

CLIFFS MINERALS, INC.
EASTERN GAS SHALES PROJECT

OH #6-5-GALLIA COUNTY

PHASE I REPORT
FIELD OPERATIONS-DECEMBER 1979

CLIFFS MINERALS, INC.
EASTERN GAS SHALES PROJECT
OHIO WELL #6-5

PHASE I REPORT

FIELD OPERATIONS-DECEMBER 1979

WELL DATA

Permit No.: 478 dated August 1, 1979

Issued To: Mitchell Energy Corporation
6270 Busch Boulevard
Columbus, Ohio

Well No.: EGSP OH #6-5; MEC #1-9

Lease: M. Carter

County: Gallia

Township: Walnut

Section: 14, 400 feet N.L. & 1,700 feet W.L.

Proposed Total Depth: 3,000 feet

Elevation: Ground Level: 670 feet (topo)
KB = G.L. + 11 feet

Oil & Gas Inspector: Mark McGuire
Box 124, West College Street
Rio Grande, Ohio
Phone: 614/245-5153

Drilling Contractor: Les Wilson Spudders, Inc.
Carmi, Illinois

Core Point:

First core point of 1,660 feet was reached on November 30, 1979 and coring began the same day.

Formations Cored:

Three Lick, Huron.

Total Depth:

Total cored depth of 2,498 feet was reached December 4, 1979.

General:

Three spot cores were recovered from this well during a five-day period between November 30 and December 4. Coring rates averaged about 12 minutes per foot. Core quality and recovery were good. No lost circulation problems were encountered during coring. The fracturing seen in previous wells of this series was not observed in this well. Only one small vertical fracture was observed, near the top of the third run.

Mitchell Energy Corporation was responsible for the monitoring of the geophysical logging.

CLIFFS MINERALS, INC.
EASTERN GAS SHALES PROJECT

RUN REPORT

DATE: December 1, 1979

WELL NAME: OH #6-5

RUN # 01 :
Bedford
Cleveland
Chagrin Formation:

Geolograph Depth: 1,718'

Feet Cored: 58'

Feet Recovered: 57.78'

Coring Depth Reached at 8:40 A.M. - 11/30/79

Coring Stopped at 12:28 A.M. - 12/1/79

Core on Surface at 2:05 A.M. - 12/1/79

REMARKS: EGSP field team arrived at 2:00 P.M. November 30 1979; 22 feet
cut at 15 minutes per foot; set up equipment. Arrived at 12:30 A.M. December
1, 1979 for first run. Silty mudstone and mudstone, N4 and 5Y 2/1, moderately
fossiliferous; no fractures; oil zone at top of core; no problems.

CLIFFS MINERALS, INC.
EASTERN GAS SHALES PROJECT

RUN REPORT

DATE: December 2, 1979

WELL NAME: OH #6-5

RUN # 02 :

Upper Huron Formation:

Geolograph Depth: 1,998'

Feet Cored: 58'

Feet Recovered: 58.67'

Coring Depth Reached at 6:34 P.M. - 12/1/79

Coring Stopped at 8:42 A.M. - 12/2/79

Core on Surface at 10:40 A.M. - 12/2/79

REMARKS: The well was drilled down from 1,718' to 1,940' in approximately nine
hours. Coring started at 6:30 P.M., rate: 12 minutes per foot. Core is
mudstone, dark greenish gray (5G 4/1) and olive black (5Y 2/1); no natural
fractures; no problems.

CLIFFS MINERALS, INC.
EASTERN GAS SHALES PROJECT

RUN REPORT

DATE: December 4, 1979

WELL NAME: OH #6-5

RUN # 03:

Lower Huron
Olentangy Formation:

Geolograph Depth: 2,498'

Feet Cored: 58'

Feet Recovered: 58.31'

Coring Depth Reached at 1:46 P.M. - 12/3/79

Coring Stopped at 5:29 A.M. - 12/4/79

Core on Surface at 8:06 A.M. - 12/4/79

REMARKS: The well was plug drilled from 1,998' to 2,440'. Core from Run #3

is mudstone, dark greenish gray (5G 4/1). One fracture at top of core, few

slight gas shows; no problems.

