DATE: 8-16-00

API#: 47-073-02260

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

1412:011 Of Citationificary Liorection	
Section of Oil and Gas	
	Roviewed
	1.07.0400

Well Operator's Report of Well Work					
arm name: Cora Delong Operator Well No.: #4					
LOCATION: Elevation: 1076'	Quadrangle: Schultz				
District: Jefferson Latitude: 4080 Feet South of 39	Coun	ty: Fleas	ants		
Longitude 6740 Feet West of 81	Deg21 Deg12	Min3	sec. 0Sec.		
Company: Ohio LEM Co., Inc.					
	Casing &	Used in	Left in well	Cemen	it fill
	Tubing	drilling		up Cu	Ft.
Address: 4150 Belden Village Ave.	10-3/4"	40'		ו'עא	
NW Suite 410 Canton, OH 44718					
Agent: Jeff Sayger	7"		1038"	185	Sks.
Inspector: Sam Hershman					
Date Permit Issued: 3-14-00	4-1/2"		2760'	75	Sks.
Date Well Work Commenced: 3-21-00			<u> </u>		
Date Well Work Completed: 4-14-00	1-1/2"		2690'	N/	/A
Verbal Plugging:					
Date Permission granted on:			RECEIVE		
Rotary X Cable Rig			1.8 EO to ability	ias	
Total Deptii (ieet): 2780 !			Permitting		
Fresh Water Depth (ft.): Dusted			440-24-0	000-	
			AUG 21 2	יטטי	
Salt Water Depth (ft.): 1175			W Division o		
			Environmental Prot	ection_	
Is coal being mined in area (N/Y)? No					
Coal Depths (ft.): None			1	!	
OPEN FLOW DATA					
Producing formation Gordon/Gantz/	30Ft.Pay zo	one depth (ft)	2405-2688		
Gas: Initial open flow 20.0 MCF/d Oil:	Initial open II	011.0.0	Boha		
Final open flow MCF/d F	inal open How	·	ואוים		
Time of open flow between initial and final testsHours					
Static rock Pressure 450 psig (surface pressure) after 43 Hours					
Second producing formation Pay zone depth (ft)					
Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d					
Final open flow MCF/d Final open flow Bbl/d					
Time of open flow between initial and final testsHours					
Static rock Pressurepsig (surface pressure) afterHours					
NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.					
Signed: ///it / Mulling					
By: Martin L. Miller					
Date: 8-16-00					

Gordon/30Ft./Gantz Perforated With 24 Shots From 2405 To 2698
Balled Off In Acid - Fraced Well With 600BBL. Slick Water And Sand.

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

LOCATION: Jefferson District, Pleasants County, West Virginia.

PERMIT NUMBER: Pleasants-2260.

ELEVATION: 1076' Ground 1079'KB.

STATUS: Preparing to complete as a gas producer.

CASING: 7" @ 1035'.

TOTAL DEPTH: 2775' Driller 2780' Logger.

CONTRACTOR: Century Drilling Co..

TOOLS: Rotary.

SPUD DATE: 4/10/2000.

COMPLETED DRILLING: 4/14/2000.

FORMATION AT TOTAL DEPTH: Devonian shale.

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

SHOWS: A good show of gas was noted in the Injun. Small shows of gas were noted in the 2<sup>nd</sup> Cow Run, 1<sup>st</sup> Salt, 2<sup>nd</sup> Salt and Gantz Sandstones. Good hydrocarbon fluorescence was noted in the 2<sup>nd</sup> Cow Run, while fair hydrocarbon fluorescence was noted in the Injun, Gantz and Berea Sandstones. A more detailed description of the above mentioned fluorescence can be found on the attached Formation Evaluation Log.

FORMATION TOPS:	2 <sup>™</sup> Cow Run Sandstone	1165'	- 86
	1st Salt Sand	1332'	- 253
	2nd Salt Sand	1512'	- 433
	3rd Salt Sand	1626'	- 547
	Maxon Sandstone	1706'	- 627
	Big Lime (Greenbrier)	1722'	- 643
	Keener Sandstone	1748'	- 669
	Injun Sandstone	1776'	- 697
	Lower Injun Sandstorie	1886'	- 807
	Berea Sandstone	2284'	- 1205
	Gantz Sandstone	2398'	- 1319



## **CORA DELONG #4**

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30' Sandstone	2482'	- 1403
Gordon Sandstone	2672'	- 1593

STRUCTURAL COMPARISON:

Ohio L&M Co., Inc. Ohio L&M Co., Inc. Cora Delong #4 Cora Delong #2 2<sup>nd</sup> Cow Run sandstone 86 - 108 .- 643 - 640

## **GEOLOGY:**

Bia Lime

Sample analysis indicated good sandstone development in the 2<sup>nd</sup> Cow Run, 1st Salt, and lower Injun Sandstones. A good show of gas was recorded in the lower Injun Sandstone, while small shows of gas were noted in the 2<sup>nd</sup> Cow Run. 1<sup>st</sup> Salt, 2<sup>nd</sup> Salt and Gantz. Good hydrocarbon fluorescence was noted in the 2<sup>nd</sup> Cow Run, while fair hydrocarbon fluorescence was noted in the lower Injun, Berea and Gantz.

The log analysis showed 4 potential zones in this well. The calculations are as follows:

Zone	Net thickness	Average porosity	Water saturation
1 <sup>st</sup> Salt Sandstone	10'	14%	23%
Lower Injun Ss.	21'	18%	30%
Gantz Sandstone	4'	9%	18%
Gordon Sandstone	6'	6%	22%

The Cora Delong #4 should be a fair to good producer of gas, with minor amounts of oil, from the zones shown above.

Respectfully submitted,

NATIONAL MINERALS CORPORATION

By: Douglas L. Core, President

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April 15, 2000.