# INTERVAL SHEET

Page 1 of 1

VDMR Well No: 1809

Date rec'd: 3/23/61

Sample Interval: from 5.5' to: 102.7'

PROP: Skeet Rock Dam Site, hole #6

Number of samples: 24

COMP: Adams and Henry (U. S. Corps of Engineers)

Total Depth: 102.65 feet

COUNTY: Dickenson

Oil or Gas: Water: Exploratory: X

| From-To | From-To | From-To | From-To |
|---|---|---|---|
| 5.5 - 7.4 | - | - | - |
| 7.4 - 9.1 | - | - | - |
| 9.9 - 10.2 | - | - | - |
| 10.8 - 11.2 | - | - | - |
| 12.2 - 12.7 | - | - | - |
| 13.5 - 18.5 | - | - | - |
| 18.5 - 23.5 | - | - | - |
| 23.5 - 28.5 | - | - | - |
| 28.5 - 32.5 | - | - | - |
| 32.5 - 37.4 | - | - | - |
| 37.4 - 42.4 | - | - | - |
| 42.4 - 47.4 | - | - | - |
| 47.4 - 52.4 | - | - | - |
| 52.4 - 57.4 | - | - | - |
| 57.4 - 62.4 | - | - | - |
| 62.4 - 67.4 | - | - | - |
| 67.4 - 72.4 | - | - | - |
| 72.4 - 74.1 | - | - | - |
| 74.1 - 79.1 | - | - | - |
| 79.1 - 84.1 | - | - | - |
| 84.1 - 89.1 | - | - | - |
| 89.1 - 94.1 | - | - | - |
| 94.1 - 99.1 | - | - | - |
| 99.1 - 102.7 | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |

County: Dickenson
VDMR Well No. 1809

Well: Skeet Rock Dam Site, hole 6
Farm:
Driller: Adams and Henry (U. S. Corps of Engr., contractor)
Location: Haysi quadrangle - approximate UTM, 378650 m. E and 4119870 m. N; about 2.5 miles southeast of Skeetrock and 4.5 miles northeast of Haysi; also just east of the mouth of Lower Twin Branch along the Pound River.
Elevation: 1355.00 feet
Total depth: 102.65 feet
Started drilling: 12/19/38 Completed drilling: 12/21/38
Sample description by: R. S. Good, Virginia Division of Mineral Resources, 2/9/67
References: U. S. Engineers Office, Huntington, W. Va., Report of Core Boring, 12/21/38, and map of proposed Skeetrock dam site, preliminary site survey.

## GEOLOGIC SUMMARY

| Depth (feet) | Thickness (feet) | Formation (and remarks) |
|---|---|---|
| 0.0-4.6 | 4.6 | Overburden |
| 4.6-5.5 | 0.9 | No core |
| 5.5-102.7 | 97.2 | Norton Formation: composed of siltstone and sandstone with detrital siderite grains between 37.4' and 74.2', and carbonaceous leaf prints from 13.5' to 15.5'; 3.6' of core missing between 5.5' and 16' |

County: Dickenson
VDMR Well No. 1809

## GEOLOGIC LOG

| Depth (feet) | Thickness (feet) | Description |
|---|---|---|
| 0.0-4.6 | 4.6 | Overburden |
| 4.6-5.5 | 0.9 | No core |
| 5.5-7.4 | 1.9 | Siltstone: weathered, light brown, micaceous |
| 7.4-9.1 | 1.7 | Siltstone and sandstone: interlayered gray, finely laminated with micaceous partings |
| 9.1-9.9 | 0.8 | No core |
| 9.9-10.2 | 0.3 | Siltstone: gray, micaceous |
| 10.2-10.8 | 0.6 | No core |
| 10.8-11.2 | 0.4 | Coal, bituminous |
| 11.2-12.2 | 1.0 | No core |
| 12.2-12.7 | 0.5 | Underclay: light gray, soft, with limonitic stains and roots |
| 12.7-13.5 | 0.8 | No core |
| 13.5-15.5 | 2.0 | Siltstone: massive, soft, brown micaceous, with carbonaceous leaf imprints |
| 15.5-15.9 | 0.4 | No core |
| 15.9-22.6 | 6.7 | Siltstone: gray, massive, micaceous |
| 22.6-32.5 | 9.9 | Siltstone: gray, undulatory laminae with 1-3 mm thick sandy layers and lenses, crossbedding |
| 32.5-37.4 | 4.9 | Siltstone: black and gray, laminated crossbedded |