DEPTH	FRACTURES	WELL NO. OH #6-5	Recovered Footage: 57.78'
		RUN NO. 1	x Initial Gas Show
		DATE 12/1/79	* Samples Taken
		LITHOLOGIC DESCRIPTION	
1,660		Mudstone and siltstone laminations, dark greenish gray (5G 4/1) and medium light gray (N6); noncalcareous.	
1,661		*1,660.21/.57 Columbia Gas - *1,660.57/.76 MEC	
x 1,662		Mudstone and siltstone laminations, dark greenish gray (5G 4/1) and medium light gray (N6); large (0.6') siltstone bed, medium light gray (N6), with oil and gas; noncalcareous.	
x 1,663		Mudstone and siltstone, dark greenish gray (5G 4/1) and medium light gray (N6); siltstone are laminated; 0.2' band of siltstone with oil; noncalcareous.	
1,664		*1,662.40/.90 Mound	
1,665		Mudstone and siltstone beds, dark greenish gray (5G 4/1) and medium light gray (N6); siltstones are calcareous and cross-bedded; 1 cm band silty mudstone, light olive gray (5Y 6/1).	
1,666		Mudstone, silty mudstone, and siltstone, medium dark gray (N4), light olive gray (5Y 6/1), and medium light gray (N6); noncalcareous.	
1,667		Silty mudstone, medium dark gray (N4); noncalcareous.	
1,668		*1,665.44/.79 MEC	
1,669		Silty mudstone, medium dark gray (N4); noncalcareous; bioturbated; filled with silty mudstone, light olive gray (5Y 6/1).	
		Silty mudstone, medium dark gray (N4); noncalcareous.	
		Same as above.	
		Silty mudstone, medium dark gray (N4), noncalcareous, bioturbated; filled by silty mudstone, greenish gray (5G 6/1), noncalcareous.	
		*1,669.24/.60 Columbia Gas	

DEPTH	FRACTURES	<p>WELL NO. OII #6-5</p> <p>RUN NO. 1 * Samples Taken</p> <p>DATE 12/1/79 LITHOLOGIC DESCRIPTION</p>
1,670		Silty mudstone, medium dark gray (N4), noncalcareous.
1,671		*1,670.48/.75 MEC
1,672		Silty mudstone, medium dark gray (N4), noncalcareous.
1,673		Same as above; ~1,672.8' fossil. *1,672.19/.77 Mound
1,674		Same as above with lens of siltstone, medium light gray (N6), noncalcareous.
1,675		Mudstone, medium dark gray (N4); pyritized fossils; pyrite lenses.
1,676		Same as above. *1,675.12/.34 MEC
1,677		Same as above.
1,678		Mudstone, medium dark gray (N4); noncalcareous.
1,679		Mudstone, medium dark gray (N4), noncalcareous; siltstone stringers, medium light gray (N6), in lower interval.
1,679		Mudstone, medium dark gray (N4); noncalcareous.

DEPTH	FRACTURES	<p>WELL NO. OH #6-5</p> <p>RUN NO. 1 * Samples Taken</p> <p>DATE 12/1/79 LITHOLOGIC DESCRIPTION</p>
1,680		<p>Same as above with siltstone stringers, medium light gray (N6); noncalcareous.</p> <p>*1,680.15/.68 USGS - *1,680.70/1,681.00 Columbia Gas</p>
1,681		<p>Mudstone, medium dark gray (N4); noncalcareous; pyritized fossils.</p> <p>*1,681.40/.64 MEC</p>
1,682		<p>Mudstone, medium dark gray (N4); noncalcareous.</p> <p>*1,682.43/.82 Mound</p>
1,683		<p>Mudstone and siltstone beds and laminations, medium dark gray (N4) and medium light gray (N6); siltstones are calcareous, ripple marked.</p>
1,684		<p>Mudstone, medium dark gray (N4), noncalcareous; pyrite/calcite lens.</p>
1,685		<p>Mudstone, medium dark gray (N4), noncalcareous.</p>
1,686		<p>*1,685.55/.92 Juniata - *1,685.33/.55 MEC</p> <p>Same as above.</p>
1,687		<p>Mudstone with siltstone stringers, medium dark gray (N4) and medium light gray (N6); siltstones are calcareous.</p>
1,688		<p>Same as above.</p>
1,689		<p>Mudstone and siltstone laminations, medium dark gray (N4) and medium light gray (N6); siltstones are calcareous and ripple marked.</p>

