

Formation Testing Service Report

J. C. MAXWELL

License Name

1

Well No.

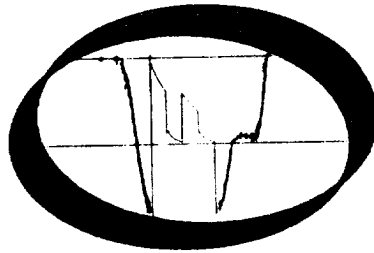
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Test No.

10137-10235'

Tested Interval

SUNMARK EXPLORATION COMPANY



HALLIBURTON SERVICES

DUNCAN, OKLAHOMA

FLUID SAMPLE DATA				Date 3-7-80		Ticket Number 716546	
Sampler Pressure 250		P.S.I.G. at Surface		Kind of D.S.T. OPEN HOLE		Halliburton Location HOBBS	
Recovery: Cu. Ft. Gas 1.150				Tester N. MANNEY		Witness RON TARPLEY	
cc. Oil 2150				Drilling Contractor RIAL # 2		DR	
cc. Water				EQUIPMENT & HOLE DATA			
cc. Mud				Formation Tested Wolf Camp			
Tot. Liquid cc. 2150				Elevation 3820' Est. Ft.			
Gravity 38.7 API @ 60 °F.				Net Productive Interval 10' Ft.			
Gas/Oil Ratio 84.9 cu. ft./bbl.				All Depths Measured From Kelly Bushing			
RESISTIVITY		CHLORIDE CONTENT		Total Depth 10235' Ft.			
Recovery Water @ °F. ppm				Main Hole/Casing Size 8 1/2"			
Recovery Mud @ °F. ppm				Drill Collar Length 554' I.D. 2.25"			
Recovery Mud Filtrate @ °F. ppm				Drill Pipe Length 9539' I.D. 3.826"			
Mud Pit Sample @ °F. ppm				Packer Depth(s) 10130-10137' Ft.			
Mud Pit Sample Filtrate 0.07 @ 70 °F. 115,000 ppm				Depth Tester Valve 10098' Ft.			
Mud Weight 10 vis 35 sec.							
TYPE AMOUNT		Depth Back Ft. Pres. Valve		Surface Choke 1" Adj.		Bottom Choke .75"	
Cushion							
Recovered Feet of							
Recovered 90' Feet of formation water on top of tool							
Recovered Feet of Reversed 21 barrels of oil and gas out of formation water							
Recovered Feet of							
Recovered Feet of							
Remarks See production test data sheet							
TEMPERATURE		Gauge No. 1928		Gauge No. 1927		Gauge No.	
Depth: 10115 Ft.		Depth: 10231 Ft.		Depth: Ft.		TIME (00:00-24:00 hrs.)	
24 Hour Clock		24 Hour Clock		Hour Clock		Tool	
Est. °F. Blanked Off NO		Blanked Off YES		Blanked Off		Opened 0535	
Actual 155 °F.		Pressures		Pressures		Opened	
		Pressures		Pressures		Bypass 1432	
		Field Office		Field Office		Reported Computed	
Initial Hydrostatic 5070		5085.3		5202 5197.7		Minutes Minutes	
First Period	Flow Initial 205	203.1		234 259.3			
	Flow Final 320	303.6		350 338.7			
	Closed in 4324	4341.6		4398 4411.5		15 11	
Second Period	Flow Initial 320	351.5		350 453.2		61 65	
	Flow Final 1321	1349.8		1398 1418.9			
	Closed in 4324	4323.5		4398 4404.6		190 195	
Third Period	Flow Initial					271 265	
	Flow Final						
	Closed in						
Final Hydrostatic 5654		5667.4		5754 5763.2			

Legal Location Sec. - Twp. - Rng. 27-14S-37E

Lease Name J. C. MAXWELL

Well No. 1

Test No. 1

Field Area DENTON

County LEA

State NEW MEXICO

Tested Interval 10137-10235'

