



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

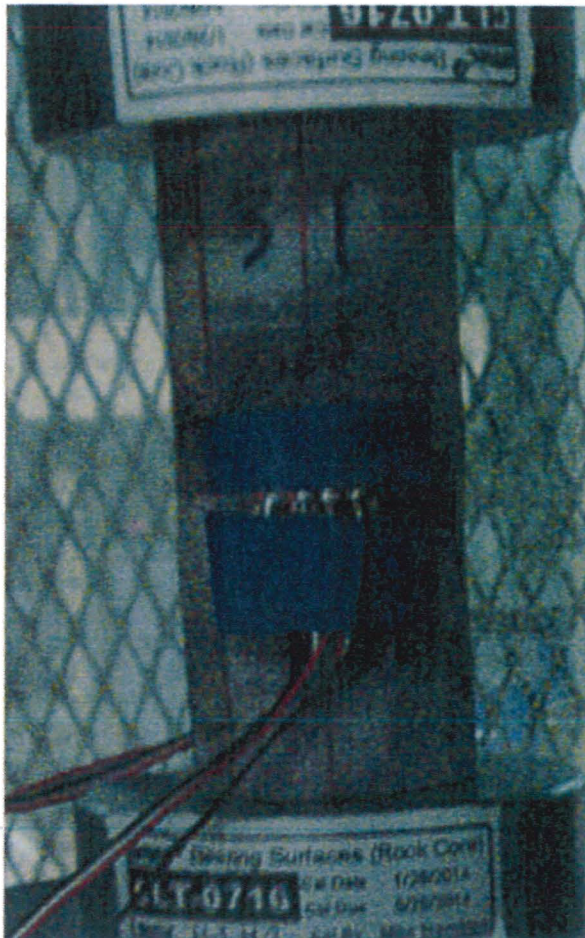
Project Name: Clinch River SMR  
Project Number: 6468-13-1072

Sample No.: L3-5 BH  
Boring No.: MP-105  
Run. No.: N/A  
Sample Depth (ft): 82.7-83.3

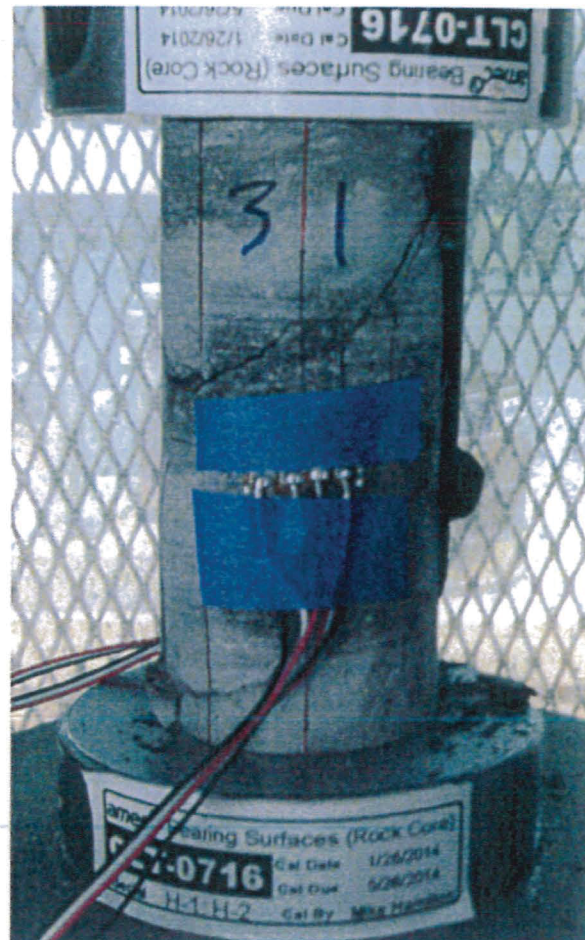
Tested By: Mike Hamilton *mh*  
Test Date: 1/27/2014 *1/31/14*  
Reviewed By: Allen Cottingham *mac*  
Review Date: 1/30/2014 *1-30-14*