DEPTH	FRACTURES	<p>WELL NO. OH #6-5</p> <p>RUN NO. 1 * Samples Taken</p> <p>DATE 12/1/79 LITHOLOGIC DESCRIPTION</p>
1,690		<p>Mudstone with siltstone stringers, olive gray (5Y 3/2) and medium light gray (N6); siltstones are calcareous; disseminated pyrite crystals; pyrite lenses.</p> <p>*1,690.11/.34 MEC - *1,690.34/.71 Columbia Gas</p>
1,691		<p>Mudstone, olive gray (5Y 3/2), noncalcareous; multiple bands of pyrite.</p>
1,692		<p>Mudstone, olive gray (5Y 3/2), noncalcareous.</p>
1,693		<p>*1,692.21/.72 Mound</p>
1,694		<p>Same as above with pyrite nodule.</p>
1,695		<p>Mudstone with siltstone laminations, olive gray (5Y 3/2) and medium light gray (N6); siltstones are calcareous and ripple marked.</p>
1,696		<p>Mudstone, olive gray (5Y 3/2), noncalcareous.</p> <p>*1,695.78/.98 MEC</p>
1,697		<p>Same as above.</p>
1,698		<p>Same as above with bands of disseminated pyrite crystals and pyritized fossils.</p>
1,699		<p>Mudstone, olive gray (5Y 3/2), noncalcareous.</p>
1,699		<p>Mudstone, olive gray (5Y 3/2), noncalcareous; pyrite lenses.</p>

DEPTH	FRACTURES	WELL NO. OH #6-5 RUN NO. 1 DATE 12/1/79 * Samples Taken LITHOLOGIC DESCRIPTION
1,700		Same as above.
1,701		*1,700.34/.67 Columbia Gas
		Same as above.
1,702		*1,701.34/.53 MEC
		Same as above.
1,703		*1,702.53/.98 Mound
		Mudstone, olive gray (5Y 3/2), noncalcareous; pyrite nodule.
1,704		
		Mudstone, olive gray (5Y 3/2), noncalcareous; pyrite lenses.
1,705		Same as above.
		*1,705.39/.67 MEC
1,706		Same as above.
1,707		Mudstone, olive gray (5Y 3/2), noncalcareous; pyrite lenses.
1,708		Mudstone, olive gray (5Y 3/2), noncalcareous.
1,709		Mudstone, olive gray (5Y 3/2), noncalcareous; pyrite lenses.

DEPTH	FRACTURES	WELL NO. OH #6-5 RUN NO. 1 * Samples Taken DATE 12/1/79 LITHOLOGIC DESCRIPTION
1,710		Same as above.
1,711		*1,710.28/.63 Columbia Gas.
1,712		Same as above.
1,713		*1,711.32/.81 Mound
1,713		Mudstone, olive gray (5Y 3/2), dark greenish gray (5G 4/1), and greenish gray (5G 6/1); noncalcareous.
1,713		*1,712.38/.58 MEC
1,714		Mudstone and siltstone, olive gray (5Y 3/2), dark greenish gray (5G 4/1), greenish gray (5G 6/1), and medium light gray (N6); siltstones are slightly calcareous and ripple marked.
1,714		Same as above.
1,715		Mudstone and siltstone, olive gray (5Y 3/2), dark greenish gray (5G 4/1), and medium light gray (N6); noncalcareous, ripple marked; pyrite bioturbations.
1,716		*1,715.18/.43 MEC
1,716		Same as above.
1,717		Siltstone and mudstone, medium light gray (N6) and dark greenish gray (5G 4/1); noncalcareous, ripple marked.
1,717		
1,718		
1,719		
1,720		
1,721		
1,722		
1,723		
1,724		
1,725		
1,726		

0.78
END

DEPTH	FRACTURES	WELL NO.	OH #6-5	Recovered Footage:	58.67'
		RUN NO.	2	* Samples Taken	
		DATE	12/2/79	LITHOLOGIC DESCRIPTION	
1,940		Mudstone and siltstone laminations, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstones are calcareous.			
1,941		*1,940.35/.66 MEC			
		Mudstone and siltstone laminations, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstones are calcareous, bioturbated.			
1,942		*1,941.34/.68 Columbia Gas			
		Same as above.			
1,943		*1,942.12/.62 Mound			
		Same as above with siltstone cross-bedded.			
1,944					
		Mudstone and siltstone laminations, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstones are calcareous.			
1,945		Same as above.			
1,946		*1,945.55/.83 MEC			
		Mudstone and siltstone laminations, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstones are calcareous; pyrite lenses; bioturbated.			
1,947		Mudstone and siltstone laminations, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstones are slightly calcareous, ripple marked; pyrite lenses; bioturbated.			
1,948		Mudstone and siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstones noncalcareous; ripple marks; bioturbated.			
1,949		Mudstone and siltstone laminations, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone as stringers (calcareous); bioturbated.			