County: Dickenson
VDMR Well No. 1809

| Depth (feet) | Thickness (feet) | Description |
|---|---|---|
| 37.4-74.2 | 36.8 | Sandstone: light gray, massive, micaceous; angular to subangular quartz, 70 to 80 percent; feldspar (microcline more abundant than plagioclase), about 10 percent; matrix of illite, biotite, and chlorite, about 10 percent; a minor amount of calcareous cement; sporadic partings of detrital coal grains—present to lesser extent in siderite-bearing zones; detrital grains of red brown to brown siderite grains occur at 57.4' to 57.7', 60.3' to 60.8', 61.6', 73.9', 74.2', and 73.9' to 74.2' size of siderite grains 0.25 to 1 mm in layer 1 to 7 mm thick; elongated blebs and 10 to 15 mm cigar shaped lenticles of detrital siderite "concretions", 30 percent of the interval between 73.9' and 74.2'; limonitic stains on both sides of joint from 47.6' to 48.4' |
| 74.2-102.7 | 28.5 | Sandy siltstone: gray to dark gray micaceous with sandy layers 10 to 15 mm thick, bituminous partings occur at 96.5' |

County: Dickenson
VDMR Well No. 1809

## GEOLOGIC LOG

| Depth (feet) | Thickness (feet) | Description |
|---|---|---|
| 0.0-4.6 | 4.6 | Overburden |
| 4.6-5.5 | 0.9 | No core |
| 5.5-7.4 | 1.9 | Siltstone: weathered, light-brown, micaceous |
| 7.4-9.1 | 1.7 | Siltstone and sandstone: interlayered gray, finely-laminated with micaceous partings |
| 9.1-9.9 | 0.8 | No core |
| 9.9-10.2 | 0.3 | Siltstone: gray, micaceous |
| 10.2-10.8 | 0.6 | No core |
| 10.8-11.2 | 0.4 | Coal, bituminous |
| 11.2-12.2 | 1.0 | No core |
| 12.2-12.7 | 0.5 | Underclay: light-gray, soft, with limonitic stains and roots |
| 12.7-13.5 | 0.8 | No core |
| 13.5-15.5 | 2.0 | Siltstone: massive, soft, brown, micaceous; with carbonaceous leaf imprints |
| 15.5-15.9 | 0.4 | No core |
| 15.9-22.6 | 6.7 | Siltstone: gray, massive, micaceous |
| 22.6-32.5 | 9.9 | Siltstone: gray, undulatory laminae with 1-3 mm-thick sandy layers and lenses, crossbedding |
| 32.5-37.4 | 4.9 | Siltstone: black and gray, laminated and crossbedded |

County: Dickenson
VDMR Well No. 1809

| Depth (feet) | Thickness (feet) | Description |
|---|---|---|
| 37.4-74.2 | 36.8 | Sandstone: light-gray, massive, micaceous; angular to subangular quartz, 70 to 80 percent; feldspar (microcline more abundant than plagioclase), about 10 percent; matrix of illite, biotite, and chlorite, about 10 percent; a minor amount of calcareous cement; sporadic partings of detrital coal grains--present to lesser extent in siderite-bearing zones; detrital grains of red-brown to brown siderite grains occur at 57.4' to 57.7', 60.3' to 60.8', 61.6', 73.9', 74.2', and 73.9' to 74.2', size of siderite grains 0.25 to 1 mm in layer 1-to-7 mm thick; elongated blebs and 10-to-15 mm cigar-shaped lenticles of detrital siderite "concretions", 30 percent of the interval between 73.9' and 74.2'; limonitic stains on both sides of joint from 47.6' to 48.4' |
| 74.2-102.7 | 28.5 | Sandy siltstone: gray to dark-gray, micaceous with sandy layers 10 to 15 mm thick, bituminous partings occur at 96.5' |

UNITED STATES ENGINEER OFFICE
HUNTINGTON, W. VA.
OPERATION DIVISION
SURVEYS SECTION

Date 12 - 21 - 38

REPORT OF CORE BORING

Sheet 1 of 4

UDMR Well No. 1809

Project Skeet Rock Dam Site, Pound River, Virginia.

Hole No. 6 Dia. 2 1/8" Location Center line Sta. 1+37.2

Date started 12 - 19 - 38 Completed 12 - 21 - 38

Driller Adams and Henry Inspector Hobart G. Warren

Type of drilling equipment used U. S. Government Core Drill.

