

INTERVAL SHEET

Page 1 of 1

VDMR Well No: 2128

Date rec'd:

Sample Interval: from 8'6" to: 114'6"

PROP: BLM A-050367

Number of samples: 50

Hole No.: T1-8A

COMP: Minerals Development Corp.

Total Depth: 114'6"

COUNTY: Giles

Oil or Gas: Water: Exploratory: X

From-To	From-To	From-To	From-To
8'6" - 16' (2 spls)	79'11" - 83'11"	-	-
16' - 19'2"	83'11" - 86'3"	-	-
19'2" - 19'8"	86'3" - 88'5"	-	-
19'8" - 20'3"	88'5" - 90'4"	-	-
20'3" - 23'8"	90'4" - 91'6"	-	-
23'8" - 28'9"	91'6" - 92'0"	-	-
28'9" - 29'9"	92'0" - 94'4"	-	-
29'9" - 31'1"	94'4" - 97'7"	-	-
31'1" - 32'3"	97'7" - 100'2"	-	-
32'3" - 33'6"	102'2" - 100'8"	-	-
33'6" - 34'8"	100'8" - 101'8"	-	-
34'8" - 37'9"	101'8" - 103'5"	-	-
37'9" - 42'0"	103'5" - 108'0"	-	-
42'0" - 45'0"	108'0" - 110'0"	-	-
45'0" - 47'6"	110'0" - 112'0"	-	-
47'6" - 50'6"	112'0" - 112'1"	-	-
50'6" - 51'5"	112'1" - 112'11"	-	-
51'5" - 52'3"	112'11" - 113'4"	-	-
52'3" - 56'7"	113'4" - 114'2"	-	-
56'7" - 56'10"	114'2" - 114'6"	-	-
56'10" - 62'10"	-	-	-
62'10" - 67'0"	-	-	-
67'0" - 68'5"	-	-	-
68'5" - 69'3"	-	-	-
69'3" - 69'9"	-	-	-
69'9" - 71'3"	-	-	-
71'3" - 73'3"	-	-	-
73'3" - 74'6"	-	-	-
74'6" - 78'9"	-	-	-
78'9" - 79'11"	-	-	-

INTERVAL SHEET

Page 1 of 1

VDMR Well No: 2128

Date rec'd:

Sample Interval: from 8'6" to: 114'6"

PROP:

PROP: BLM A-050367
Hole No.: Ft-8A

Number of samples: 50

COMP:

COMP: Minerals Development Corp.

Total Depth: 114'6"

COUNTY:

COUNTY: Giles
VDMR WELL NO.: W-2128
FROM: TO:

Oil or Gas: Water: Exploratory: X

From-To	From-To	From-To	From-To
8'6" - 16' (2 sp1s)	79'11" - 83'11"	-	-
16' - 19'2"	83'11" - 86'3"	-	-
19'2" - 19'8"	86'3" - 88'5"	-	-
19'8" - 20'3"	88'5" - 90'4"	-	-
20'3" - 23'8"	90'4" - 91'6"	-	-
23'8" - 28'9"	91'6" - 92'0"	-	-
28'9" - 29'9"	92'0" - 94'4"	-	-
29'9" - 31'1"	94'4" - 97'7"	-	-
31'1" - 32'3"	97'7" - 100'2"	-	-
32'3" - 33'6"	100'2" - 100'8"	-	-
33'6" - 34'8"	100'8" - 101'8"	-	-
34'8" - 37'9"	101'8" - 103'5"	-	-
37'9" - 42'0"	103'5" - 108'0"	-	-
42'0" - 45'0"	108'0" - 110'0"	-	-
45'0" - 47'6"	110'0" - 112'0"	-	-
47'6" - 50'6"	112'0" - 112'1"	-	-
50'6" - 51'5"	112'1" - 112'11"	-	-
51'5" - 52'3"	112'11" - 113'4"	-	-
52'3" - 56'7"	113'4" - 114'2"	-	-
56'7" - 56'10"	114'2" - 114'6"	-	-
56'10" - 62'10"	-	-	-
62'10" - 67'0"	-	-	-
67'0" - 68'5"	-	-	-
68'5" - 69'3"	-	-	-
69'3" - 69'9"	-	-	-
69'9" - 71'3"	-	-	-
71'3" - 73'3"	-	-	-
73'3" - 74'6"	-	-	-
74'6" - 78'9"	-	-	-
78'9" - 79'11"	-	-	-

Lessee or permittee: E. L. Keesling Exp.
 Address: Bramwell, West Virginia
 Driller: Vaughan Bowling, Cunningham Core Drilling & Grouting Co.
 Commenced drilling: 9 October 1961 Finished: 18 Oct. 1961
 Method of drilling: Diamond core NX
 Logged by: W. A. Moon
 S74E 13° N off vertical

