



Elastic Moduli of Intact Rock Core Specimens in Uniaxial Compression
ASTM D7012-10

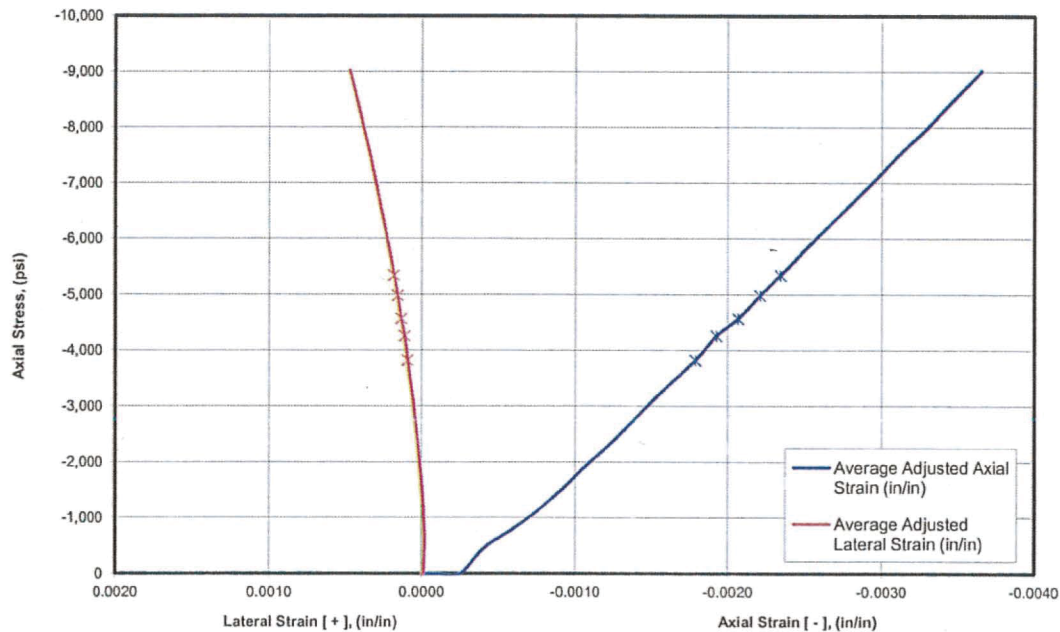
Project Name: Clinch River SMR
Project Number: 6468-13-1072

Sample No.: L3-71 BH
Boring No.: MP-416
Run. No.: N/A
Sample Depth (ft): 255.1-255.7

Tested By: Mike Hamilton *mh*
Test Date: 1/26/2014 *1/31/14*
Reviewed By: Allen Cottingham *mtc*
Review Date: 1/30/2014 *1-30-14*

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Rock Type	(See boring log)
Moisture Condition	Laboratory Air-Dry
Specimen Diameter, (in)	2.39
Specimen Length, (in)	5.37
Length/Diameter Ratio	2.2
Specimen Conforms with Dimensional Requirements?	Yes
As-Tested Unit Weight, (pcf)	169.2 <i>169 g/cc 3/6/14</i>
Loading Rate (lb/sec)	160
Test Duration to Failure, (min)	5.3
Uniaxial Compressive Strength, (psi)	9,240
Type of Break	Shear
Young's Modulus, (psi)	2,680,000
Poisson's Ratio	0.16



Comments:

Young's Modulus and Poisson's Ratio determined using linear least-squares of stress-strain data from 40% to 60% of the uniaxial compressive strength (data points used are indicated on the figure above).