Lease Owner/Company Name SUNMARK EXPLORATION COMPANY

FORMATION TEST DATA

Casing perms. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 716546
 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
21:00						On location
23:15						Picked up tools
01:10						Went in hole
05:35		BH	0			Opened tool with a weak blow
05:40		"	3			Increased to a good blow
05:45		"	7			"
05:50		"	10			Closed tool with a good blow
06:15		"				Gas to surface 2' flare
06:51		1/4"	0			Opened tool 2' flare
06:55		"	1/2	22.78		Increased
07:00		"	1	23.52		"
07:10		"	4 1/2	28.66		"
07:20		"	6 1/2	31.60		" 3' flare
07:30		"	7	32.34		"
07:40		"	7 1/4	32.70		"
07:50		"	7 3/4	33.44		"
08:00		"	8	33.81		"
08:10		"	8			No change
08:20		"	8 1/4			Increased 3' flare
08:30		"	8 1/4			No change
08:40		"	8 1/4			Stabilized
08:50		"	7 3/4			Decreased
09:00		"	7 1/2			No change
09:10		"	6 1/2			Decreased
09:30		"	6 1/4			"

Casing perms. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 716546
Gas gravity _____ Oil gravity _____ GOR _____
Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED.

[illegible]

Gauge No. 1928			Depth		10115		Clock No. 16511		24 hour		Ticket No. 716546		
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"	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	.000	253.1	.000		303.6	.000		351.5	.000	1349.8			
1	.0047	203.1	.0296**		3943.5	.127		577.5	.0441**	3704.2			
2	.0142	205.4	.0428		4054.2	.254		799.0	.1052	3810.3			
3	.0236	230.5	.0560		4151.5	.381		997.7	.1662	3918.7			
4	.0331	255.7	.0691		4210.4	.508		1180.5	.2273	4126.6			
5	.0425	278.5	.0823		4244.3	.635		1349.8	.2884	4244.3			
6	.0520	303.6	.0955		4269.2				.3494	4262.4			
7			.1086		4287.3				.4105	4273.7			
8			.1218		4300.8				.4716	4280.5			
9			.1350		4312.2				.5326	4291.8			
10			.1482		4321.2				.5937	4300.8			
11			.1613		4330.3				.6548	4305.4			
12			.1745		4334.8				.7158	4309.9			
13			.1877		4337.0				.7768	4316.7			
14			.2008		4339.3				.8379	4321.2			
15			.2140		4341.6				.8990	4323.5			

Gauge No. 1927			Depth		10231'		Clock No. 11964		hour		24		
Time Defl. .000"	PSIG Temp. Corr.		Time Defl. .000"	Log $\frac{t + \theta}{\theta}$	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	.000	259.3	.000		338.7	.000		453.2	.000	1418.9			
1	.0035	257.0	.0291**		4023.0	.126		626.1	.0419**	3740.3			
2	.0101	273.3	.0420		4133.3	.252		850.4	.1000	4154.0			
3	.0163	289.7	.0549		4223.0	.378		1055.5	.1581	4250.6			
4	.0235	306.0	.0678		4278.1	.504		1245.3	.2162	4291.9			
5	.0303	329.4	.0808		4326.4	.630		1418.9	.2743	4317.2			
6	.0370	338.7	.0937		4340.2				.3323	4337.9			
7			.1066		4356.3				.3904	4351.7			
8			.1195		4372.4				.4485	4360.9			
9			.1324		4383.9				.5066	4372.4			
10			.1454		4393.1				.5647	4379.3			
11			.1583		4397.7				.6227	4386.2			
12			.1712		4404.6				.6808	4390.8			
13			.1841		4409.2				.7389	4397.7			
14			.1970		4411.5				.7969	4400.0			
15			.2100		4411.5				.8550	4404.6			

Reading Interval	2	4		39		18		Minutes
REMARKS:	*-1 minute		**-9 minutes		***-13 minutes			

Reading Interval: 2

REMARKS: *-1 minute ** -9 minutes *** -13 minutes

TICKET NO.

716546

	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"	9539'	
Drill Collars	6.25"	2.25"	554'	
Handling Sub & Choke Assembly	5.75"	2.25"	1' Change over	
Dual CIP Valve				
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	4'	10098'
Multiple CIP Sampler	5"	.75"	5'	
Extension Joint (2. each)	5"	.87"	10'	
AP Running Case	5"	3.25"	5'	10115'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	3'	
Pressure Equalizing Crossover				
Packer Assembly	7.75"	1.53"	5'	10130'
Distributor	5"	1.68"	2'	
Packer Assembly	7.75"	1.53"	5'	10137'
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	5.75"	3 1/8"	.50' X over	
Drill Collars	6.25"	2.25"	71'	
Flush Joint Anchor	5.75"	2.50"	.50' X over	
	5.75"	3.50"	15'	
Blanked Off B.T. Running Case	5.75"	3.50"	5'	10231'
Total Depth				10235'

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.
$P_{o.}$	= 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 Potary Table When Elevation Not Given, Fresh Water Corrected to 100 °F.