Depth in feet		Description	
From	To	Thickness	
Clinton formation			
0'0"	8'6"	8'6"	Overburden
8'6"	16'0"	7'6"	Sandstone and interbedded shale: sandstone, grayish white, fine grained; shale, pale grayish green; contains rust brown partings (core loss 3'10").
16'0"	19'2"	3'2"	Shale, pale grayish green, contains rust brown partings (core loss 1').
19'2"	19'8"	0'6"	Shale, maroon, sandy.
19'8"	20'3"	0'7"	Sandstone, maroon, coarse grained, slightly ferruginous, vuggy; contains yellowish brown clay galls.
20'3"	23'8"	3'5"	Sandstone, maroon, fine grained, slightly ferruginous; contains abundant maroon and grayish green shale partings and interbeds.
23'8"	25'0"	1'4"	Sandstone, maroon, coarse grained, friable, ferruginous. Contains abundant maroon shale partings.
25'	27'1"	2'1"	Sandstone, maroon, fine grained, ferruginous; contains maroon shale partings in the lower 1'.
27'1"	27'11"	0'10"	Sandstone, maroon, coarse grained, highly ferruginous; contains widely scattered maroon shale partings.
27'11"	29'9"	1'10"	Sandstone, maroon, fine grained, ferruginous; contains abundant maroon shale partings and maroon clay galls.
29'9"	30'5"	0'8"	Sandstone, maroon, coarse grained, ferruginous; contains maroon shale partings.
30'5"	31'1"	8"	Sandstone, maroon, coarse grained; highly ferruginous.
31'1"	32'3"	1'2"	Shale, olive drab to pale grayish green.
32'3"	33'5"	1'2"	Sandstone, pale grayish maroon (incl. 6" core loss).
33'5"	33'6"	1"	Sandstone, olive drab, fine grained.

<u>Depth in feet</u>			<u>Description</u>
<u>From</u>	<u>To</u>	<u>Thickness</u>	
33'6"	34'8"	1'2"	Shale, pale grayish green to olive drab.
34'8"	36'2"	1'6"	Sandstone, maroon, fine grained, shaly; contains abundant maroon shale partings parallel to the bedding planes.
36'2"	37'0"	0'10"	Shale, maroon (incl. 8" core loss).
37'0"	37'5"	0'5"	Sandstone, maroon, fine grained, ferruginous; contains abundant maroon shale partings.
37'5"	37'9"	0'4"	Sandstone, maroon, fine grained; highly ferruginous.
37'9"	42'0"	4'3"	Sandstone, maroon, coarse grained, ferruginous conglomeratic; contains quartz granules and widely scattered maroon shale partings.
42'0"	42'3"	0'3"	Shale, olive drab.
42'3"	45'11"	3'8"	Shale, pale grayish green.
45'11"	46'1"	0'2"	Sandstone, maroon, medium grained.
46'1"	46'6"	0'5"	Shale and sandstone. Shale, pale grayish green. Sandstone, gray, fine grained, occurs as partings.
46'6"	47'6"	1'0"	Shale pale grayish green, contains several maroon sandstone partings.
47'6"	47'8"	2"	Sandstone, maroon, medium to coarse grained.
47'8"	48'0"	4"	Sandstone, grayish green, conglomeratic, coarse grained.
48'0"	48'2"	2"	Sandstone, pale maroon, coarse grained.
48'2"	50'6"	2'4"	Sandstone, grayish green, fine grained, shaly.
50'6"	51'5"	0'11"	Shale, grayish green.
51'5"	52'3"	0'10"	Sandstone and interbedded shale; rust brown to gray, crumbly.
52'3"	56'7"	4'4"	Sandstone, pale grayish green, fine grained; contains irregular greenish gray shale intercalations.
56'7"	56'10"	3"	Shale, pale green.
56'10"	62'10"	6'0"	Sandstone, pale grayish green, fine grained; contains irregular greenish gray shale intercalations (includes 5" core loss)

<u>Depth in feet</u>			<u>Description</u>
<u>From</u>	<u>To</u>	<u>Thickness</u>	
62'10"	63'2"	0'4"	Shale, pale maroon, sandy.
63'2"	63'9"	0'7"	Shale, pale green, sandy.
63'9"	64'10"	1'1"	Shale, pale maroon, sandy.
64'10"	65'7"	0'9"	Shale, pale grayish green, sandy.
65'7"	67'0"	1'5"	Shale, pale grayish green, sandy; contains gray sandstone intercalations.
67'0"	68'2"	1'2"	Shale, green.
68'2"	68'5"	0'3"	Sandstone, pale grayish green.
68'5"	69'3"	0'10"	Shale, grayish black.
69'3"	69'9"	0'6"	Sandstone, rust brown, fine grained.
69'9"	71'	1'3"	Sandstone, pale grayish green, fine grained.
71'0"	71'3"	3"	Shale, green.
71'3"	72'2"	0'11"	Sandstone, pale gray, fine grained, fractured.
72'2"	73'3"	1'1"	Sandstone, pale grayish green, fine grained.
73'3"	74'6"	1'3"	Shale, pale gray (includes 8" core loss).
74'6"	78'0"	3'6"	Sandstone, maroon, fine grained, ferruginous; contains maroon clay galls.
78'0"	78'9"	9"	Sandstone, maroon, fine grained; ferruginous badly broken. (Includes 4" core loss).
78'9"	79'9"	1'0"	Sandstone, maroon, fine grained, ferruginous; contains maroon shale partings and clay galls.
79'9"	79'11"	2"	Shale, pale olive green.
79'11"	81'0"	1'1"	Sandstone, maroon, fine grained, ferruginous; contains widely scattered maroon shale partings and clay galls.
81'0"	83'9"	2'9"	Sandstone, maroon, coarse grained, conglomeratic, ferruginous; contains quartz granules and maroon shale partings.
83'10"	83'11"	0'1"	Sandstone, rust brown, fine grained, shaly.