From Elev. 1355.00 To Elev. 1335.00 on this page.

| | | | |
|---|---|---|---|
| Elev. of top of Hole | 1355.00 | Plan depth of Hole | --- |
| Elev. of top of rock | 1350.39 | Total overburden drilled | 4.61 |
| Elev. bottom of hole | 1252.35 | Total rock drilled | 98.04 |
| Elev. of ground water | None | Total rock recovered | 92.58 |
| Elev. of water lost | 1349.00 | Total depth of Hole | 102.65 |
| Elev. water regained | ----- | Deviation from plan depth | --- |
| Number of Core Boxes | 5 | | |

DETAIL OF LOG

| Depth | Elev. | Scale | Legend | Material Classification | Drilling Time Min./Ft. | Box No. | Remarks |
|---|---|---|---|---|---|---|---|
| 0.00 | 1355.00 | | | Top of Hole. | | | |
| | | | | Silt, sand and soft, loose, brown shale. | 0:55 | | |
| 4.61 | 1350.39 | | | | | | Top of Rock. |
| | 1349.49 | | Loss 0.90 | Soft, brown, sandy shale. (Weathered) | 1:00 | 1 | Loss 0.90 Water Loss |
| | 1349.00 | | | | | | Change |
| 7.38 | 1347.62 | | | | | | |
| | 1345.93 | | | Hard, grey sandstone. | 0:45 | 1 | |
| | 1345.17 | | Loss 0.76 | | | | Loss 0.76 |
| 10.13 | 1344.87 | | | | | | Change |
| | 1344.24 | | Loss 0.63 | Badly broken coal. | 0:20 | 1 | Loss 0.63 |
| 11.13 | 1343.87 | | | | | | Change |
| | 1342.90 | | Loss 0.97 | Soft, grey clay. | 0:20 | | Loss 0.97 |
| 12.63 | 1342.37 | | | | | | Change |
| | | | Loss 1.78 | Soft, brown sandstone. Badly broken. | 1:35 | 1 | Loss 1.78 |
| | 1340.59 | | | | | | |
| | | | | | | | Change |
| 16.42 | 1338.58 | | | | | | Loss 0.42 |
| | 1338.16 | | Loss 0.42 | | | | |
| | | | | Hard, grey, sandy shale. | 1:35 | 1 | |
| | 1335.00 | | | | | | Bottom of sht. |

Submitted _____
Engineer

Approved _____
Major, Corps of Engineers,
Chief, Operation Division.

UNITED STATES ENGINEER OFFICE
HUNTINGTON, W. VA.
OPERATION DIVISION
SURVEYS SECTION

Date 12 - 21 - 38

REPORT OF CORE BORING

Sheet 2 of 4

Hole No. 6 From El. 1335.00 To El. 1306.00 on this page.

DETAIL OF LOG

| Depth | Elev. 1335.00 | Scale | Legend | Material Classification | Drilling Time Min./Ft. | Box No. | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Hard, grey, sandy shale. | | 1 | |
| 23.55 | 1331.45 | | | | | | Change |
| | | | | Hard, grey, sandy shale, laminated with sandstone | 0:55 | 1 | |
| | 1327.60 | | | | | | Bottom box #1 |
| | | | | | | 2 | |
| 28.61 | 1326.39 | | | | | | Change |
| 29.87 | 1325.13 | | | Hard, grey sandstone, laminated with shale. | | 2 | Change |
| | | | | Hard, grey, sandy shale. | 0:35 | 2 | |
| 32.50 | 1322.50 | | | | | | Change |
| | | | | Hard, grey sandstone with thin shale laminations. | 1:15 | 2 | |
| 33.00 | 1316.00 | | | | | | Change |
| | | | | | | 2 | |
| | | | | Hard, coarse, grey sandstone. | 3:30 | | |
| | 1308.74 | | | | | | Bottom box #2 |
| | | | | | | 3 | |
| | 1306.00 | | | | | | Bottom of sht. |

Submitted _____ Approved _____

Engineer

Major, Corps of Engineers,
Chief, Operation Division.

UNITED STATES ENGINEER OFFICE
HUNTINGTON, W. VA.
OPERATION DIVISION
SURVEYS SECTION

Date 12 - 21 - 38

REPORT OF CORE BORING

Sheet 3 of 4

Hole No. 6 From El. 1306.00 To El. 1279.00 on this page.

DETAIL OF LOG

| Depth | Elev. | Scale | Legend | Material Classification | Drilling Time Min./Ft. | Box No. | Remarks |
|---|---|---|---|---|---|---|---|
| | 1306.00 | | | | | | |
| | | | | | | 3 | |
| | | | | Hard, coarse, grey sandstone. | | | |
| | 1289.59 | | | | | | Bottom box #3 |
| | | | | | | 2 | |
| 74.13 | 1280.87 | | | | | | Change |
| | | | | Hard, grey, sandy shale. | 0:20 | 4 | |
| | 1279.00 | | | | | | Bottom of sht. |

Submitted _____ Approved _____

Engineer

Major, Corps of Engineers,
Chief, Operation Division.