Axial Strain is negative; Lateral Strain is positive. Load direction with respect to lithology: Vertical



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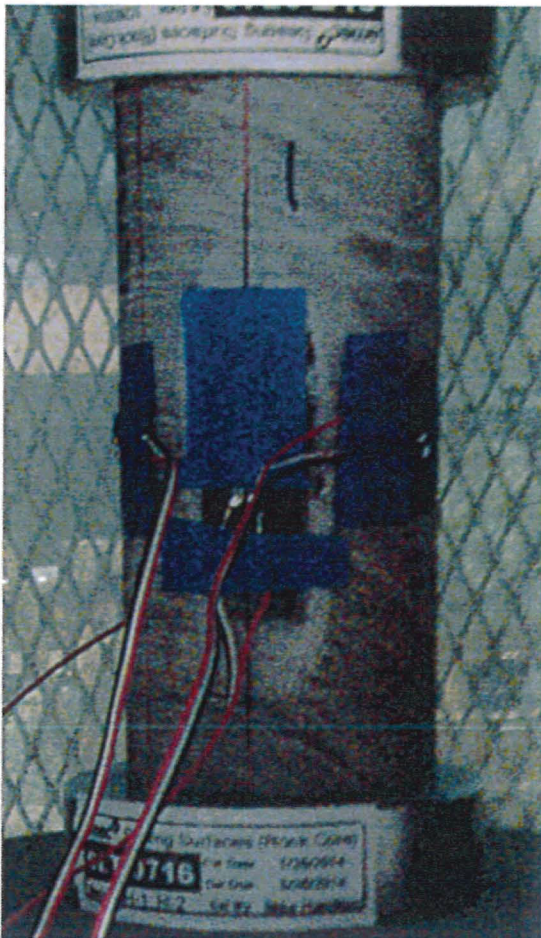
Project Name: Clinch River SMR
Project Number: 6468-13-1072

Sample No.: L3-71 BH
Boring No.: MP-416
Run. No.: N/A
Sample Depth (ft): 255.1-255.7

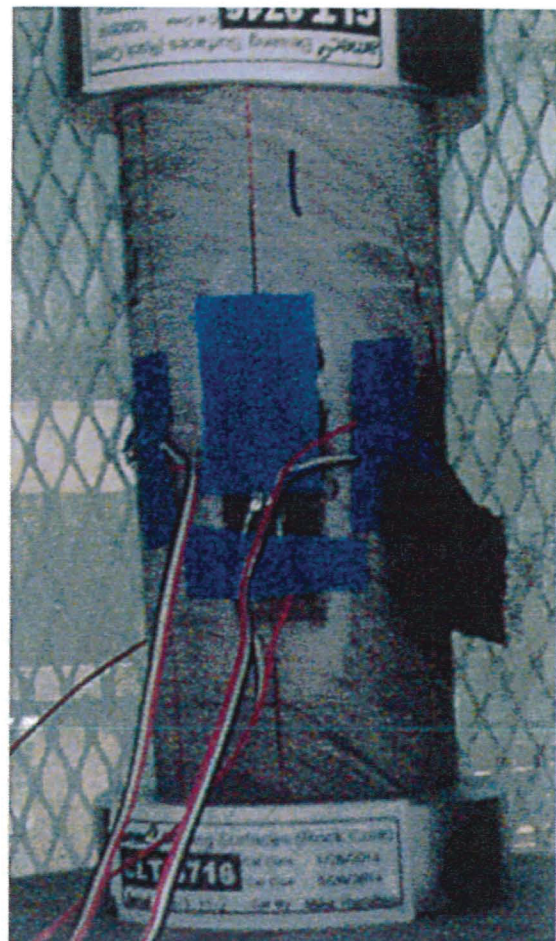
Tested By: Mike Hamilton *MH*
Test Date: 1/26/2014 *1/31/14*
Reviewed By: Allen Cottingham *ABC*
Review Date: 1/30/2014 *1-30-14*

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Specimen Prior to Testing
("MP-416 L3-71 BH before test.jpg"):



Specimen After Testing
("MP-416 L3-71 BH after test.jpg"):



Comments:



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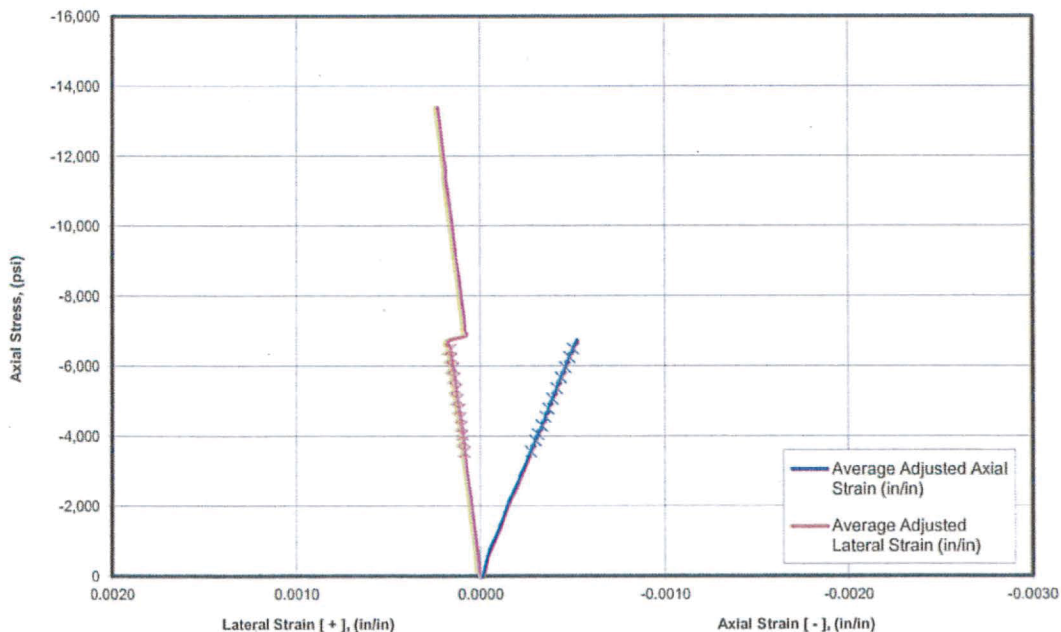
Project Name: Clinch River SMR
 Project Number: 6468-13-1072

Sample No.: L2-38-BH
 Boring No.: MP-419
 Run. No.: N/A
 Sample Depth (ft): 157.1'-157.8'

Tested By: Mike Hamilton *MEH*
 Test Date: 1/8/2014 *1/22/14*
 Reviewed By: Allen Cottingham *ABC*
 Review Date: 1/21/2014 *1-21-14*

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Rock Type	(See boring log)
Moisture Condition	Laboratory Air-Dry
Specimen Diameter, (in)	2.40
Specimen Length, (in)	5.36
Length/Diameter Ratio	2.2
Specimen Conforms with Dimensional Requirements?	No ⁽¹⁾
As-Tested Unit Weight, (pcf)	169.0 169 <i>169 3/4</i>
Loading Rate (lb/sec)	130
Test Duration to Failure, (min)	10.3
Uniaxial Compressive Strength, (psi)	16,830
Type of Break	Columnar
Young's Modulus, (psi)	12,910,000
Poisson's Ratio	0.35



Comments:

Young's Modulus and Poisson's Ratio determined using linear least-squares of stress-strain data from 40% to 60% of the uniaxial compressive strength (data points used are indicated on the figure above).

Axial Strain is negative; Lateral Strain is positive. Load direction with respect to lithology: Vertical

⁽¹⁾ Specimen did not meet end flatness requirements of ASTM D4543-08. Authorization to proceed with test received from John Damm.



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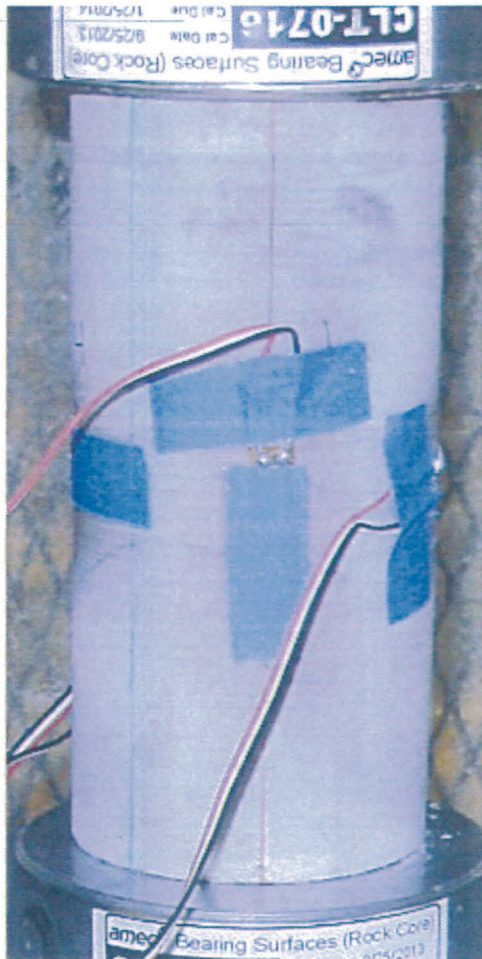
Project Name: Clinch River SMR
Project Number: 6468-13-1072