DEPTH	FRACTURES	LITHOLOGIC DESCRIPTION
		WELL NO. OH #6-5
		RUN NO. 2 * Samples Taken
		DATE 12/2/79
1,950		Mudstone and siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone is noncalcareous; ripple marks.
		*1,950.14/.38 MEC - *1,950.38/.87 USGS
1,951		Mudstone and siltstone, dark greenish gray (5G 4/1), olive black (5Y 2/1), and medium light gray (N6); siltstones are laminations and stringers (calcareous), ripple marked; ripple load cast; bioturbated.
		*1,951.33/.65 Columbia Gas
1,952		Mudstone and siltstone, dark greenish gray (5G 4/1), olive black (5Y 2/1), and medium light gray (N6); siltstone as laminations and stringers, calcareous.
		*1,952.30/.67 Mound
1,953		Same as above.
1,954		Same as above.
1,955		Mudstone and siltstone, dark greenish gray (5G 4/1), olive black (5Y 2/1), and medium light gray (N6); siltstone is slightly calcareous, bioturbated.
		*1,955.22/.51 Juniata - *1,955.51.73 MEC
1,956		Mudstone and siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone stringers calcareous; pyrite lens; bioturbated.
1,957		Mudstone and siltstone, dark greenish gray (5G 4/1), olive black (5Y 2/1), and medium light gray (N6); siltstone slightly calcareous, ripple marked; bioturbated.
1,958		Mudstone, olive black (5Y 2/1) and dark greenish gray (5G 4/1); noncalcareous; some thin siltstone stringers (noncalcareous), medium light gray (N6).
1,959		Same as above.

DEPTH	FRACTURES	<p>WELL NO. OH #6-5</p> <p>RUN NO. 2 * Samples Taken</p> <p>DATE 12/2/79 LITHOLOGIC DESCRIPTION</p>
1,960		Mudstone with siltstone stringers, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); noncalcareous.
		*1,960.22/.46 MEC
1,961		Mudstone and siltstone, olive black (5Y 2/1) and medium light gray (N6); noncalcareous.
		*1,961.34/.68 Columbia Gas
1,962		Mudstone and siltstone, dark greenish gray (5G 4/1), olive black (5Y 2/1), and medium light gray (N6); noncalcareous; pyritized burrows.
		*1,962.40/.80 Mound
1,963		Mudstone and siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone is calcareous; pyritized burrows.
1,964		Mudstone with siltstone stringers, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone is calcareous.
1,965		Mudstone and siltstone laminations, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone is calcareous; ripple marks; bioturbated.
		*1,965.19/.44 MEC
1,966		Same as above.
1,967		Same as above.
1,968		Same as above.
1,969		Mudstone and siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone as laminations, noncalcareous.

DEPTH	FRACTURES	WELL NO. OH #6-5 RUN NO. 2 * Samples Taken DATE 12/2/79 LITHOLOGIC DESCRIPTION
1,970		Same as above.
1,971		*1,970.09/.39 MEC
1,972		Same as above. *1,971.33/.68 Columbia Gas
1,973		Mudstone and siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstones are laminations and stringers (calcareous). *1,972.25/.74 Mound
1,974		Same as above.
1,975		Mudstone with siltstone stringers, olive black (5Y 2/1) and medium light gray (N6); noncalcareous; pyritized burrows.
1,976		Mudstone with siltstone stringers, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone stringers non-calcareous. *1,975.27/.46 MEC
1,977		Mudstone laminated with siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone as stringers (calcareous); bioturbated.
1,978		Mudstone, olive black (5Y 2/1), noncalcareous; pyrite lenses.
1,979		Same as above with pyritized burrows.
1,979		Same as above with pyrite nodule.

DEPTH	FRACTURES	<p>WELL NO. OH #6-5</p> <p>RUN NO. 2 * Samples Taken</p> <p>DATE 12/2/79 LITHOLOGIC DESCRIPTION</p>
1,980		Mudstone, olive black (5Y 2/1), noncalcareous.
1,981		*1,980.40/.62 MEC
1,982		Same as above with pyrite lenses.
1,983		*1,981.34/.67 Columbia Gas
1,984		Mudstone, olive black (5Y 2/1), noncalcareous.
1,985		*1,982.18/.51 Mound
1,986		Same as above.
1,987		Same as above.
1,988		Mudstone laminated with siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); noncalcareous; pyrite burrows.
1,989		*1,985.47/.74 MEC
1,990		Mudstone laminated with siltstone stringers, olive black (5Y 2/1) and medium light gray (N6); siltstone is calcareous.
1,991		Mudstone laminations, olive black (5Y 2/1), and dark greenish gray (5G 4/1), noncalcareous; pyritized burrows.
1,992		Mudstone laminations with siltstone stringers, olive black (5Y 2/1) and medium light gray (N6); siltstone is calcareous.
1,993		Same as above.

DEPTH	FRACTURES	LITHOLOGIC DESCRIPTION
		WELL NO. OH #6-5
		RUN NO. 2 * Samples Taken
		DATE 12/2/79
1,990		Mudstone, olive black (5Y 2/1) and dark greenish gray (5G 4/1), noncalcareous.
1,991		*1,990.48/.69 MEC
1,992		Mudstone laminated with siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); noncalcareous.
1,992		*1,991.20/.55 Columbia Gas
1,993		Same as above with pyritized burrows.
1,993		*1,992.23/.67 Mound
1,994		Mudstone laminated with siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone calcareous; ripple marks.
1,995		Mudstone laminated with siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone slightly calcareous.
1,996		Mudstone, olive black (5Y 2/1) and dark greenish gray (5G 4/1), noncalcareous.
1,996		*1,995.39/.64 MEC
1,997		Mudstone laminated with siltstone, olive black (5Y 2/1), dark greenish gray (5G 4/1), and medium light gray (N6); siltstone slightly calcareous; ripple marks; bioturbated.
1,997		Mudstone laminated with siltstone, olive black (5Y 2/1) and medium light gray (N6); siltstone calcareous.
1,998		Same as above.
		067 END

DEPTH	FRACTURES	<p>WELL NO. OH #6-5 Recovered Footage: 58.31'</p> <p>RUN NO. 3 * Samples Taken</p> <p>DATE 12/4/79 LITHOLOGIC DESCRIPTION</p>
2,440		Mudstone, brownish black (5YR 2/1) and dark greenish gray (5GY 4/1), bedded, noncalcareous; pyrite lenses.
2,441		Mudstone, brownish black (5YR 2/1) and dark greenish gray (5GY 4/1), bedded, noncalcareous; pyrite lenses; bioturbated.
2,442		*2,441.61/.76 MEC - *2,441.76/.95 Columbia Gas
2,443		Mudstone, brownish black (5YR 2/1), brownish gray (5YR 4/1), and dark greenish gray (5GY 4/1), bedded, noncalcareous; pyrite lenses; bioturbated. *2,442.25/.62 Mound
2,444		Mudstone, brownish black (5YR 2/1) and dark greenish gray (5G 4/1); the dark greenish gray (5G 4/1) is calcareous, bioturbated with mud fill and pyrite fill.
2,445		Mudstone, brownish black (5YR 2/1), noncalcareous; pyrite lenses.
2,446		Mudstone, dark greenish gray (5G 4/1) and brownish black (5YR 2/1); laminated, noncalcareous; bioturbations are filled with mud and pyrite. *2,445.45/.61 MEC
2,447		Mudstone, greenish gray (5G 6/1), calcareous, bioturbated; pyrite nodules; one nodule contains pyrite/calcite.
2,448		Mudstone, greenish gray (5G 6/1), calcareous, bioturbated; pyrite burrows.
2,449		Mudstone, greenish gray (5G 6/1), brownish black (5YR 2/1), laminated, noncalcareous; bioturbated with mud and pyrite fillings; lamination from bioturb churning.
2,449		Mudstone, greenish gray (5G 6/1) and brownish black (5YR 2/1), laminated, slightly calcareous, bioturbated; lamination from churning.

DEPTH	FRACTURES	WELL NO.	OH #6-5	
		RUN NO.	3	* Samples Taken
		DATE	12/4/79	LITHOLOGIC DESCRIPTION
2,450		Same as above.		
2,451		*2,450.38/.61 MEC		
2,452		Mudstone bedded with siltstone, greenish gray (5G 6/1) and medium light gray (N6); siltstone (bed ~0.4') calcareous.		
2,453		Mudstone, greenish gray (5G 6/1); bioturbation is calcareous.		
2,453		*2,452.17/.71 Columbia Gas - *2,452.50/.95 Mound		
2,454		Mudstone, greenish gray (5G 6/1) and brownish black (5YR 2/1); laminated (churning from bioturbation), noncalcareous; pyrite burrows.		
2,454		Mudstone, greenish gray (5G 6/1) and brownish black (5YR 2/1); churned by bioturbation; noncalcareous.		
2,455		*2,454.22/.38 MEC		
2,456		Mudstone bedded with siltstone, dark greenish gray (5G 4/1) and medium light gray (N6); siltstone (~0.6' bed) calcareous; bioturbation present.		
2,456		Mudstone laminated with siltstone, greenish gray (5G 6/1) and medium light gray (N6); siltstone calcareous; bioturbated.		
2,457		Mudstone bedded and laminated with siltstone, greenish gray (5G 6/1), brownish black (5YR 2/1), and medium light gray (N6); siltstone and 5G 6/1 are calcareous; pyrite burrows; bioturbated.		
2,458		Mudstone, brownish black (5YR 2/1) and dark greenish gray (5G 4/1); laminated and bioturbated (churned); noncalcareous.		
2,459		Same as above.		

DEPTH	FRACTURES	WELL NO. OH #6-5 RUN NO. 3 * Samples Taken DATE 12/4/79 LITHOLOGIC DESCRIPTION
2,460		Same as above with pyrite burrows.
2,461		*2,460.48/.70 MEC
2,462		Same as above without pyrite burrows.
2,463		Same as above. *2,462.17/.57 Columbia Gas - *2,462.57/.89 Mound
2,464		Mudstone, dark greenish gray (5G 4/1) and brownish black (5YR 2/1), laminated by churning, bioturbated; some bioturbation is calcareous.
2,465		Mudstone, dark greenish gray (5G 4/1) and brownish black (5YR 2/1), bedded and laminated by churning, noncalcareous; pyrite burrows; bioturbated. *2,464.48/.81 USGS
2,466		Mudstone, greenish gray (5G 6/1) and brownish black (5YR 2/1), laminated by churning, noncalcareous. *2,465.18/.38 MEC
2,467		Same as above with pyrite burrows.
2,468		Mudstone, brownish black (5YR 2/1) and greenish gray (5G 6/1), bedded and laminated by churning, noncalcareous; pyrite burrows.
2,469		Mudstone, greenish gray (5G 6/1) and brownish black (5YR 2/1), laminated by churning, noncalcareous; bioturbated. *2,469.06/.42 Juniata
		Mudstone, greenish gray (5G 6/1) and brownish black (5YR 2/1), bedded and laminated by churning; gas; noncalcareous; bioturbated; pyrite burrows.

DEPTH	FRACTURES	<p>WELL NO. OH #6-5</p> <p>RUN NO. 3 * Samples Taken</p> <p>DATE 12/4/79 LITHOLOGIC DESCRIPTION</p>
2,470		<p>Mudstone, bedded and laminated by churning, and bedded with siltstone, greenish gray (5G 6/1), brownish black (5YR 2/1), and medium light gray (N6); siltstone (1.4'), calcareous, bioturbated; pyrite burrows.</p> <p>*2,470.14/.34 MEC</p>
2,471		<p>Siltstone, greenish gray (5G 6/1), calcareous, bioturbated.</p>
2,472		<p>Mudstone, bedded and laminated by churning, greenish gray (5G 6/1) and brownish black (5YR 2/1) and bedded with siltstone, greenish gray (5G 6/1); siltstone is calcareous; pyrite nodule; bioturbated.</p> <p>*2,472.25/.72 Mound - *2,472.72/.98 Columbia Gas</p>
2,473		<p>Mudstone, brownish black (5YR 2/1) and greenish gray (5G 6/1); bedded and laminated by churning, noncalcareous, bioturbated; pyrite burrows.</p>
2,474		<p>Same as above.</p>
2,475		<p>Same as above.</p> <p>*2,475.47/.65 MEC</p>
2,476		<p>Mudstone, brownish black (5YR 2/1) and greenish gray (5G 6/1), bedded and laminated, noncalcareous; pyrite burrows; bioturbated.</p>
2,477		<p>Mudstone, greenish gray (5G 6/1) and brownish black (5YR 2/1), laminated by churning, noncalcareous; pyrite burrows; bioturbated.</p>
2,478		<p>Same as above.</p>
2,479		<p>Same as above.</p>

DEPTH	FRACTURES	<p>WELL NO. OH #6-5</p> <p>RUN NO. 3 * Samples Taken</p> <p>DATE 12/4/79 LITHOLOGIC DESCRIPTION</p>
2,480		<p>Same as above.</p> <p>*2,480.66/.90 MEC</p>
2,481		<p>Mudstone, dark greenish gray (5GY 4/1) and brownish black (5YR 2/1), bedded and laminated by churning, noncalcareous; pyrite burrows; bioturbated.</p>
2,482		<p>Mudstone, greenish gray (5G 6/1), calcareous; bioturbated with mud fill.</p> <p>*2,482.31/.48 Columbia Gas - *2,482.48/.90 Mound</p>
2,483		<p>Mudstone, dark greenish gray (5GY 4/1), greenish gray (5G 6/1), and brownish black (5YR 2/1); laminated by churning; calcareous; bioturbated.</p>
2,484		<p>Same as above.</p>
2,485		<p>Same as above.</p> <p>*2,485.59/.83 MEC</p>
2,486		<p>Mudstone, brownish black (5Y 2/1) and dark greenish gray (5G 4/1); bedded and laminated by churning, noncalcareous, bioturbated; pyrite burrows.</p>
2,487		<p>Mudstone, dark greenish gray (5GY 4/1) and greenish gray (5G 6/1), calcareous, bioturbated.</p>
2,488		<p>Mudstone, brownish black (5YR 2/1), dark greenish gray (5G 4/1), and greenish gray (5G 6/1), bedded and laminated; calcareous in 5G 4/1 and 5G 6/1; bioturbated; pyrite burrows.</p>
2,489		<p>Mudstone, greenish gray (5G 6/1) and brownish black (5YR 2/1), bedded and laminated by churning, noncalcareous, bioturbated; pyrite burrows.</p>

DEPTH	FRACTURES	WELL NO.	OH #6-5	
		RUN NO.	3	* Samples Taken
		DATE	12/4/79	LITHOLOGIC DESCRIPTION
2,490		Mudstone, brownish black (5YR 2/1) and dark greenish gray (5G 4/1), bedded, calcareous, bioturbated.		
2,491		*2,490.66/.84 MEC		
2,492		Mudstone, dark greenish gray (5GY 4/1), calcareous, bioturbated.		
2,493		Same as above.		
		*2,492.19/.58 Mound - *2,492.58/.87 Columbia Gas		
2,494		Same as above.		
2,495		Mudstone, greenish gray (5G 6/1), dark greenish gray (5GY 4/1), and brownish black (5YR 2/1), bedded and laminated by bioturbation; bioturbation is calcareous; pyrite burrows.		
2,496		Mudstone, dark greenish gray (5GY 4/1), calcareous, bioturbated; fossil fragments.		
		*2,495.32/.52 MEC		
2,497		Mudstone, dark greenish gray (5GY 4/1), greenish gray (5G 6/1), and brownish black (5YR 2/1), bedded and laminated by churning, noncalcareous; pyrite burrows; bioturbated.		
2,498		Mudstone bedded with silty mudstone, dark greenish gray (5G 4/1) and light olive gray (5Y 6/1), noncalcareous, bioturbated.		
		Mudstone, dark greenish gray (5GY 4/1), noncalcareous.		
		0.31 END		

OH#6-5 SCINTILLOMETER READINGS

DEPTH
(FT)

COUNTS PER SECOND

1660

1680

1700

1720

1940

1960

1980

2000

2440

2460

2480

2500

RUN #1

RUN #2

RUN #3

30

40

50

60

70

30

40

50

60

70

