

INTERVAL SHEET

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VDMR Well No: 2136

Date rec'd:

Sample Interval: from 4'7" to: 81'

PROP: BLM A-051911 (?)  
Hole No. : T4A-21A (20A ?)

Number of samples: 37

COMP: Minerals Development Corp.

Total Depth: 81'

COUNTY: Giles

Oil or Gas: Water: Exploratory: X

From-To	From-To	From-To	From-To
4'7" - 6'0"	64'4" - 66'2"	-	-
6'0" - 6'4"	66'2" - 67'8"	-	-
6'4" - 7'2"	67'8" - 68'6"	-	-
7'2" - 10'7"	68'6" - 69'10"	-	-
10'7" - 23'4" (4 spls)	69'10" - 76'	-	-
23'4" - 23'8"	76' - 76'5"	-	-
23'8" - 24'	76'5" - 81" (2 spls)	-	-
24' - 25'5"	-	-	-
25'5" - 26'	-	-	-
26' - 28'	-	-	-
28' - 29'6"	-	-	-
29'6" - 33'11" (2 spls)	-	-	-
33'11" - 34'3"	-	-	-
34'3" - 43'	-	-	-
43' - 46'4"	-	-	-
46'4" - 53' (2 spls)	-	-	-
53' - 56' (2 spls)	-	-	-
56' - 56'3"	-	-	-
56'3" - 56'8"	-	-	-
56'8" - 57'3"	-	-	-
57'3" - 57'7"	-	-	-
57'7" - 57'10"	-	-	-
57'10" - 58'7"	-	-	-
58'7" - 59'2"	-	-	-
59'2" - 59'6"	-	-	-
59'6" - 60'5"	-	-	-
60'5" - 62'8"	-	-	-
62'8" - 63'	-	-	-
63' - 64'2"	-	-	-
64'2" - 64'4"	-	-	-

INTERVAL SHEET

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VDMR Well No: 2136

Date rec'd:

Sample Interval: from 47" to: 81'

PROP: BLM A - 051911 (?)

Number of samples: 37

COMP: Hole No. : T4A - 21A (20A?)

Total Depth: 81'

COMP: Minerals Development Corp.

Oil or Gas: Water: Exploratory: X

COUNTY: Giles

From-To	From-To	From-To	From-To
47" - 6'0"	64 1/4" - 66'2"	-	-
6'0" - 6'4"	66'2" - 67'8"	-	-
6'4" - 7'2"	67'8" - 68'6"	-	-
7'2" - 10'7"	68'6" - 69'10"	-	-
10'7" - 23'4" (4 spls)	69'10" - 70'	-	-
23'4" - 23'8"	70' - 76'5"	-	-
23'8" - 24'	76'5" - 81' (2 spls)	-	-
24' - 25'5"	-	-	-
25'5" - 26'	-	-	-
26' - 28'	-	-	-
28' - 29'6"	-	-	-
29'6" - 33'11" (2 spls)	-	-	-
33'11" - 34'3"	-	-	-
34'3" - 43'	-	-	-
43' - 46'4"	-	-	-
46'4" - 53' (2 spls)	-	-	-
53' - 56' (2 spls)	-	-	-
56' - 56'3"	-	-	-
56'3" - 56'8"	-	-	-
56'8" - 57'3"	-	-	-
57'3" - 57'7"	-	-	-
57'7" - 57'10"	-	-	-
57'10" - 58'7"	-	-	-
58'7" - 59'2"	-	-	-
59'2" - 59'6"	-	-	-
59'6" - 60'5"	-	-	-
60'5" - 62'8"	-	-	-
62'8" - 63'	-	-	-
63' - 64'2"	-	-	-
64'2" - 64'4"	-	-	-

HOLE NUMBER: T4A-21A

Date Started: December 18, 1961  
Date Completed: January 19, 1962  
Driller: M. C. Vaughan, Cunningham Core Drilling & Grouting Co.  
Hole alignment: Vertical

