

Rama Operating Co., Inc.

Moore # 1-13

**GEOLOGICAL FORMATION TOPS**

API#15-155-21322

13-25-94  
**COPY**

FORMATION TOP	ELECTRIC LOG DEPTH	DRILLING TIME DEPTH	SUB-SEA DEPTH (E-LOG)
Heebner Shale	3131	3134	-1469
Brown Limestone	3304	3307	-1642
Lansing	3339	Not Called	-1677
Stark Shale	3599	3603	-1937
BKC	3692	3696	-2030
Cherokee Shale	3795	3803	-2133
Mississippian Chert	3835	3838	-2173
Mississippian 'B' Zone	3856	3859	-2194
Mississippian Ls	3908	3910	-2246
Kinderhook Shale	3916	3920	-2254
Total Depth	3998	4000	-2336

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**DRILL STEM TEST RESULTS**  
 API #15-155-21322

DST No. 1 (Mississippian 'A' Zone)  
 Interval: 3841' to 3854' (13' of anchor)  
 Intervals tested: High Porosity Mississippian Section

Period	Time	Pressure	Description
IHSP		1870	
IFP	45	139-208	GTS in 1 minute.
ISIP	60	1056	p* = 1108 psi.
FFP	60	222-308	GTS.
FSIP	90	1008	p* = 1059 psi.
FHSP		1853	BHT = 116 deg. F.

**Recovery:** Gas to surface.  
 40' 0% Gas, 0% Oil, 100% Mud, 0% Water.  
 120' 18% Gas, 2% Oil, 20% Mud, 60% Water.  
 120' 0% Gas, 10% Oil, 1% Mud, 89% Water.  
 120' 0% Gas, 1% Oil, 0% Mud, 99% Water.  
 180' 0% Gas, 0% Oil, 0% Mud, 100% Water.  
 180' 0% Gas, 0% Oil, 0% Mud, 100% Water.  
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 760' Total Fluid Recovered.  
  
 Summary of Fluid Recovered:  
 Total Oil pulled during test = .1 bbls.  
 Total Water pulled during test = 4.6 bbls.  
 Total Mud pulled during test = .9 bbls.  
 Total = 5.6 bbls.  
  
 Water Chlorides Tester = 112,000 ppm  
 Mud Filtrate = 4,000 ppm  
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 GAS FLOW REPORT (Saturated BTU = 1117)  
  
 First Open Period (45 Minutes):      Second Open Period (60 minutes):

Time	Gauge (MCF/D)	Time	Gauge (MCF/D)
5"	138	10"	145
15"	181	20"	132
25"	181	30"	124
35"	158	40"	124
45"	145	50"	116
		60"	116 * Sampled Gas

**DRILL STEM TEST RESULTS**  
**API #15-155-21322**

DST No. 2 (Mississippian 'B' Zone)			
Interval: 3856' to 3884' (28' of anchor)			
Intervals tested: Mississippian 'B' Zone			
Period	Time	Pressure	Description
IHSP		1903	
IFP	45	86-109	Blow to bottom in 8 minutes.
ISIP	60	1169	p* = 1296 psi.
FFP	45	123-153	Good blow, NO GTS!
FSIP	90	1174	p* = 1266 psi.
FHSP		1873	BHT = 115 deg. F.
<b>Recovery:</b>	800' Gas in the Pipe. 80' 28% Gas, 12% Oil, 32% Mud, 28% Water. 60' 0% Gas, 0% Oil, 15% Mud, 85% Water. 60' 0% Gas, 0% Oil, 10% Mud, 90% Water. ----- 200' Total Fluid Recovered. Chlorides of water = 65,000 ppm.		