Sample No.: L2-38-BH
Boring No.: MP-419
Run. No.: N/A
Sample Depth (ft): 157.1'-157.8'

Tested By: Mike Hamilton *MEH*
Test Date: 1/8/2014 *1/22/14*
Reviewed By: Allen Cottingham *MAC*
Review Date: 1/21/2014 *1-21-14*

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Specimen Prior to Testing
("MP-419 L2-38 BH before test (2).jpg"):



Specimen After Testing
("MP-419 L2-38 BH after test (3).jpg"):



Comments:



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Project Name: Clinch River SMR
Project Number: 6468-13-1072

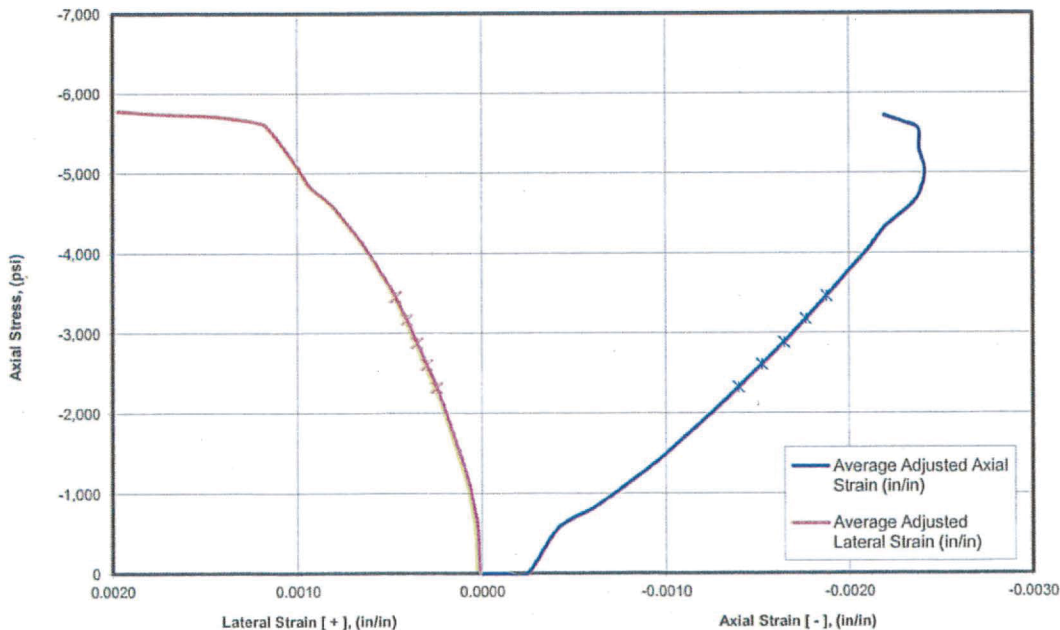
Sample No.: L2-40-BCH
Boring No.: MP-419
Run. No.: N/A
Sample Depth (ft): 173.4'-174.1'

Tested By: Mike Hamilton
Test Date: 1/15/2014
Reviewed By: Allen Cottingham
Review Date: 1/21/2014

MEH
1/27/14
NAC
1-21-14

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Rock Type	(See boring log)
Moisture Condition	Laboratory Air-Dry
Specimen Diameter, (in)	2.39
Specimen Length, (in)	5.52
Length/Diameter Ratio	2.3
Specimen Conforms with Dimensional Requirements?	No ⁽¹⁾
As-Tested Unit Weight, (pcf)	161.4
Loading Rate (lb/sec)	130
Test Duration to Failure, (min)	5
Uniaxial Compressive Strength, (psi)	5,810
Type of Break	Columnar
Young's Modulus, (psi)	2,360,000
Poisson's Ratio	0.45



Comments:

Young's Modulus and Poisson's Ratio determined using linear least-squares of stress-strain data from 40% to 60% of the uniaxial compressive strength (data points used are indicated on the figure above).

