PRELIMINARY REPORT LEIDY GAS FIELD AND ADJACENT AREAS CLINTON COUNTY, PENNSYLVANIA

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INTRODUCTION

The major natural gas discovery in Pennsylvania in 1950 was the opening of the Leidy gas field Leidy Township, Clinton County, Pennsylvania. The discovery well, Leidy Prospecting Company, Dorcie Calhoun No. 1,

was completed on January 8, 1950.

east addition to the Oriskany province.

The significance of the Leidy field development lies in its geologic location-it has extended Oriskany gas production farther southeastward than it has been found previously in Pennsylvania and has opened a new trend along which additional Oriskany fields may be discovered. Prior to 1947, all commercial Oriskany gas production in north-central Pennsylvania was obtained on the Sabinsville, Harrison, Hebron, and Smethport anticlines. The development of the East Fork-Wharton field on the Marshlands anticline in 1947 greatly extended the Oriskany producing province to the southeast; the Leidy field, on the Wellsboro anticline, is another south-

The location of the Leidy discovery and the high productivity of the wells have served to stimulate leasing and drilling of untested structures in the northern part of the Allegheny Plateau. Numerous prospects are known to exist east and southeast of the Wellsboro anticline; the heavy demand for natural gas together with the attractiveness of the recent Oriskany discoveries will, no doubt, encourage the testing of many of these

HISTORY AND DEVELOPMENT

Prior to the discovery of Oriskany gas at Leidy, a shallow (Upper Devonian) gas field had been developed along Kettle Creek. As early as 1864 some gas was obtained and by 1923, 18 shallow wells had been drilled in the field (Johnson, 1923, p. 5). None of these wells are now commercially productive, but several of the Oriskany tests have obtained considerable quantities of gas from the shallow sands (see table).

The Oriskany sand discovery well in the Leidy Field, Dorcie Calhoun No. 1, came in on January 8, 1950 producing an estimated 15,000,000 cubic feet of gas per day and had a reservoir pressure of 4200 pounds. Gas is obtained at a depth of 5660 feet in the upper one foot of the Oris-

Development of the field has been fairly rapid and by the end of December 1950, 12 producing wells and 3 dry holes had been completed. In addition to these wells, 41 other tests are drilling or located on the dome and adjacent areas. To date the producing area of the field is ap-

proximately 3 1/2 miles long and 2 1/2 miles wide. The Oriskany sand in the various wells is encountered at depths

ranging from 5659 to 6533 feet below the surface. The initial open flow volumes of the producing wells completed thus far have varied from 270,000 cubic feet to about 50,000,000 cubic

4200 pounds. Three pipe lines — a 16-inch, an 8-inch, and a 5-inch — are

feet of gas per day; initial reservoir pressures have ranged from 3900 to

taking gas out of the field. GEOLOGIC INVESTIGATIONS

Following discovery of gas in the Oriskany sand in 1930, S. H. Cathcart of the Pennsylvania Geological Survey made a reconnaissance structural investigation (Cathcart, 1934) of the Allegheny Plateau between McKean County on the west and the Delaware River on the east. The structure of this area was determined by the strike and dip method and special efforts were made to define the domal structures on the anticlines.

Cathcart's study showed the structural grain of the area and in various places it was a refinement and/or addition to the geologic structure as delineated by Pennsylvania's Second Geological Survey of the latter part of the 1800's.

The Marshlands anticline, on which the East Fork-Wharton field is located, was selected for a detailed geologic study in 1948 and the results of this investigation have been published (Ebright et al., 1949). A similar project was begun in the Leidy gas field area on the Wellsboro anticline in the summer of 1950. The accompanying map and text are a preliminary report on this study; a more extensive report, now being prepared, will be issued in the near future.

METHOD OF INVESTIGATION

The field work in connection with this study was done by J. R. Ebright assisted by Harry V. Gouse. The project was under the direction of A. I. Ingham.