UNITED STATES ENGINEER OFFICE
HUNTINGTON, W. VA.
OPERATION DIVISION
SURVEYS SECTION

Date 12 - 21 - 38

REPORT OF CORE BORING

Sheet 4 of 4

Hole No. 6 From El. 1279.00 To El. 1252.35 on this page.

DETAIL OF LOG

| Depth | Elev. 1279.00 | Scale | Legend | Material Classification | Drilling Time Min./Ft. | Box No. | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Hard, grey, sandy shale. | | 4 | |
| 77.05 | 1277.95 | | | | | | Change |
| | | | | Hard, grey, sandy shale laminated with sandstone. | 0:20 | 4 | |
| 79.65 | 1275.35 | | | | | | Change |
| | | | | | | 4 | |
| | 1270.52 | | | | | | Bottom box #4 |
| | | | | Hard, dark grey shale. | 3:35 | | |
| | | | | | | 5 | |
| 102.65 | 1252.35 | | | | | | Bottom of Hole |

Submitted _____
Engineer

Approved _____
Major, Corps of Engineers,
Chief, Operation Division.

County: Dickenson
VDMR Well No. 1809

Well: Skeet Rock Dam Site, hole 6
Farm:
Driller: Adams and Henry (U.S. Corps of Engr., contractor)
Location: Hays; quadrangle - approximate UTM, 379350 m.E and 4119870 m. N; about 2.5 miles southeast of Skeetrock and 4.5 miles northeast of Hays; also just east of the mouth of Lower Twin Branch along the Pound River.
Elevation: 1355.00 feet
Total depth: 102.65 feet
Started drilling: 12/19/38 Completed drilling: 12/21/38
Sample description by: R.S. Good, Virginia Division of Mineral Resources, 2/9/67
References: U.S. Engineers Office, Huntington, W.Va., Report of Core Boring, 12/21/38, and map of proposed Skeetrock dam site, preliminary site survey.

## GEOLOGIC SUMMARY

| Depth (feet) | Thickness (feet) | Formation (and remarks) |
|---|---|---|
| 0.0 - 4.6 | 4.6 | Overburden. |
| 4.6 - 5.5 | 0.9 | No core. (Within the first 16 feet, there is an additional lack of core totaling 3.6 feet.) |
| 5.5 - 102.7 | 97.2 | Norton Formation: composed of siltstone and sandstone with detrital siderite grains between 37.4' and 74.2' and carbonaceous leaf prints from 13.5' to 15.5'. |

County: Dickenson
VDMR Well No. 1809

| Depth (feet) | Thickness (feet) | Description |
|---|---|---|
| 37.4-74.2 | 36.8 | Sandstone: light gray, massive, micaceous; angular to subangular quartz, 70 to 80 percent; feldspar (microcline more abundant than plagioclase), about 10 percent; matrix of illite, biotite, and chlorite, about 10 percent; a minor amount of calcareous cement; sporadic partings of detrital coal grains - present to lesser extent in siderite-bearing zones; detrital grains of red brown to brown siderite grains occur at 57.4' to 57.7', 60.3' to 60.8', 61.6', 73.9', 74.2', and 73.9' to 74.2'; size of siderite grains 0.25 to 1 mm in layer 1 to 7 mm thick; elongated blebs and 10 to 15 mm cigar shaped lentides of detrital siderite "concretions", 30 percent of the interval between 73.9' and 74.2'; limonitic stains on both sides of joint from 47.6' to 48.4'. |
| 74.2-102.7 | 28.5 | Sandy siltstone: gray to dark gray micaceous with sandy layers 10 to 15 mm thick, bituminous partings occur at 96.5'. |

Well No.: Skeet Rock Dam, Site C
Hole No. 6
County: Dickenson
VDMR Well No.: 1809
Farm: John T. Flannagan Dam
Driller: Adams and Henry (U. S. Corps of Engineers - Contractor)
Inclination: Vertical
Elevation: 1355.0
Total Depth: 102.7
Date Started: 12/19/38
Date Completed: 12/12/38
Sample description by: R. S. Good, 2/9/67