Axial Strain is negative; Lateral Strain is positive. Load direction with respect to lithology: Vertical

⁽¹⁾ Specimen did not meet side straightness, end perpendicularity, end flatness requirements of ASTM D4543-08.

Authorization to proceed with test received from John Damm.



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Project Name: Clinch River SMR
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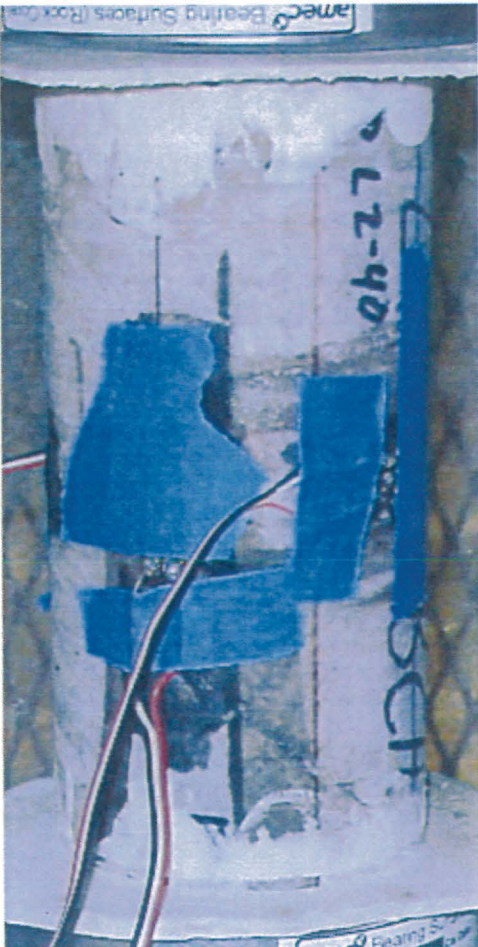
Sample No.: L2-40-BCH
Boring No.: MP-419
Run. No.: N/A
Sample Depth (ft): 173.4'-174.1'

Tested By: Mike Hamilton
Test Date: 1/15/2014
Reviewed By: Allen Cottingham
Review Date: 1/21/2014

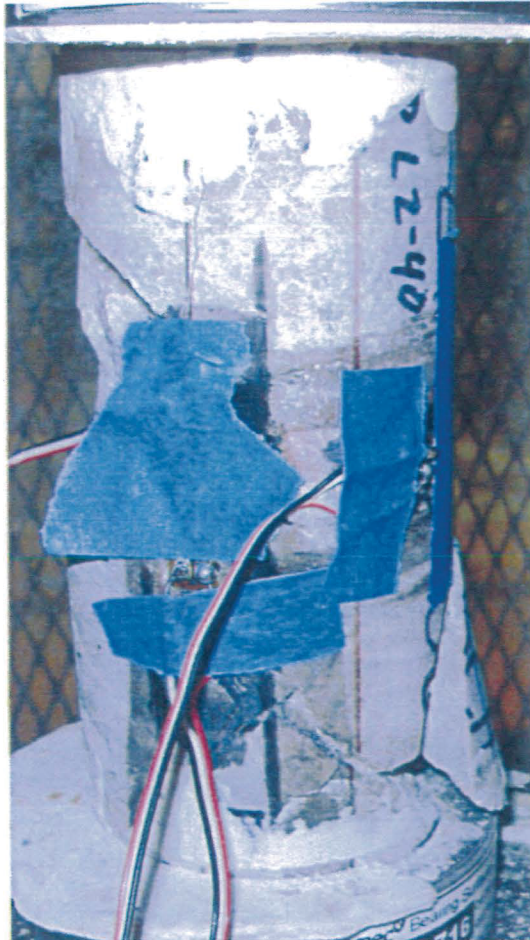
MEH
1/22/14
MPC
1-21-14

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Specimen Prior to Testing
("MP-419 L2-40 BCH Before test.jpg"):



