final Hydrostatic		<u>5472</u>	<u>5489.8</u>	<u>5584</u>	<u>5497.7</u>		

 Legal Location
 Sec - Twp - Rng. 30 - 12S - 34E

 SEAY
 Lease Name

Well No. 1

Test No. 4

 10356' - 10420'
 Tested Interval

 HARPER OIL COMPANY
 Lease Owner/Company Name

 Field Area
 EAST HIGH TOWER

County

LEA

 State
 NEW MEXICO

RECEIVED

of 1930

Q16. *What is the value of $\frac{1}{2} \log_2 16$?*

Casing perms. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 820355
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F
 INDICATE 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
0945						On location.
1230						Picked up tools.
1345						Ran in hole.
1650						On bottom.
1715		Bubble Hose				Opened tool with a fair blow.
1720		"	1 3/4			Increase to good blow.
1725		"	2 1/2			"
1730		"	3 1/8			"
1735		"	4			"
1740		"	4 1/2			"
1745		"	5			Closed tool.
1845		"				Opened tool with a weak blow.
1850		"	1			Increase to a fair blow.
1900		"	2 1/4			"
1910		"	2 1/2			"
1920		"	"			No change. Fair blow.
1930		"	2 1/8			Decrease.
1940		"	1 3/4			"
1945		"	1 1/2			Closed tool.
2247						Pulled loose.
2255						Pulled out of hole.
						Hit fluid 34 stands out.
0046						Dropped bar.
0109						Reversed out 200' drilling fluid.
0111						6896' formation water.
0200						Pulled out of hole

SEP 5 1990

Gauge No. 1928			Depth 10334			Clock No. 11954			24 hour			Ticket No. 820355		
First Flow Period			First Closed In Pressure			Second Flow Period			Second Closed In Pressure			Third Flow Period		
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.
0	.0000	721.4	.0000		1799.0	.0000		1981.9	.0000		3207.6			
1	.0135*	773.9	.0099*		3489.8	.0387**		2268.6	.0464***		3618.5			
2	.0304	1013.5	.0231		3564.3	.0710		2544.0	.0861		3663.6			
3	.0473	1246.0	.0364		3600.4	.1032		2756.1	.1259		3686.2			
4	.0642	1446.9	.0496		3623.0	.1355		2932.2	.1656		3704.2			
5	.0811	1632.0	.0628		3643.3	.1677		3088.0	.2054		3715.5			
6	.0980	1799.0	.0760		3659.1	.2000		3207.6	.2451		3726.8			
7			.0892		3672.6				.2849		3733.6			
8			.1025		3683.9				.3246		3740.3			
9			.1157		3692.9				.3644		3747.1			
10			.1289		3702.0				.4041		3751.6			
11			.1421		3708.7				.4439		3756.1			
12			.1553		3715.5				.4836		3760.7			
13			.1686		3722.3				.5234		3765.2			
14			.1818		3726.8				.5631		3767.4			
15			.1950		3731.3				.6030		3769.7			

Gauge No. 1927			Depth 10416			Clock No. 4397			24 hour		
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	803.7	.0000		1837.9	.0000		2046.0	.0000		3243.6
1	.0132*	831.7	.0099*		3487.3	.0397**		2306.4	.0465***		3645.9
2	.0298	1060.1	.0232		3581.6	.0727		2578.3	.0863		3691.9
3	.0463	1284.7	.0365		3618.4	.1058		2792.6	.1261		3719.5
4	.0629	1488.4	.0498		3641.3	.1389		2967.7	.1659		3735.6
5	.0794	1671.2	.0631		3662.0	.1719		3114.9	.2057		3747.1
6	.0960	1837.9	.0764		3675.8	.2050		3243.6	.2456		3756.3
7			.0896		3691.9				.2854		3765.5
8			.1029		3703.4				.3252		3772.4
9			.1162		3714.9				.3650		3779.3
10			.1295		3721.8				.4048		3783.9
11			.1428		3733.3				.4447		3786.2
12			.1560		3737.9				.4845		3790.8
13			.1693		3744.8				.5243		3795.4
14			.1826		3751.7				.5641		3797.7
15			.1960		3754.0				.6040		3802.3

Reading Interval 5			4			10			12			Minutes		

REMARKS: * - first interval is equal to 4 minutes, ** - 3 minutes, *** - 12 minutes, **** - 14 minutes.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

TICKET NO. 820355

No. W80-687

To Harper Oil CompanyDate 6-24-802004 Wilco BuildingMidland, Texas

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Submitted by _____ Date Rec. 6-24-80Well No. Seay #1 Depth 10,420' Formation Lower Ranger LakeCounty Lea Field W. Tatum Source DST #4

	<u>Sampler</u>	<u>Tool Top</u>	<u>Top of Recovery</u>
Resistivity	<u>0.113 @ 74°F.</u>	<u>0.111 @ 74°F.</u>	<u>0.076 @ 74°F.</u>
Specific Gravity	<u>1.043</u>		
pH	<u>6.7</u>		
Calcium (Ca)	<u>1,400</u>		<u>*MPL</u>
Magnesium (Mg)	<u>600</u>		
Chlorides (Cl)	<u>34,500</u>	<u>35,000</u>	<u>64,000</u>
Sulfates (SO ₄)	<u>3,100</u>		
Bicarbonates (HCO ₃)	<u>730</u>		
Soluble Iron (Fe)	<u>Nil</u>		

Reversed Out - Res. @ 74°F. - 0.103 Chlorides, mpl - 37,000Pit Sample - Res. @ 74°F. - 0.076 Chlorides, mpl - 64,000

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

cc:

HALLIBURTON COMPANY

By

W. L. Brewer

CHEMIST

NOTICE

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	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Drill Collars				
Reversing Sub	6"	3"	1'	
Water Cushion Valve				
Drill Pipe	4.50"	3.826"	9726'	
Drill Collars		2.50"	586'	
Handling Sub & Choke Assembly	5.75"	2.25"	1' X OVER	
Dual CIP Valve				
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	4'	10317'
Multiple CIP Sampler	5"	.75"	5'	
Extension Joint	5"	.87"	10'	
AP Running Case	5"	3.25"	5'	10334'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	3'	
Pressure Equalizing Crossover				
Packer Assembly	7"	1.53"	5'	10349'
Distributor	5"	1.68"	2'	
Packer Assembly	7"	1.53"	5'	10356'
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'	
Side Wall Anchor	6"	2 5/8"	1' X OVER	
Drill Collars		2.50"	28'	
Flush Joint Anchor	5 7/8"	2.25"	1'	
	5.75"	3.50"	23'	
Blanked-Off B.T. Running Case	5.75"	3.50"	5'	10416'
Total Depth				10420'