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Depth in feet			Description
From	To	Thickness	
0	4'7"	4'7"	Overburden (workable Clinton).
4'7"	6'	1'5"	Sandstone, maroon, coarse grained, ferruginous, broken includes 7" core loss.
6'	6'4"	4"	Shale, pale green.
6'4"	7'2"	10"	Sandstone, maroon, fine to medium grained, thin bedded, broken, ferruginous; contains partings of maroon shale.
7'2"	8'6"	1'4"	Shale, maroon, unctuous, contains several 1" beds of ferruginous sandstone.
8'6"	10'7"	2'1"	Sandstone, maroon, coarse grained, ferruginous, contains quartz granules. Interval includes 1'8" core loss.
10'7"	23'4"	12'9"	Sandstone, maroon, fine to coarse grained, ferruginous, broken. Includes 3'11" core loss.
23'4"	23'8"	4"	Shale, maroon to pale greenish yellow.
23'8"	24'	4"	Sandstone, pale grayish brown to tan, fine grained.
24'	25'5"	1'5"	Sandstone, maroon, fine grained, ferruginous. Includes 6" core loss.
25'5"	26'	7"	Shale, maroon, contains fragments of maroon, fine grained, ferruginous sandstone. Includes 6" core loss.
26'	26'1"	1"	Sandstone, maroon, fine grained, ferruginous.
26'1"	26'2"	1"	Shale, maroon.
26'2"	26'8"	6"	Shale, pale gray to pale grayish green, unctuous.
26'8"	28'	1'4"	Sandstone, maroon, fine grained, ferruginous, includes 7" core loss.
28'	29'6"	1'6"	Shale, pale greenish gray, contains several partings of pale maroon shale.

<u>Depth in feet</u>			<u>Description</u>
<u>From</u>	<u>To</u>	<u>Thickness</u>	
29'6"	33'11"	4'5"	Shale, pale greenish gray, contains several lenses and interbeds of pale gray fine grained sandstone and includes partings of maroon and rust brown shale at 31'6". Includes 7" core loss.
33'11"	34'3"	4"	Shale, pale rust brown to tan. Includes interbeds of rust brown fine grained sandstone.
34'3"	43'	8'9"	Shale, pale grayish tan to pale greenish gray. Includes 7'3" core loss.
43'	46'4"	3'4"	Shale, rust brown.
46'4"	53'	6'8"	Shale, pale gray to grayish maroon, unctuous. Interval includes 5'2" core loss.
53'	56'	3'	Sandstone drab maroon, fine grained ferruginous contains maroon shale partings parallel to the bedding planes.
56'	56'3"	3"	Shale, pale grayish green.
56'3"	56'8"	5"	Sandstone, drab grayish maroon, fine grained.
56'8"	57'3"	7"	Sandstone, drab maroon, fine grained, ferruginous.
57'3"	57'7"	4"	Sandstone, drab maroon, fine grained, ferruginous, contains abundant maroon shale partings parallel to the bedding planes.
57'7"	57'10"	3"	Shale, pale maroon.
57'10"	58'7"	9"	Sandstone, drab maroon, fine grained, slightly ferruginous; contains partings of maroon shale parallel to the bedding planes.
58'7"	59'2"	7"	Shale, pale rust brown.
59'2"	59'6"	4"	Shale, pale maroon.
59'6"	60'5"	11"	Shale, maroon; contains lenses and partings of fine grained ferruginous maroon sandstone.
60'5"	62'8"	2'3"	Sandstone, drab maroon, fine to coarse grained ferruginous; contains abundant (40%) maroon shale partings and lenses parallel to the bedding planes.
62'8"	63'	4"	Shale, gray and maroon, sandy.

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<u>Depth in feet</u>			<u>Description</u>
<u>From</u>	<u>To</u>	<u>Thickness</u>	
63'	64'2"	1'2"	Sandstone, drab grayish maroon, slightly ferruginous, quartzitic. Interval includes 6" core loss.
64'2"	64'4"	2"	Shale, maroon to brown.
64'4"	66'2"	1'10"	Sandstone, drab grayish maroon, fine to medium grained, ferruginous; contains abundant maroon shale partings, broken, includes 3" core loss.
66'2"	67'8"	1'6"	Sandstone, maroon, coarse grained, ferruginous, contains quartz granules and vugs.
67'8"	68'6"	10"	Shale, drab maroon, contains interbeds of fine grained maroon ferruginous sandstone, broken and crumbly. Includes 6" core loss.
68'6"	69'10"	1'4"	Sandstone, maroon, coarse grained, ferruginous; contains maroon and rust brown clay galls and quartz granules.
69'10"	76'	6'2"	Shale, drab maroon, contains sporadic lenses of fine to medium grained ferruginous sandstone broken and crumbly. Includes 3'3" core loss.
76'	76'5"	5"	Sandstone, drab maroon, fine grained, slightly ferruginous, broken.
76'5"	81'	4'7"	Shale, pale rust brown to pale tan to grayish green; contains lenses and partings of pale rust brown fine grained quartzitic sandstone. Includes 2'3" core loss.