Specimen After Testing
("MP-419 L2-40 BCH after test (2).jpg"):



Comments:



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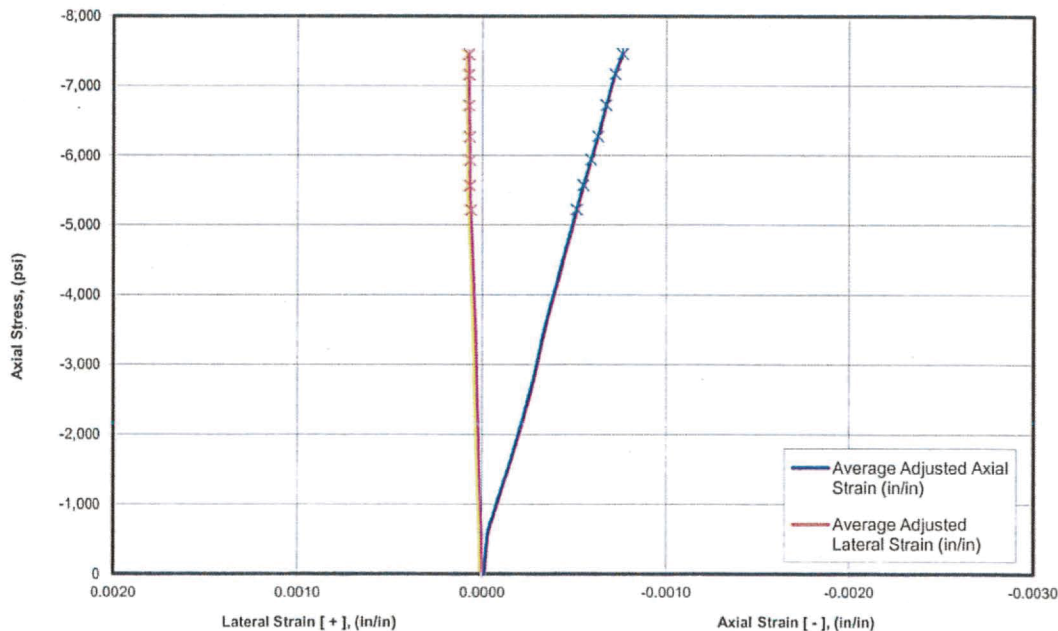
Project Name: Clinch River SMR
Project Number: 6468-13-1072

Sample No.: L7-26 BCH
Boring No.: MP-421
Run. No.: N/A
Sample Depth (ft): 175.5-178.3

Tested By: Mike Hamilton *mh*
Test Date: 1/21/2014 *1/21/14*
Reviewed By: Allen Cottingham *ABC*
Review Date: 1/29/2014 *1-31-14*

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Rock Type	(See boring log)
Moisture Condition	Laboratory Air-Dry
Specimen Diameter, (in)	2.39
Specimen Length, (in)	4.91
Length/Diameter Ratio	2.1
Specimen Conforms with Dimensional Requirements?	No ⁽¹⁾
As-Tested Unit Weight, (pcf)	176.0 <i>176</i> <i>8/23/14</i>
Loading Rate (lb/sec)	160
Test Duration to Failure, (min)	6.3
Uniaxial Compressive Strength, (psi)	12,510
Type of Break	Shear
Young's Modulus, (psi)	9,040,000
Poisson's Ratio	0.05



Comments:

Young's Modulus and Poisson's Ratio determined using linear least-squares of stress-strain data from 40% to 60% of the uniaxial compressive strength (data points used are indicated on the figure above).