The geology of the Wellsboro anticline in the area embraced by this study was determined by strike and dip measurements, areal distribution of various stratigraphic units, and the tracing of key beds. As in the East Fork-Wharton report (Ebright et al., 1949), strike

and dip data have been evaluated according to reliability and designated on the map as first, second, or third class. Criteria used in classifying these measurements include the size of the outcrop, regularity of bedding, concordance of dips within local areas, and character of sedimentation. The authors have found this system of classification extremely helpful in evaluating the relative weight to be placed on measurements, particularly in those areas of structural complexity; moreover, it will enable the reader to judge the evidence on which the structural interpretation is based. Two key horizons whose elevations were determined at various

places on the anticline and adjacent synclines have been most useful in delineating the structure. These horizons are (1) the top of the Catskill red beds, and (2) the base of a Pocono conglomerate. The top of the red beds has been placed at the top of the more or less continuous red Upper Devonian section; the overlying Oswayo (uppermost Upper Devonian), Pocono, and Mauch Chunk contain some red units but the post-Catskill sediments in the area are predominantly gray. The base of the Pocono conglomerate, contour horizon of the ac-

companying map, can usually be found with little difficulty. Lithologically it is distinctively coarse pebbly to conglomeratic, and often forms a prominent escarpment with accompanying small to very large boulders. This conglomerate frequently stands out in sharp relief on aerial photos; stereoscopic study of these photos, together with some ground control and the excellent topographic maps available in the area have enabled the authors to pick the datum with a considerable degree of accuracy. A more detailed discussion of these studies will be included in the final reports.

Elevations of ground control points have been determined with the altimeter.

EXPLANATION OF MAP The base for the accompanying structural map was obtained from 7-1/2 minute quadrangle topographic maps issued by the U. S. Geological Survey. The original topographic scale of 1 inch equals 2000 feet is

The surface structure contours are drawn on the base of a conglomerate key bed in the Pocono group. Elevations above sea level designated, for example, X2100, on this key bed were checked in the field by visiting

the outcrop. Various points designated with the suffix letter "A", such as 1800A, were determined from aerial photo-topographic map studies. In the areas where the Pocono conglomerate has been removed by erosion, the elevation has been estimated from the top of the Catskill red beds, for example, x_{1590C}^{2240E} . The top number, (2240E), is the elevation of the base of the conglomerate estimated from the top of the red beds, shown below the line (1590C).

Where the suffix "P" is used with the lower elevation, it indicates an elevation on the base of the Pottsville. In this case the upper number is the elevation of the base of the Pocono conglomerate, estimated from the base of the Pottsville.

The map designation of the Oriskany sand wells is denoted by the initials of the property owner and the number of the well on the tract; for example, DC-1 is the index number for the No. 1 well on the Dorcie Calhoun tract. For wells on land owned by the Commonwealth of Pennsylvania the designation is, for example, PA-1-2; here the first number is the well number and the second is the tract or warrant, whichever the case may be. Elevations below sea level on the top of the Oriskany sand are shown with each completed well symbol, for example, -4732. Locations of the shallow sand (Upper Devonian) gas wells are tak-

en from Pennsylvania Geological Survey, Progress Report 78, and the numbers correspond directly with those used in that report. A small portion of the East Fork-Wharton gas field is also shown

in the northwestern part of the accompanying map; the Oriskany trace of the Marshlands anticlinal axis was determined from subsurface data in that

The scheme of classifying strike and dip measurements was explained under "Method of Investigation."

STRATIGRAPHY SURFACE

The strata exposed at the surface in this area include in descending order, the Allegheny group and the Pottsville series of the Pennsylvanian system; the Mauch Chunk series and the Pocono group of the Mississippian system; and the Oswayo formation, Catskill red beds and the Chemung facies of the Upper Devonian series.

Strata of the Pennsylvanian system were not studied in detail but investigations of a reconnaissance nature indicate that the Allegheny group contains sandstones, shales, clays, and several coal beds of commercial value. In descending order, the units of the Pottsville series are tentatively identified as the Homewood sandstone, the Mercer member which contains the Mercer flint clay and coal, and the Connoquenessing sandstone.

Pennsylvanian System

Mississippian System The interval occupied by the Mauch Chunk is almost entirely concealed in the area but occasionally a thin bed of red shale or shaly siltstone is found near the top of the section.