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End of Hole.

## Log of Split Core

Depth in feet			Description
From	To	Thickness	
Sample 1 (4'7" - 7'2")			
4'7"	6'1"	1'6"	Sandstone, maroon, fine to coarse grained, ferruginous, broken, weathered, includes 7" core loss.
6'1"	6'4"	3"	Shale, pale green, not sampled.
6'4"	6'7"	3"	Sandstone, maroon, fine to medium grained, ferruginous.
6'7"	7'2"	7"	Sandstone, maroon, fine grained, ferruginous, thin bedded, broken; contains abundant maroon and rust brown shale partings parallel to the bedding planes.
Sample 2 (7'2" - 8'6")			
7'2"	8'6"	1'4"	Shale, maroon, contains interbeds and partings of maroon, fine to coarse grained ferruginous sandstone, broken.
Sample 3 (8'6" - 23')			
8'6"	10'7"	2'1"	Sandstone, maroon, coarse grained, ferruginous, contains quartz granules. Interval includes 1'8" core loss.
10'7"	23'4"	12'9"	Sandstone, maroon, fine to coarse grained, ferruginous, broken, includes 3'11" core loss.
Sample 4 (24' - 28') (Note: Shale not sampled.)			
24'	25'5"	1'5"	Sandstone, maroon, fine grained, ferruginous. Includes 6" core loss.
25'5"	26'	7"	Shale, maroon, contains fragments of maroon fine grained ferruginous sandstone. Includes 6" core loss.
26'	26'1"	1"	Sandstone, maroon, fine grained, ferruginous.
26'1"	26'2"	1"	Shale, maroon.
26'2"	26'8"	6"	Shale, pale gray to pale grayish green, unctuous.
26'8"	28'	1'4"	Sandstone, maroon, fine grained, ferruginous, includes 7" core loss.
28' - 53' See log.			

Depth in feet			Description
From	To	Thickness	
			Sample 5 (53' - 56')
53'	56'	3'	Sandstone, maroon, fine grained, ferruginous, contains sporadic partings of maroon shale.
56'	56'3"	3"	Shale, pale tan to greenish gray, not sampled.
56'3"	56'8"	5"	Sandstone, drab grayish tan, fine grained quartzitic.
			Sample 6 (56'8" - 58'7")
56'8"	57'3"	7"	Sandstone, drab maroon, fine grained, ferruginous.
57'3"	57'7"	4"	Sandstone, drab maroon, fine grained, ferruginous, contains abundant maroon shale partings parallel to the bedding planes.
57'7"	57'10"	3"	Shale, pale maroon, not sampled.
57'10"	58'7"	9"	Sandstone, drab maroon, fine grained, slightly ferruginous, contains partings of maroon shale parallel to the bedding planes.
			58'7" - 60'5" See log not sampled.
			Sample 7 (60'5" - 64'2") Note shale units not sampled
60'5"	62'8"	2'3"	Sandstone, drab maroon, fine to coarse grained, ferruginous, contains abundant (40%) maroon shale partings and lenses parallel to the bedding planes.
62'8"	63'	4"	Shale, gray and maroon, sandy, not sampled.
63'	64'2"	1'2"	Sandstone, drab grayish maroon, slightly ferruginous, quartzitic, interval includes 6" core loss.
64'2"	64'4"	2"	Shale, maroon to brown, not sampled.
			Sample 8 (64'4" - 66'2")
64'4"	66'2"	1'10"	Sandstone, drab grayish maroon, fine to medium grained, ferruginous, contains maroon shale partings, broken, includes 3" core loss.
			Sample 9 (66'2" - 69'10")
66'2"	67'8"	1'6"	Sandstone, maroon, coarse grained, ferruginous, quartz granules and vugs.

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<u>Depth in feet</u>			<u>Description</u>
<u>From</u>	<u>To</u>	<u>Thickness</u>	
67'8"	68'6"	10"	Shale drab maroon, contains interbeds of fine grained maroon sandstone ferruginous, broken and crumbly. Includes 6" core loss.
68'6"	69'10"	2'4"	Sandstone, maroon, coarse-grained, ferruginous, contains maroon and rust brown clay galls and quartz granules.

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End of Sampling.