Axial Strain is negative; Lateral Strain is positive. Load direction with respect to lithology: Vertical

⁽¹⁾ Specimen did not meet End Perpendicularity and end flatness requirements of ASTM D4543-08. Authorization to proceed with test received from John Damm.



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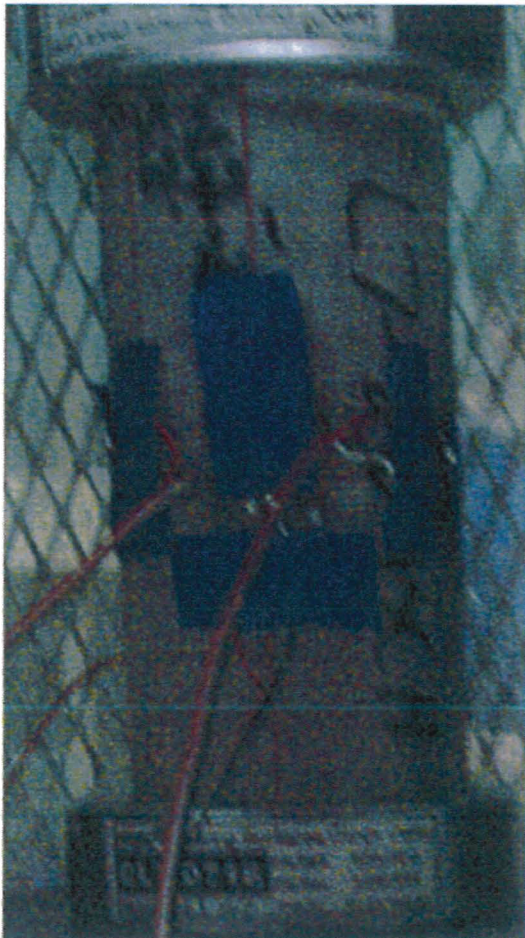
Project Name: Clinch River SMR
Project Number: 6468-13-1072

Sample No.: L7-26 BCH
Boring No.: MP-421
Run. No.: N/A
Sample Depth (ft): 175.5-178.3

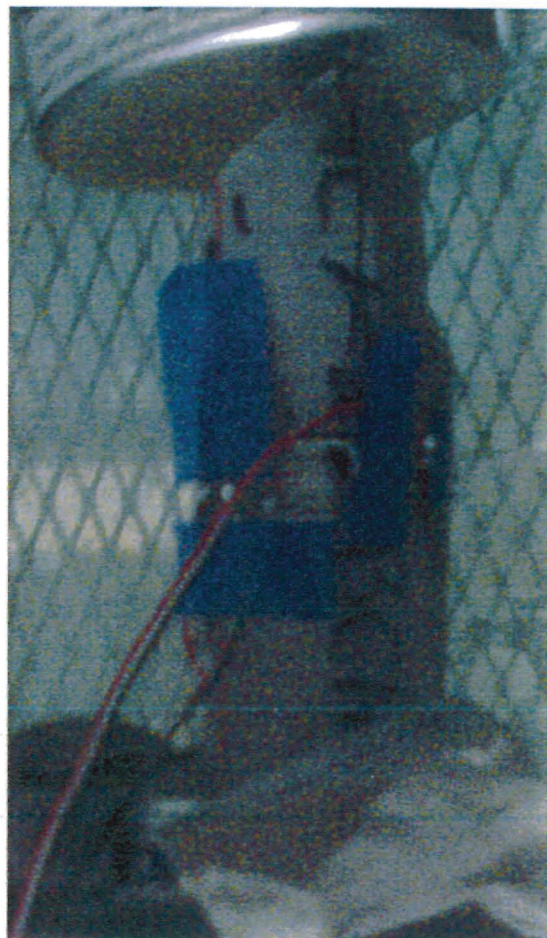
Tested By: Mike Hamilton *MH*
Test Date: 1/21/2014 *1/31/14*
Reviewed By: Allen Cottingham *MAC*
Review Date: 1/29/2014 *1-31-14*

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Specimen Prior to Testing
("MP-421 L7-26 BCH before test.jpg"):



Specimen After Testing
("MP-421 L7-26 BCH after test.jpg"):



Comments:
