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State of West Virginia Division of Environmental Protection Section of Oil and Gas

DATE:	4-11-01	4
API#:	47-095-01704	M
•	Radound	My

337.11	A	Danas	of Wall	Work
Well	Operator's	Kepon	of Mell	WOIL

Hartley	0-2	ntor Well No.	#4		
Farm name: Hartley					·ke
LOCATION: Elevation: 1066	Quad	irangle: Pen	nsboro		
District: Meade	Cou	nty: <u>Ty</u>	ler		•
Latitude: 3510 Feet South of 39	Deg2]	Min. 55	5.44 Sec.		
Longitude 7840 Feet West of 80	Deg <u>55</u>	Min. 09	78 Sec.	\$	
Company: Ohio L&M Company Inc.			1	lo en	
4150 Belden Village Ave. NW	Casing &	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Suite 410	Tubing 16"	20	0'	N/A	
Address: Canton, OH	10	20	1	<u> </u>	
Agent: Jeff Sayger	11"		172'	118 Cuft.	Class A
Inspector: Mike Underwood					
Date Permit Issued: 1-2-01	8-5/8"		1203'	455 Cuft.	
Date Well Work Commenced: 1-16-01					,
Date Well Work Completed: 1-24-01	4-1/2"		5080	649 Cuft.	
Verbal Plugging:	7 7 /0 !!		4051	77 /7	
Date Permission granted on:	1-1/2"		4951	N/A	
Rotary X Cable Rig				RECEIVED	
Total Depth (feet): 5141				Office of Oil & Gas	
Fresh Water Depth (ft.): 135				Permitting	
Salt Water Depth (ft.): 1798 '				AUG 27 2001	
Sait Water Deptir (tt.). 1750					
Is coal being mined in area (N/Y)? N				WV Department of	
Coal Depths (ft.): N/A		4.	E	vironmental Protect	on
OPEN FLOW DATA				1	
Producing formation Benson	Pay	zone depth (f	t) 4970-49	78	
Gas: Initial open flow ShowMCF/d Oil	: Initial open	flow	_Bbl/d		
Final open flow 100 MCF/d F	Final open flo	ow	_Bbl/d * A	fter Frac	
Time of open flow between initial and	final tests	Hc	ours		
Static rock Pressure 1450 psig (surfa	ce pressu re)	after <u>24</u> F	Hours		
Second producing formation	Pay 2	one depth (ft))		
Gas: Initial open flow MCF/d Oil	: Initial oper	tlow	-BPNa		
Final open flow MCF/d	final open fl	ow	-Bona		
Time of open flow between initial and	final tests	H(ours		. 1
Static rock Pressurepsig (surfa	ice pressure)	afterf	riours		7
NOTE: ON BACK OF THIS FORM PUT THE	FOLLOWIN	G: 1). DETAIL	LS OF PERFOR	ATED	7
THE DUALS EDACTIONIC OF STIMIL AT	NG PHYSIC	AL CHANGE	., EIC. Z). IHE	WELL	•
LOG WHICH IS A SYSTEMATIC DETAILED	GEOLOGIC	AL RECORD	OF ALL FORM	MATIONS,	-
INCLUDING COAL ENCOUNTERED BY THE	WELLBOM	J			1704
Mults	Indle	2			4
Signed: Martin L.	Miller		4110 0	4 2001	•
By: Martin L.	mrrret		AUG 3	I ZWI	

Date:

Complettion:

Perforated Benson Sand From 4970'-4973' with 32 Shots

Spot 500 Gals. 15% HCL Acid- Break 1439#

Treat Well With 760 Bbls. Slick Water - N2 Assist - 59,800# 20/40 Sand

Rate - 31 BPM - Avg. Treat Pressure - 2671# ISIP - 1597 5 Min - 1028



WELL: Ohio L & M Co., Inc.#4 Hartley.

LOCATION: Meade District, Tyler County, West Virginia.

PERMIT NUMBER: Tyler-1704.

ELEVATION: 1066' Ground 1076' KB.

STATUS: Preparing to complete as a gas producer.

CASING: 16" @ 20' 11" @ 172' 8 5/8" @ 1203'.

TOTAL DEPTH: 5141' Driller 5120' Logger.

CONTRACTOR: Nexus Drilling Co..

TOOLS: Rotary.

SPUD DATE: 1/16/2001.

COMPLETED DRILLING: 1/24/2001.

FORMATION AT TOTAL DEPTH: Devonian shale.

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ELECTRICAL SURVEYS: Gamma Ray- Neutron- Compensated Density-Caliper- Induction- Noise- Temperature by Allegheny Wireline Services, Inc..

SHOWS: A good show of gas was encountered in the Benson Sandstone. Fair hydrocarbon fluorescence was noted in the Benson Sandstone. A more detailed description of the above strentioned fluorescence can be found on the attached Formation Evaluation Log.

FORMATION TOPS:	2" Cow Run Sandstone	1318	- 242
	Gas Sand	1475'	- 399
	1st Salt Sand	1572'	- 496
	2nd Salt Sand	1625'	- 549
	3rd Salt Sand	1754'	- 678
	Maxon Sandstone	1860'	- 784
	Little Lime	1908'	- 832
	Big Lime (Greenbrier)	1934'	- 858

Big Injun Sandstone

 Squaw Sandstone
 2196'
 - 1120

 Weir Sandstone
 2402'
 - 1326

 Berea Sandstone
 2665'
 - 1589

 Gantz Sandstone
 2752'
 - 1676

2028'

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HARTLEY #4			Page 2
•	30' Sandstone	2837'	- 1761
	Gordon Sandstone	2952'	- 1876
	4 th Sandstone	3028'	- 1952
	5 th Sandstone	3108'	- 2032
	Warren Sandstone	3530'	- 2454
•	Speechley Sandstone	3890'	- 2814
	Balltown Sandstone	4000'	- 2924
	Bradford Sandstone	4594'	- 3518
	Riley Sandstone®	4782'	- 3706
	Benson Sandstone	4968'	- 3892

STRUCTURAL COMPARISON:

Ohio L&M Co., Inc. Hartley #4

Benson Sandstone - 3892

Ohio L&M Co., Inc. Hartley #1

- 3880

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GEOLOGY:

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Sample analysis indicated very good sandstone development in the Benson, with fair development in the Weir and Gordon. A good show of gas and fair hydrocarbon fluorescence were encountered in the Benson.

Based upon the open hole logs, the Benson Sandstone at 4968 to 4978' appears to be well developed with good gas saturations. The Gordon and Weir showed fair development.

The Benson Sandstone should be very good producer of gas in this well. A completion attempt on the Gordon and Weir would also be warranted prior to abandonment.

Respectfully submitted,

NATIONAL MINERALS CORPORATION

BRUDE TAKE T

By: Douglas L. Core, President

February 12, 2001.