<u>Depth in feet</u>			<u>Description</u>
<u>From</u>	<u>To</u>	<u>Thickness</u>	
83'11"	86'3"	2'4"	Shale, grayish green, contains gray fine grained sandstone partings.
86'3"	88'5"	2'2"	Sandstone, drab maroon, fine to coarse grained, contains maroon and grayish green shale partings.
88'5"	90'4"	1'11"	Shale, grayish green; contains intercalations of grayish green and maroon sandstone.
90'4"	90'9"	5"	Sandstone and shale; sandstone, maroon, fine grained; shale maroon.
90'9"	91'6"	0'9"	Sandstone gray, fine grained, contains grayish green shale partings.
91'6"	91'11"	0'5"	Shale, grayish green.
91'11"	92'	1"	Sandstone, maroon, coarse grained.
92'0"	97'7"	5'7"	Shale, grayish green; contains gray, fine grained sandstone intercalations.
97'7"	100'2"	2'7"	Sandstone, grayish white, fine grained; contains gray shale intercalations in lower foot.
100'2"	100'8"	0'6"	Sandstone, rust brown, fine grained, friable.
100'8"	101'8"	1'0"	Sandstone, gray, fine grained, contains dark gray to black shale partings.
101'8"	103'5"	1'9"	Sandstone, pale greenish gray, fine grained.
103'5"	105'10"	2'5"	Sandstone, gray, fine grained, contains dark gray to black shale partings.
105'10"	107'	1'2"	Sandstone, dark gray to black, fine grained, vuggy.
107'0"	108'	1'0"	Sandstone, pale greenish gray, fine grained.
108'0"	108'5"	0'5"	Shale, black, vuggy.
108'5"	111'7"	3'2"	Sandstone, light gray, fine grained, vuggy; contains rust brown stained vugs (incl. 1'3" core loss).
111'7"	112'0"	0'5"	Sandstone, pale grayish white, fine grained.
112'0"	112'1"	1"	Shale, green.
112'1"	112'11"	10"	Sandstone, pale grayish green, fine grained.

<u>Depth in feet</u>			<u>Description</u>
<u>From</u>	<u>To</u>	<u>Thickness</u>	
112'11"	113'4"	5"	Clay, gray.
113'4"	114'2"	10"	Sandstone, pale gray, fine grained, contains rust brown partings (incl. 7" core gain) quartzitic.
114'2"	114'6"	4"	Quartzite, pale grayish brown, fine grained; contains reddish brown shale partings, durable.

Bottom of hole.

Log of Split Core

Hole: Tl-8A

Date: 21 October 1961

Depth in feet		Thickness	Description
From	To		
			Sample 1 (19'6" - 23')
19'6"	20'4"	10"	Sandstone, maroon, fine to medium grained, ferruginous.
20'4"	23'	2'8"	Sandstone, maroon, fine grained, ferruginous, contains abundant maroon shale partings.
23'	23'6"	6"	Shale, pale maroon to brownish olive drab.
			Sample 2 (23'6" - 31'1")
23'6"	31'1"	6'7"	Sandstone, maroon, fine grained, ferruginous; contains abundant, maroon shale partings.
31'1"	32'3"	1'2"	Shale, olive drab to pale greenish gray.
32'3"	32'11"	0'8"	Sandstone, gray fine grained.
32'11"	33'6"	0'7"	Shale, pale brown to yellow brown (includes 6" core loss).
33'6"	34'8"	1'2"	Shale, pale olive drab.
			Sample 3 (34'8" - 42')
34'8"	37'3"	2'7"	Sandstone, maroon, coarse grained, conglomeratic, ferruginous; contains abundant maroon shale partings.
37'3"	42'	4'9"	Sandstone, maroon, coarse grained, congl.; ferruginous (incl. 8" core loss).
42'0"	74'6"	32'6"	Shale, pale greenish gray, contains partings and interbeds of gray, fine grained sandstone. See core log.
			Sample 4 (74'6" - 83'10")
74'6"	79'9"	5'3"	Sandstone, maroon, fine grained, ferruginous.
79'9"	79'11"	2"	Shale, pale green.
79'11"	83'10"	3'11"	Sandstone, maroon, fine grained, ferruginous contains sporadic maroon shale partings.
83'10"	86'3"	3'1"	Shale, pale greenish gray, contains gray fine grained sandstone intercalations.

Depth in feet

Description

From To Thickness

86'3" 88'1" 1'10" Sandstone, grayish maroon, fine grained, contains
gray to grayish maroon shale partings, last 2"
coarse grained.

End of Split Core Log.