## GEOLOGIC LOG

| Depth (feet) | Thickness (feet) | Description |
|---|---|---|
| 0.0-4.6 | 4.6 | Overburden, no core |
| 4.6-5.5 | 0.9 | No core. |
| 5.5-7.4 | 1.9 | Siltstone: weathered, light brown, micaceous, ~~with bedding horizontal~~. |
| 7.4-9.1 | 1.7 | Siltstone and sandstone: interlayered, gray, finely laminated with micaceous partings. ~~Bedding is 30° to core axis.~~ |
| 9.1-9.9 | 0.8 | No core. |
| 9.9-10.2 | 0.3 | Siltstone: gray, micaceous. |
| 10.2-10.8 | 0.6 | No core. |
| 10.8-11.2 | 0.34 | Coal, bituminous. |
| 11.2-12.2 | 1.0 | No core. |
| 12.2-12.7 | 0.5 | Underclay: light gray, soft, with limonitic stains and roots. |
| 12.7-13.5 | 0.8 | No core. |
| 13.5-15.5 | 2.0 | Siltstone: massive, soft, brown micaceous, with carbonaceous leaf imprints. |
| 15.5-15.9 | 0.4 | No core. |

| Depth | Thickness | Description |
|---|---|---|
| 15.9-22.6 | 6.7 | Siltstone: massive, gray, micaceous. |
| 22.6-32.5 | 9.59 | Siltstone: gray, undulatory laminated with 1-3 mm thick sandy layers and lenses, crossbedding. ~~Laminae are 75° to core axis.~~ |
| 32.5-37.4 | 4.9 | Siltstone: black and gray, laminated, crossbedded. |
| 37.4-74.2 | 36.8 | Sandstone; subgraywacke, light gray, massive, micaceous, and feldspathic. This poorly winnowed sandstone is of uniform megascopic appearance except for localized concentrations of siderite fragments. Angular to subangular quartz 70-80% is in a matrix of ~~micas~~ and chlorite (~ 10%) and feldspar (~ 10%). X-ray examination shows that microcline is more abundant than plagioclase in the feldspars, which have not altered to clay. Locally, there is a minor ~~(accessory)~~ amount of calcareous cement. ~~X-ray shows the mica content to be illite, biotite, and chlorite.~~ Carbonaceous partings occur sporadically but are not abundant in the siderite zones. One area of coaly partings without siderite is at 664'-66.6'. The partings are composed of detrital coal grains. Red brown to brown siderite occurs as detrital grains, at 57.4'-57.7', 60.3'-60.8', 61.6', 73.9', 74.2', and 73.9'-74.2'. The siderite ~~occurs as~~ grains are 0.25 - 1 mm in size and layers that are 1-7 mm thick. From 73.9'-74.2' elongated blobs and 10-15 mm cigar shaped lenticles of clastic siderite "concretions" make up 30 % of the rock. There are limonitic stains on either side of a joint from 47.6' to 48.4'. |
| 74.2-102.7 | 28.5 | Siltstone, sandy: gray to dark gray micaceous with sandy layers 10-15 mm thic bituminous partings occur at 96.5'. |

illite, biotite,

Use percent instead of %

Use about instead of ~

Compose

County: Dickenson
VDMR Well No. 1809

| Depth (feet) | Thickness (feet) | Description |
|---|---|---|
| 37.4-74.2 | 36.8 | Sandstone: light gray, massive, micaceous; ~~and feldspathic subgraywacke. This poorly winnowed sandstone is of uniform megascopic appearance except for localized concentrations of siderite fragments.~~ Angular to subangular quartz (70-80 percent) in a matrix of illite, biotite, and chlorite (about 10 percent), and feldspar (about 10 percent). ~~X-ray examination shows that~~ microcline ~~is~~ more abundant than plagioclase ~~in the feldspars, which have not altered to clay.~~ ~~Locally, there is~~ and a minor amount of calcareous cement. ~~Carbonaceous~~ partings occur sporadically but ~~are~~ not abundant in ~~the~~ siderite zones; one ~~area~~ zone of coal partings without siderite is at 66.4'-66.6'. ~~These partings are composed of detrital coal grains.~~ of detrital coal grains Red brown to brown siderite occurs as detrital grains at 57.4'-57.7', 60.3'-60.8', 61.6', 73.9', 74.2', and 73.9'-74.2'. The siderite grains are 0.25-1 mm in size and compose layers that are 1-7 mm thick. From 73.9'-74.2' elongated blebs and 10-15 mm cigar shaped lenticles of clastic siderite "concretions" make up 30 percent of the rock. There are limonitic stains on either side of a joint from 47.6' to 48.4'. |
| 74.2-102.7 | 28.5 | Siltstone, sandy: gray to dark gray micaceous with sandy layers 10-15 mm thick, bituminous partings occur at 96.5'. |