The Pocono strata consist of a succession of alternating greenish- and brownish-gray sandstones, siltstones and shales with an occasional thin bed of red shale or siltstone. The upper 200 feet of the Pocono group is a fairly continuous, coarse- to very coarse grained, sandstone, the lower 30 to 40 feet of which is frequently conglomeratic and contains angular to subangular quartz pebbles. This conglomeratic unit is an excellent key bed and its base is the contour datum of the accompanying map. The writers now believe that in the East Fork-Wharton area (Ebright, et al., 1949, pp.6, 38) this conglomeratic sandstone was erroneously correlated as the basal unit of the Pottsville series; more recent and conclusive evidence, however, indicates this conglomeratic sandstone is Mississippian in age and correlative with the Pocono conglomerate key bed of the Leidy area.

Upper Devonian Series Lithologically the Oswayo formation is very similar to the Pocono except that the Oswayo contains more shale than the Pocono; no coarse-

This will be discussed further in the final report.

grained or pebbly sandstones were observed in the Oswayo. The Catskill facies consists of alternating sandstones and shales but the dominant color is red with some grays; the rocks are less resistant to erosion than either the Oswayo or Pocono strata. Although both the upper and lower boundaries of the Catskill are somewhat transitional, the base is the most difficult to determine.

Alternating thin beds of fine-grained, greenish-gray sandstones and shales constitute the Chemung facies in the Leidy area. Red beds are also present but these become less prominent with depth. A few marine fossils have been found in the Chemung.

SUBSURFACE

At the time of writing of this report no stratigraphic studies have been made of any well samples in the Leidy field. Most of the wells start in the Catskill or Chemung and in descending order pass through the Portage facies of the Upper Devonian; the Tully limestone, Hamilton group, and Onondaga limestone of the Middle Devonian; and the Oriskany sandstone of the Lower Devonian series. Information from drillers logs indicates that the interval between the top of the Tully and the top of the Oriskany varies from 777 to 868 feet, averaging 820 feet. In the only well which has completely penetrated the Oriskany,

the sandstone was found to be about 32 feet thick. STRUCTURE

The major structural features of the area are the Wellsboro anticline with its structural culmination, the Leidy dome, Kettle Creek syncline, and Clearfield-McIntyre syncline. These structures trend predominantly northeast-southwest, more or less parallel to other folds in this part of the Allegheny Plateau.

The Wellsboro anticline in the Leidy area has a surface closure of about 200 feet and a width from syncline to syncline, of approximately 10 miles; the fold is asymmetric to the southeast, a characteristic feature of many of the anticlines of the northern Allegheny Plateau. The anticline plunges northeast and southwest away from the Leidy dome, site of the Leidy gas field. Cathcart (1934, p. 10) has pointed out that in the Allegheny Plateau region domes are frequently associated with sharp bends in an anticlinal axis; the Leidy dome has a similar relationship to a bend in the axis of the Wellsboro anticline. In the northeastern part of the area (Stewardson Township, Potter Co.) a shallow structural saddle along the anticlinal axis is indicated by Catskill red bed data.

In length the Wellsboro structure extends many miles to the northeast through Tioga and Bradford Counties into adjacent areas in New York; in Grove Township, Cameron County, the present study (see map) indicates the structure to turn rather sharply to the south-southwest. Previous reconnaissance investigations (Cathcart, 1934, Fig. 2) showed the Wellsboro anticline to be continuous with an anticline passing through Gibson, Benezette, and Lawrence Township in Cameron, Elk, and Clearfield Counties, respectively. The authors believe this latter structure to be en echelon north of the Wellsboro anticline; this relationship cannot be shown on the accompanying map as it is based on data both adjacent to, and some miles

from the west edge of the map. Although the Wellsboro structure has heretofore been regarded as

en echelon with the Chestnut Ridge anticline, the aforementioned rather sharp deviation of the trend of the Wellsboro anticline to the south-southwest suggests the possibility that Wellsboro is equivalent to, and a continuation of, the Chestnut Ridge structure. Additional geologic work in northern Clearfield and southern Cameron County would be required to check this possibility.

Both the Kettle Creek syncline and Clearfield-McIntyre syncline trend more or less parallel to the Wellsboro anticlins; each has closed structural lows within the map area. Dips become very flat toward the synclinal axes, especially in the Clearfield-McIntyre structure. An interesting relationship between the latter structure and the Wellsboro anticline is that a line drawn approximately normal to the general structural trend through the apex of the bend in the axis of the Wellsboro anticline, Leidy Township, also passes through the apex of a similar bend in the axis of the Clearfield-McIntyre syncline. This relationship may be purely chance, or on the other hand, it may have some genetic significance.

A somewhat anomalous relation is the location of the axis of the anticline in Leidy Township. It is shown here closer to the north flank than to the south flank, which is just the opposite of the relationship normally expected in an asymmetric fold. Evidence for locating the axis is apparent from the map data; the 2-1/2 degree southeast dip on Hevner Run, Leidy Township, is critical in determining the axial position. This strike-dip measurement is rated second class and was re-checked twice; there is always the possibility, of course, that the measured strata were

A possible fault was observed near the axis of the Kettle Creek syncline in Stewardson Township, Potter County (see map). The beds here are severely fractured but neither a fault plane nor stratigraphic displacement could be determined with certainty. Various steep dips on the northwest flank of the anticline may represent the surface expression of subsurface faulting. Well data in the H. Summerson and E. Summerson tests suggests faulting in the subsurface, the details of which will be more apparent after additional data are obtained.

A closed structural low (2100 foot contour), also in Stewardson Township, Potter County, is suggested although no southeast dips were observed. The Pocono key bed data and spacing of the contours in the area indicate the low to be a possibility.

The termination of two structures—Blossburg syncline and Slate Run anticline-is shown in Chapman Township, Clinton County (southeastern part of map). The location of these structures is different from that previously shown (Cathcart, 1934, fig. 2) but data to the east of the map indicate the syncline turns sharply to the southwest and south; the anticline also deviates in the same direction. Both structures terminate approximately at the head of the south-plunging arrows near the axis of the Clearfield-McIntyre syncline.

Several east to southeast dips in the Tamarack quadrangle, one along a road just northeast of Carey Run, Leidy Township, and the other on the east side of Kettle Creek, Leidy Township, near Oriskamy test LJ-1, may indicate a subsidiary high on the northwest flank of the Wellsboro anticline. These two strike-dip measurements, however, were considered poor third-class data and both are in an area where the dip is dominantly north-

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Heeren of the Survey staff did the drafting.

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WELL RECORDS LEIDY GAS FIELD AND ADJACENT AREAS (Listing is alphabetical by tract name)

Map No.	Company	Tract and Well No.	Township	Quadrangle	Location	Elevation	Tully	Ono
CB-1	Pittsburgh Oil and Gas Co.	C. Brooks 1	Leidy	Hammersley Fork	1.72 mi. S 41° 27' 30" .98 mi. W 77° 52' 30"			STATE OF THE PARTY
DC-1	Leidy Prosp. Co.	D. Calhoun 1	Leidy	Hammersley Fork	.63 mi. S 41° 25'	928	1840-	563
DC-2	Leidy Prosp. Co.	D. Calhoun 2	Leidy	Hammersley Fork	.46 mi. S 41° 25' 2.0 mi. W 77° 52' 30"	1478	5373-5485	615
DC-3	Leidy Prosp. Co.	D. Calhoun 3	Leidy	Hammersley Fork	.88 mi. S 41° 25°	77.22	1.01.2 7067	Name of the last

										Total		I.O.F. /Day*	Initial** Reservoir	Other
Map No.		Tract and Well No.	Township	Quadrangle	Location	Elevation	Tully	Onondaga	Oriskany	Depth	Completed	1000 Cu. Ft.	Pressure	Shows
CB-1	Pittsburgh Oil and Gas Co.	C. Brooks 1	Leidy	Hammersley Fork	1.72 mi. S 41° 27' 30" .98 mi. W 77° 52' 30"				ED DEVO		and has	bad/		
DC-1	Leidy Prosp. Co.	D. Calhoun 1	Leidy	Hammersley Fork	.63 mi. S 41° 25'	928	4840-	5635-	5659-	5662	1-8-50	15,000 Est.	4000	
DC-2	Leidy Prosp. Co.	D. Calhoun 2	Leidy	Hammersley Fork	.46 mi. S 41° 25' 2.0 mi. W 77° 52' 30"	1478	5373-5485		6172-	6172	6-29-50	38,000	3950	
DC-3	Leidy Prosp. Co.	D. Calhoun 3	Leidy	Hammersley Fork	.88 mi. S 41° 25° 2.09 mi. W 77° 52° 30°		4942-5067	02)	02.	02/2	0-27-30	20,000	2720	
DC-4	Leidy Prosp. Co.	D. Calhoun 4	Leidy	Hammersley Fork			4742-7001							
EC-1	Appalachian Dev.	E. Calhoun 1	Leidy	Hammersley Fork	2.58 mi. S 41° 27' 30" 1.79 mi. W 77° 52' 30"	1001								
JC-1	G. L. Cabot Inc.	J. D. Calhoun 1	Leidy	Hammersley Fork	1.45 mi. S 41° 25°		100/ 7077	7503 700l	500)	70010	5 5 do	0.515	144	
JC-2	G. L. Cabot Inc.	J. D. Calhoun 2	Leidy	Hammersley Fork	.73 mi. W 77° 55'	1051		5781-5804		5804?	7-1-50	8,740	4100	
LC-1	D. Calhoun et al.	L. Calhoun 1	Leidy	Hammersley Fork	.19 mi. W 77° 55° 2.18 mi. S 41° 27° 30"	861	4833-4952	5636-	5658-5678	5687	12-7-50	270	4075	
MC-1	N. Y. S. Nat. Gas	M. Calhoun 1	Leidy	Hammersley Fork	2.01 mi. W 77° 52' 30" .01 mi. S 41° 25'	911								Gas at 675 500 M Gas at
AC-1	Keta Gas & Oil Co.	A. Carlson 1	Leidy	Hammersley Fork	1.63 mi. W 77° 52' 30"	924				,				430,443,445
EC-1	N. Y. S. Nat. Gas	E. Connell 1	Leidy	Hammersley Fork	.51 mi. W 77° 55'	923								
EC-2	N. Y. S. Nat. Gas	E. Connell 2	Leidy	Hammersley Fork	.53 mi. W 77° 55'	940	4881-4990	5671-	5695-	5697	10-11-50	18,500	3900	
CC-1	Keta Gas and Oil	C. Cross 1	Leidy		.6 mi. W 77° 55'	1358			//					
GC-1	N. Y. S. Nat. Gas	G. Cross 1	Leidy		.47 mi. W 77° 55'	904	4771-	///						No.
ED-1					1.61 mi. W 77° 52' 30"	1109		//3						
	N. Y. S. Nat. Gas	E. Daugherty 1	Leidy		.32 mi. S 41° 25' 1.45 mi. W 77° 52' 30"	1642								- 40A
FD-1	Roeder and White	F. Daugherty 1	Leidy	Tamarack	1.83 mi. S 41° 27' 30" 1.9 mi. W 77° 50'	1405		W. 37 .						
RD-1	N. Y. S. Nat. Gas	R. P. Daugherty 1	Leidy	Tamarack	1.91 mi. S 41° 27' 30" 1.69 mi. W 77° 50'	1479	5272-	6066-	6086-	6086?	8-3-50	50,000	4100	
HF-1	N. Y. S. Nat. Gas	H. E. Finnefrock 1	Leidy	Tamarack	2.02 mi. S 41° 27' 30" 1.38 mi. W 77° 50'	1736								
CF-1	G. L. Cabot Inc.	C. Foley 1	Leidy	Tamarack	2.0 mi. S 41° 30° 1.19 mi. W 77° 50°	1338	5679-	6512-	6533-	6542	10-6-50	300' SW in 1 hr.		
PF-1	Shaw and Smith	P. Foley 1	Leidy	Tamarack	2.69 mi. S 41° 27' 30" .37 mi. W 77° 50'	1680	3017=	0312-	0)))=	0542	10-0-50	D G. R.		
LG-1	Renovo Gas and Oil	L. Green 1	Leidy	Tamarack	2.03 mi. S 41° 30' 1.39 mi. W 77° 47' 30"	1000								
HHC-1	Mid-Atlantic Oil and Gas	Homewood Hunting	East	Kestina	1.5 mi. S 41° 22' 30" 1.81 mi. W 77° 57' 30"				146					
LJ-1	G. L. Cabot Inc.	L. Jacobus 1	Leidy	Keating Tamarack	.55 mi. S 41° 27' 30"	1503								Gas at 800
CJ-1	Appalachian Dev.	C. Johnston 1	Leidy	Tamarack	1.35 mi. W 77° 50' 1.35 mi. S 41° 27' 30"	1292								
AK-1	N. Y. S. Nat. Gas	A. Kelly 1	Leidy	Tamarack	.14 mi. W 77° 50' 1.55 mi. S 41° 27' 30"	1758								100 M Gas at 1130
KHC-1	D. Calhoun et al.	Keystone Hunting	Leidy	Hammersley Fork	1.08 mi. W 77° 50' 2.42 mi. S 41° 27' 30"	1610								
LK-1	N. Y. S. Nat. Gas	Club 1 L. Kunkle 1	Leidy	Tamarack	2.01 mi. W 77° 52' 30" 1.23 mi. S 41° 27' 30"	913								
JL-1	G. L. Cabot Inc.	J. J. Leban 1	Leidy	Tamarack	.76 mi. W 77° 50'	1675			-					
HL-1	Roeder and White	H. Ludy 1	Leidy	Hammersley Fork	1.47 mi. W 77° 47' 30"							7 (1) (1)		No. 1 to 1
HM-1	E. P. Sheridan	H. Martin 1	Leidy	Tamarack	.54 mi. W 77° 55' 1.82 mi. S 41° 25'	903	5123-	5904-5925	5925-	5925	8-15-50	3,020	3950	
JM-1	Noyley Dev.	J. McCoy 1	Law Marie		1.67 mi. W 77° 45°	1747							The state of the s	
RM-1			Leidy	Hammersley Fork	.38 mi. W 77° 55'	939	4852-	5650-	5676-	5677	9-29-55	16,500	3975	
	Wade	R. B. McCoy 1	Leidy	Hammersley Fork	.29 mi. W 77° 55'	873	4757-4869	5568-						
VM-1	Roeder and White	V. McCoy 1	Leidy		1.15 mi. S 41° 25' .4 mi. W 77° 55'	863						16/1		
FP-1	Noyley Dev.	F. Pelkey 1	Leidy	Hammersley Fork	1.03 mi. S 41° 25' .33 mi. W 77° 55'	867	4734-4846	5550-						
Pa-1-1	N. Y. S. Nat. Gas	State of Pa. 1 Tract 1	Grove	Keating	.67 mi. S 41° 22' 30" 1.96 mi. W 77° 57' 30"	1770							-	
Pa-1-2	N. Y. S. Nat. Gas	State of Pa. 1 Tract 2	East Keating	Hammersley Fork	2.7 mi. S 41° 25° 1.14 mi. W 77° 57° 30"	1610								y
Pa-1-4	N. Y. S. Nat. Gas	State of Pa. 1 Tract 4	Leidy	Hammersley Fork	1.47 mi. S 41° 25' 1.45 mi. W 77° 55'									
Pa-1-5	Appalachian Dev.	State of Pa. 1 Tract 5	Leidy	Hammersley Fork		1205						No Property of	/-	
Pa-2-5	Appalachian Dev.	State of Pa. 2	Leidy	Hammersley Fork	1.09 mi. S 41° 25'						TO TO THE	13.11.11.11.11.11.11.11.11.11.11.11.11.1		
Pa-3-5	Appalachian Dev.	State of Pa. 3	Leidy	Hammersley Fork	1.19 mi. W 77° 55' 1.45 mi. S 41° 25'	البل <u>ا</u>							,	
Pa-19-	G. L. Cabot Inc.	Tract 5 State of Pa. 19	Wharton	Hammersley Fork	1.19 mi. W 77° 55' .62 mi. S 41° 30'	927		0.4	() ==	() ()		1,800 with SW		
4920 Pa-15-	G. L. Cabot Inc.	Warrant 4920 State of Pa. 15	Whartor	Hammersley Fork	2.13 mi. W 77° 57' 30" .04 mi. S 41° 30'	2253	5711-	6400-	6422-	6434	7-14-50	D & A	1000	
4921 CP-1	Appalachian Dev.	Warrant 4921 C. Peters 1	Leidy	Hammersley Fork	1.71 mi. W 77° 57' 30" 1.99 mi. S 41° 27' 30"	1940	5328-	6016-	6028-	6051	11-14-49	21,600	2100	130 M Gas at 480
HP-1	N. Y. S. Nat. Gas	H. V. Proctor 1	Leidy	Hammersley Fork	.75 mi. W 77° 52' 30"	960								
OR-1.	G. L. Cabot Inc.	O. Repetto 1	Leidy	Hanmersley Fork	.08 mi. W 77° 55'	1120	5098-5204	5878-	5899-	5901	12-15-50	13,500	3540	
DS-1	D. Calhoun et al.	D. M. Schoonover 1	Leidy	Hammersley Fork	.45 mi. W 77° 55'	1136		5824-5842	5842-	5843	12-15-50	30,000	3600	
	Leighton and	E. Schoonover 1	Leidy	Hammersley Fork	.35 mi. W 77° 55°	918		N. Company		1				
ES-1	Christman				.75 mi. W 77° 55°	1007								
HRS-1	G. L. Cabot Inc.	H. R. Stahl 1	Leidy		2.56 mi. S 41° 27' 30" .48 mi. W 77° 55'	1265	127					213-213/		
CS-1	N. Y. S. Nat. Gas	C. Summerson 1	Leidy		1.08 mi. S 41° 25' 2.14 mi. W 77° 52' 30"	936	1, 5/	B1 12.						7
ES-1A	Fairman and Miller	Mr. na	Leidy		2.17 mi. S 41° 25' .26 mi. W 77° 55'	954	5052-	5842-	5853-5885	5889	10-3-50	300' of SW in 5 days; D & A		
HS-1	Hopkins and Layton	H. Summerson 1	Leidy	Hammersley Fork	1.77 mi. S 41° 25' .74 mi. W 77° 55'	904	5082-5198	5942-	5960-	5962	11-2-50	SW too much to bail; D & A		50 M Gas at 820
WS-1	Appalachian Dev.	W. Summerson 1	Leidy	Hammersley Fork	1.69 mi. S 41° 27' 30" .66 mi. W 77° 52' 30"		5497-	6281-	6294-	6305	9-22-50	4,100		30 000
S-1	Blue Rock Drlg.	Swartz 1	Leidy	Tamarack	.37 mi. S 41° 27' 30"	ARKA I	2471-	0202	to to / top	0,00	7-6,6,-30	49,200		70907
USL-1	Appalachian Dev.	U. S. Lumber Co. 1	Leidy	Tamarack	1.15 mi. W 77° 47' 30" 1.89 mi. S 41° 27' 30"				A COLUMN TO THE REAL PROPERTY OF THE PARTY O			3/2/2	- /	
AW-1	Appalachian Dev.	A. Wykoff l	Leidy	Hammersley Fork	1.6 mi. W 77° 50'	1586	COOK	r'200	C03.0	700/	22.0 %	2 000	nada	
FW-1	G. L. Cabot Inc.	F. Wykoff 1	Leidy	Tamarack	1.34 mi. S 41° 27' 30"	869	5005-	5788-	5810-	5826	11-2-50	3,000	3950	
American and American and American and American					.21 mi. W 77° 50°	1747	5708-5780						_	
	1-03			1 1200						Total	1	I.O.F. /Day*	Initial** Reservoir	Other
Map No.	Company	Tract and Well No.	Township	Quadrangle	Location	Elevation	Tully	Onondaga	Oriskany	Depth	Completed	1000 Cu. Ft.	Pressure	Shows

**Pressure in pounds per square inch

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF INTERNAL AFFAIRS WILLIAM S. LIVENGOOD, JR., Secretary TOPOGRAPHIC AND GEOLOGIC SURVEY S. H. CATHCART, Director JANUARY 1951

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PRELIMINARY REPORT

LEIDY GAS FIELD AND ADJACENT AREAS

CLINTON COUNTY PENNSYLVANIA

J. R. EBRIGHT AND A. I. INGHAM