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Specimen Prior to Testing  
("MP-105 L3-5-BH before test.jpg"):



Specimen After Testing  
("MP-105 L3-5-BH after test.jpg"):



Comments:

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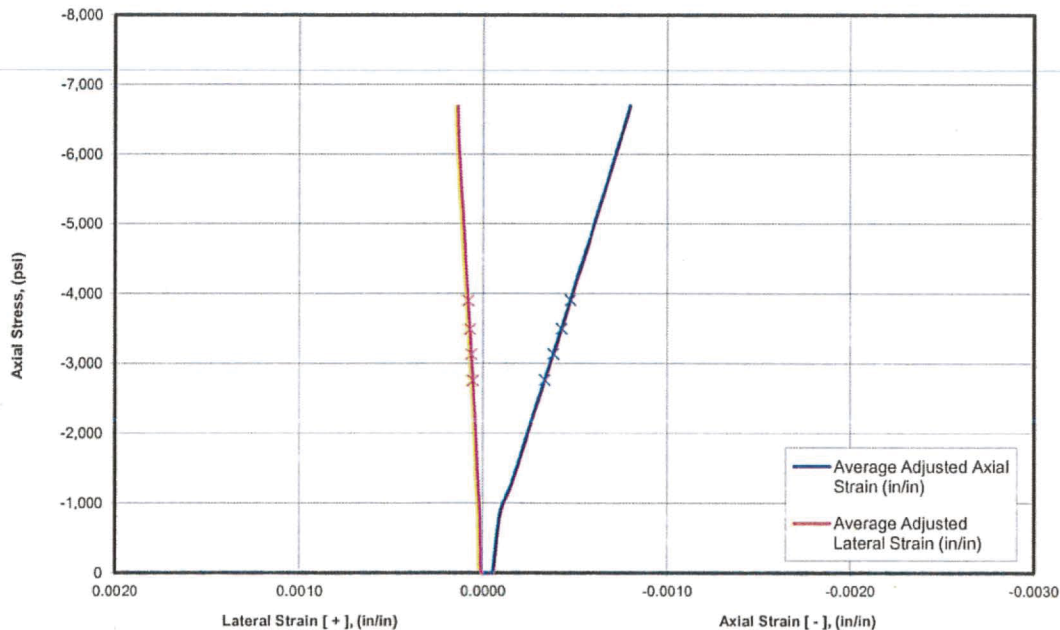
Project Name: Clinch River SMR  
Project Number: 6468-13-1072

Sample No.: L3-7 BH  
Boring No.: MP-105  
Run. No.: N/A  
Sample Depth (ft): 138.1-138.9

Tested By: Mike Hamilton *mh*  
Test Date: 1/27/2014 *1/31/14*  
Reviewed By: Allen Cottingham *mcg*  
Review Date: 1/30/2014 *1/31/14*

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Rock Type	(See boring log)
Moisture Condition	Laboratory Air-Dry
Specimen Diameter, (in)	1.77
Specimen Length, (in)	4.16
Length/Diameter Ratio	2.4
Specimen Conforms with Dimensional Requirements?	No <sup>(1)</sup>
As-Tested Unit Weight, (pcf)	<del>168.9</del> 169 <i>g/cc 3/6/14</i>
Loading Rate (lb/sec)	90
Test Duration to Failure, (min)	4
Uniaxial Compressive Strength, (psi)	6,800
Type of Break	Shear
Young's Modulus, (psi)	8,230,000
Poisson's Ratio	0.19



**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

<sup>(1)</sup> Specimen did not meet Side Straightness and End Flatness requirements of ASTM D4543-08. Authorization to proceed with test received from John Damm.





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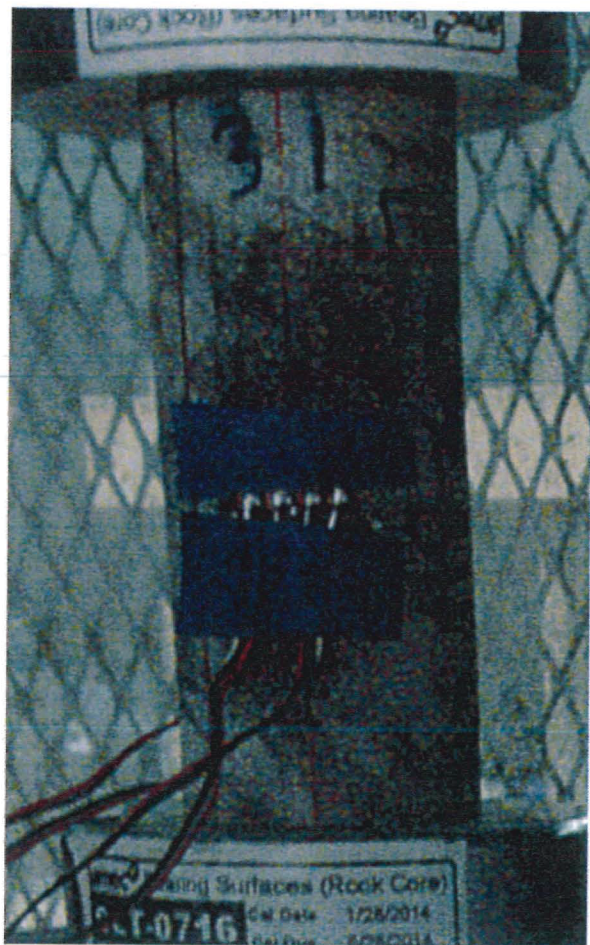
Project Name: Clinch River SMR  
Project Number: 6468-13-1072

Sample No.: L3-7 BH  
Boring No.: MP-105  
Run. No.: N/A  
Sample Depth (ft): 138.1-138.9

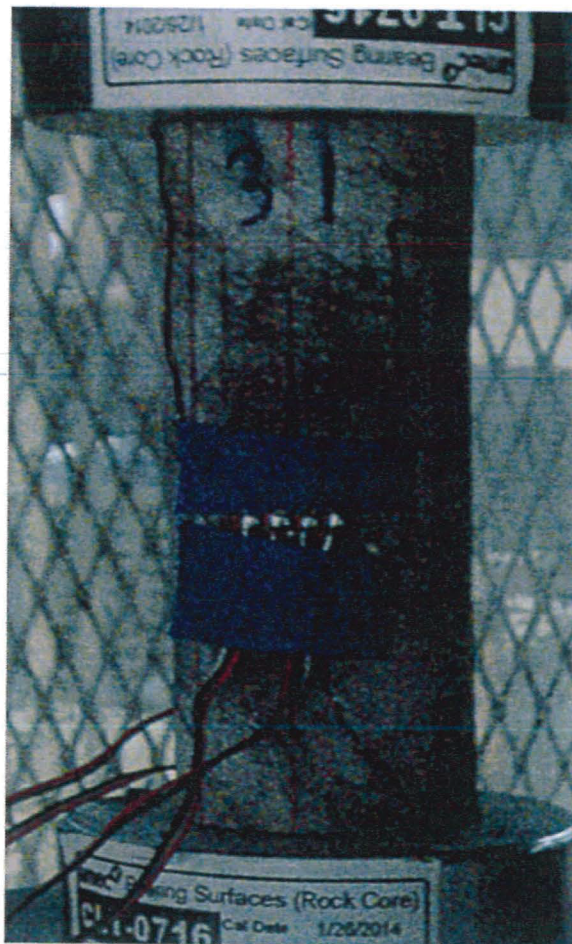
Tested By: Mike Hamilton *MH*  
Test Date: 1/27/2014 *1/31/14*  
Reviewed By: Allen Cottingham *MAC*  
Review Date: 1/30/2014 *1-30-14*

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Specimen Prior to Testing  
("MP-105 L3-7-BH before test.jpg"):



Specimen After Testing  
("MP-105 L3-7-BH after test.jpg"):



Comments:

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Elastic Moduli of Intact Rock Core Specimens in Uniaxial Compression  
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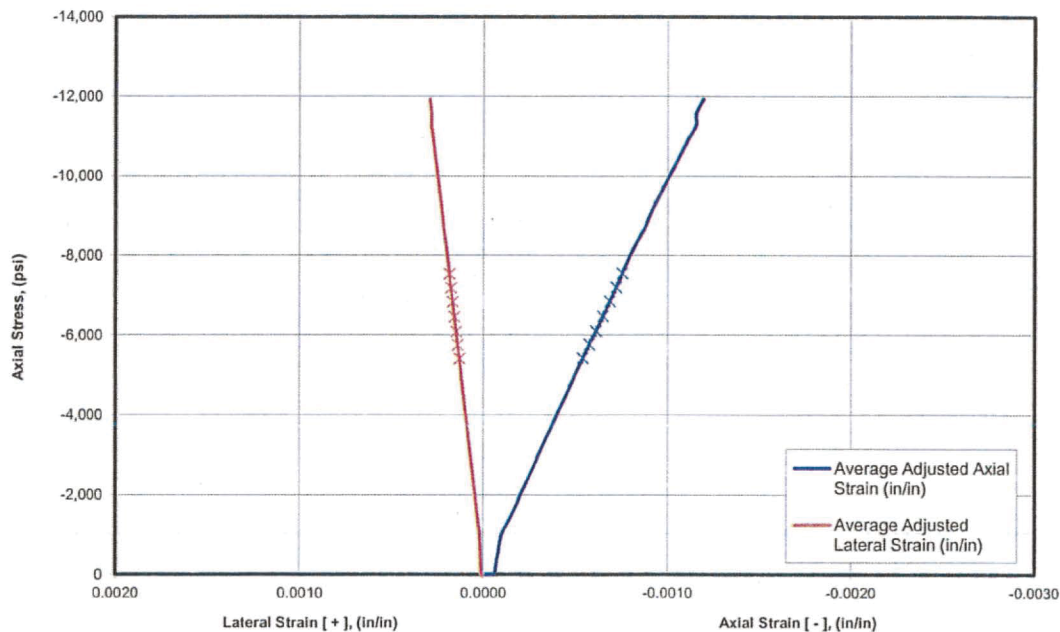
Project Name: Clinch River SMR  
Project Number: 6468-13-1072

Sample No.: L3-9 BH  
Boring No.: MP-105  
Run. No.: N/A  
Sample Depth (ft): 186.6-187.2

Tested By: Mike Hamilton *mh*  
Test Date: 1/27/2014 *1/31/14*  
Reviewed By: Allen Cottingham *mac*  
Review Date: 1/30/2014 *1-31-14*

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Rock Type	(See boring log)
Moisture Condition	Laboratory Air-Dry
Specimen Diameter, (in)	1.77
Specimen Length, (in)	3.85
Length/Diameter Ratio	2.2
Specimen Conforms with Dimensional Requirements?	No <sup>(1)</sup>
As-Tested Unit Weight, (pcf)	166.4 <i>166 JES 1/6/A</i>
Loading Rate (lb/sec)	90
Test Duration to Failure, (min)	7
Uniaxial Compressive Strength, (psi)	13,100
Type of Break	Shear
Young's Modulus, (psi)	9,880,000
Poisson's Ratio	0.25



**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

<sup>(1)</sup> Specimen did not meet End Flatness requirements of ASTM D4543-08. Authorization to proceed with test received from John Damm.





Elastic Moduli of Intact Rock Core Specimens in Uniaxial Compression

ASTM D7012-10

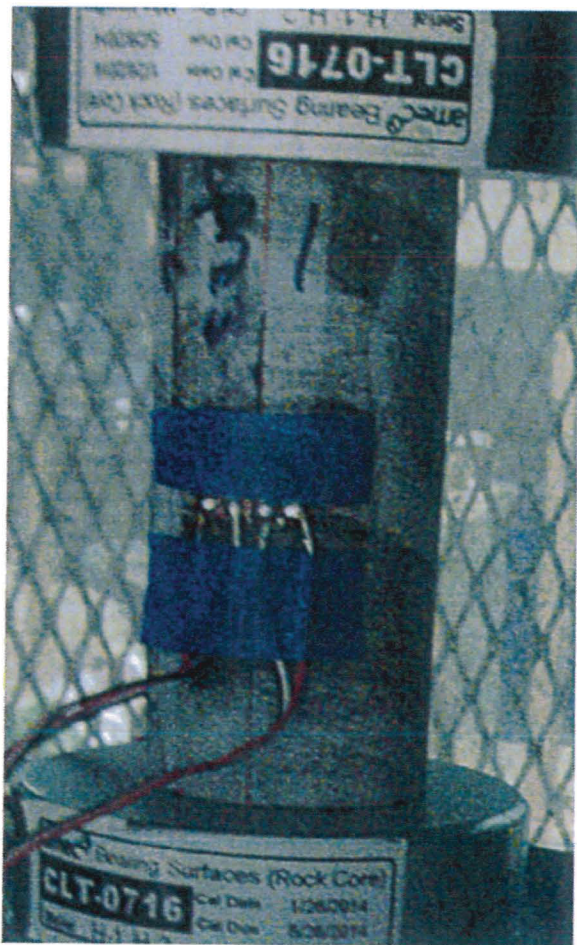
Project Name: Clinch River SMR  
Project Number: 6468-13-1072

Sample No.: L3-9 BH  
Boring No.: MP-105  
Run. No.: N/A  
Sample Depth (ft): 186.6-187.2

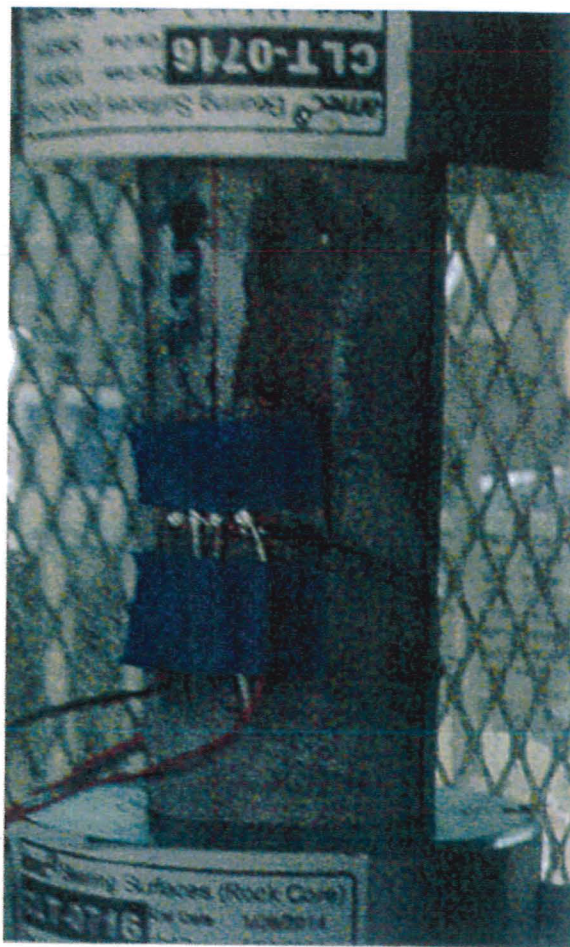
Tested By: Mike Hamilton *ml*  
Test Date: 1/27/2014 *1/31/14*  
Reviewed By: Allen Cottingham *mac*  
Review Date: 1/30/2014 *1/30/14*

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Specimen Prior to Testing  
("MP-105 L3-9-BH before test.jpg"):



Specimen After Testing  
("MP-105 L3-9-BH after test.jpg"):



Comments:

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

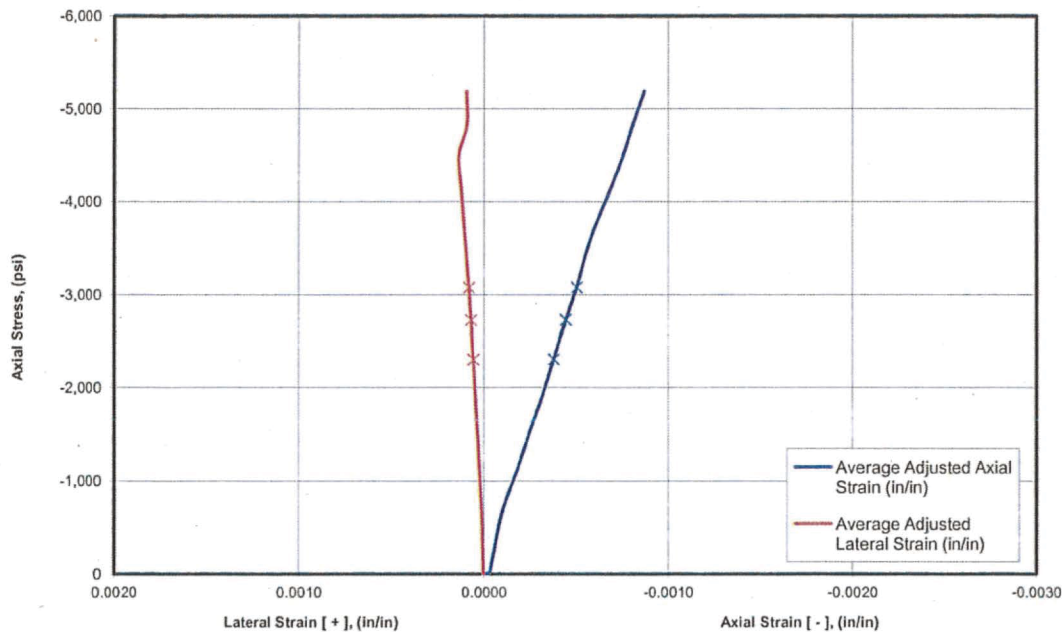
Project Name: Clinch River SMR  
 Project Number: 6468-13-1072

Sample No.: L3-19 BH  
 Boring No.: MP-111  
 Run. No.: N/A  
 Sample Depth (ft): 118.9-119.5

Tested By: Mike Hamilton *MH*  
 Test Date: 1/26/2014 *1/31/14*  
 Reviewed By: Allen Cottingham *AC*  
 Review Date: 1/30/2014 *2/3/14*

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Rock Type	(See boring log)
Moisture Condition	Laboratory Air-Dry
Specimen Diameter, (in)	2.39
Specimen Length, (in)	5.47
Length/Diameter Ratio	2.3
Specimen Conforms with Dimensional Requirements?	No <sup>(1)</sup>
As-Tested Unit Weight, (pcf)	<del>167.4</del> 167.90 <i>3/6/14</i>
Loading Rate (lb/sec)	160
Test Duration to Failure, (min)	4.7
Uniaxial Compressive Strength, (psi)	5,690
Type of Break	Shear
Young's Modulus, (psi)	6,240,000
Poisson's Ratio	0.19



**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

<sup>(1)</sup> Specimen did not meet Side Straightness, End Perpendicularity, End Flatness and End Parallelism requirements of ASTM D4543-08. Authorization to proceed with test received from John Damm.





Elastic Moduli of Intact Rock Core Specimens in Uniaxial Compression

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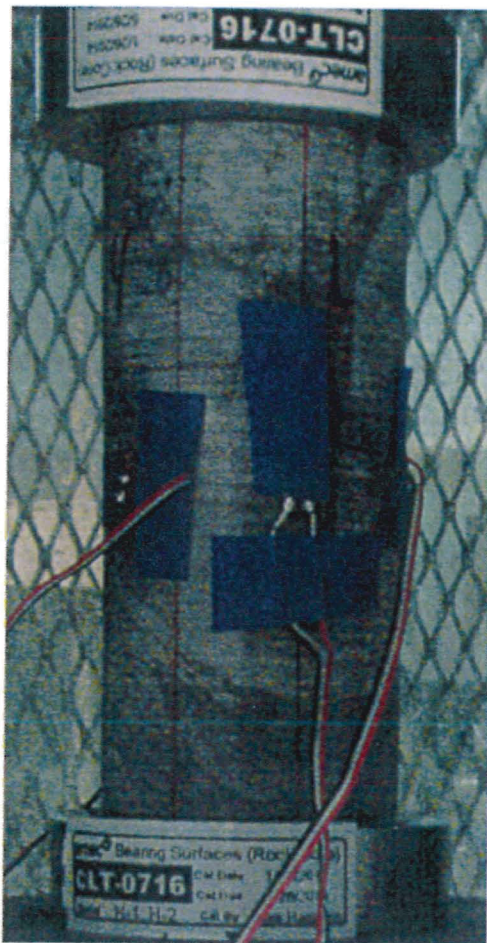
Project Name: Clinch River SMR  
Project Number: 6468-13-1072

Sample No.: L3-19 BH  
Boring No.: MP-111  
Run. No.: N/A  
Sample Depth (ft): 118.9-119.5

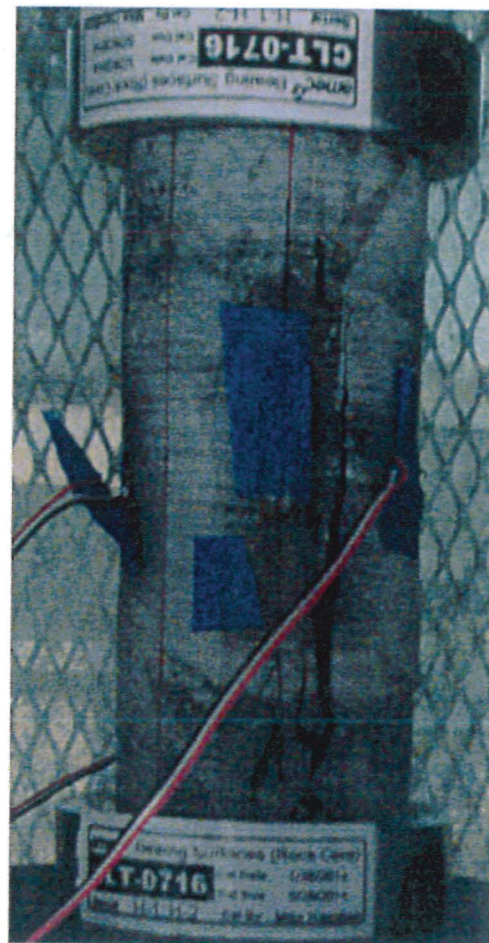
Tested By: Mike Hamilton *mh*  
Test Date: 1/26/2014 *1/31/14*  
Reviewed By: Allen Cottingham *MAC*  
Review Date: 1/30/2014 *1-30-14*

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Specimen Prior to Testing  
("MP-111 L3-19 BH before test.jpg"):



Specimen After Testing  
("MP-111 L3-19 BH after test.jpg"):



Comments:

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Elastic Moduli of Intact Rock Core Specimens in Uniaxial Compression  
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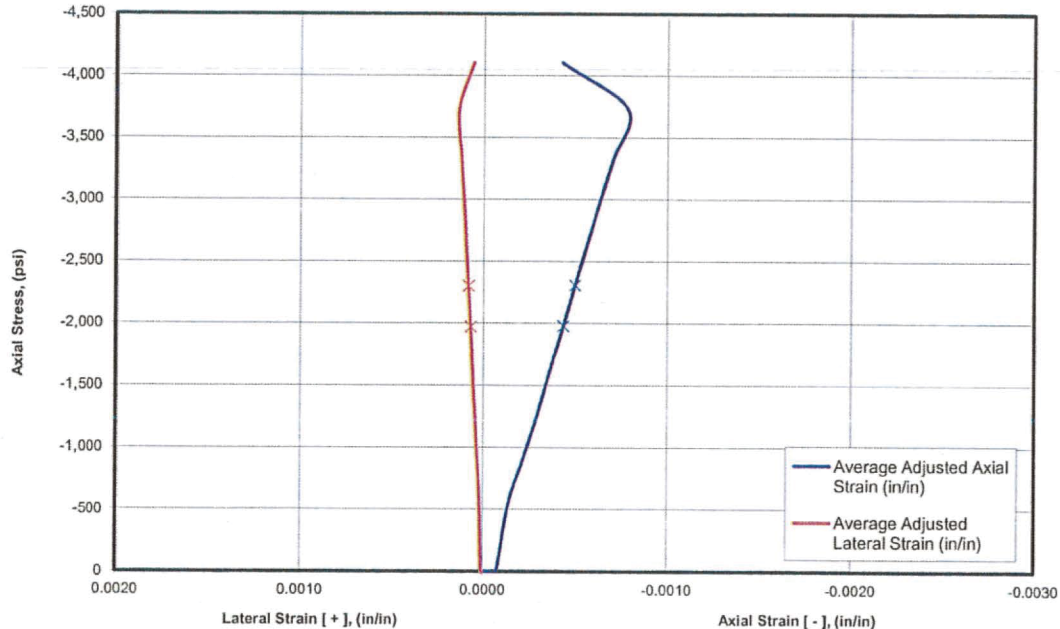
Project Name: Clinch River SMR  
Project Number: 6468-13-1072

Sample No.: L3-24 BH  
Boring No.: MP-115  
Run. No.: N/A  
Sample Depth (ft): 69.4-70.6

Tested By: Mike Hamilton *M.H.*  
Test Date: 1/26/2014 *1/31/14*  
Reviewed By: Allen Cottingham *A.C.*  
Review Date: 1/30/2014 *1.31.14*

Page 1 of 2

Rock Type	(See boring log)
Moisture Condition	Laboratory Air-Dry
Specimen Diameter, (in)	2.40
Specimen Length, (in)	5.33
Length/Diameter Ratio	2.2
Specimen Conforms with Dimensional Requirements?	No <sup>(1)</sup>
As-Tested Unit Weight, (pcf)	167.9 - 168 pcf 3/6/14
Loading Rate (lb/sec)	160
Test Duration to Failure, (min)	3.3
Uniaxial Compressive Strength, (psi)	4,210
Type of Break	Shear
Young's Modulus, (psi)	5,270,000
Poisson's Ratio	0.18



**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

<sup>(1)</sup> Specimen did not meet End Flatness requirements of ASTM D4543-08. Authorization to proceed with test received from John Damm.





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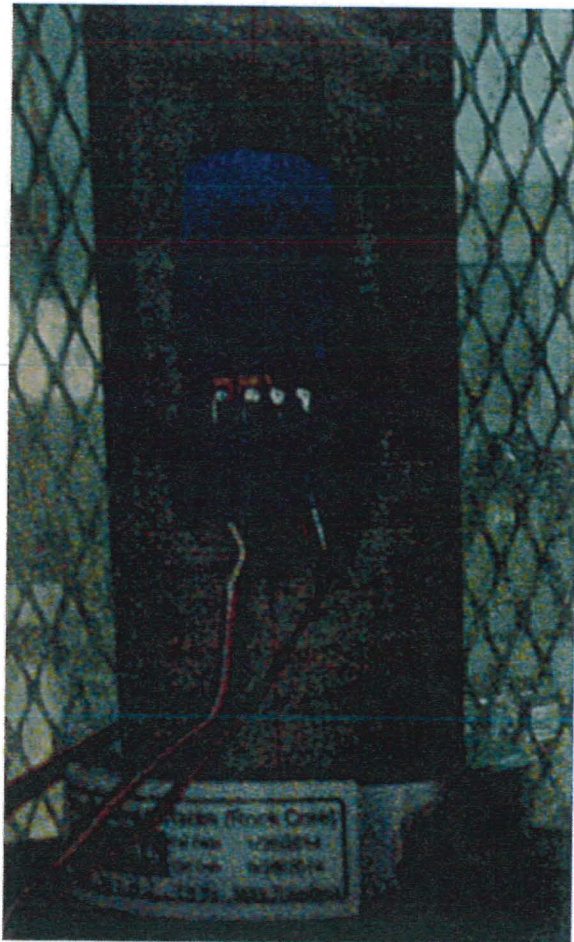
Project Name: Clinch River SMR  
Project Number: 6468-13-1072

Sample No.: L3-24 BH  
Boring No.: MP-115  
Run. No.: N/A  
Sample Depth (ft): 69.4-70.6

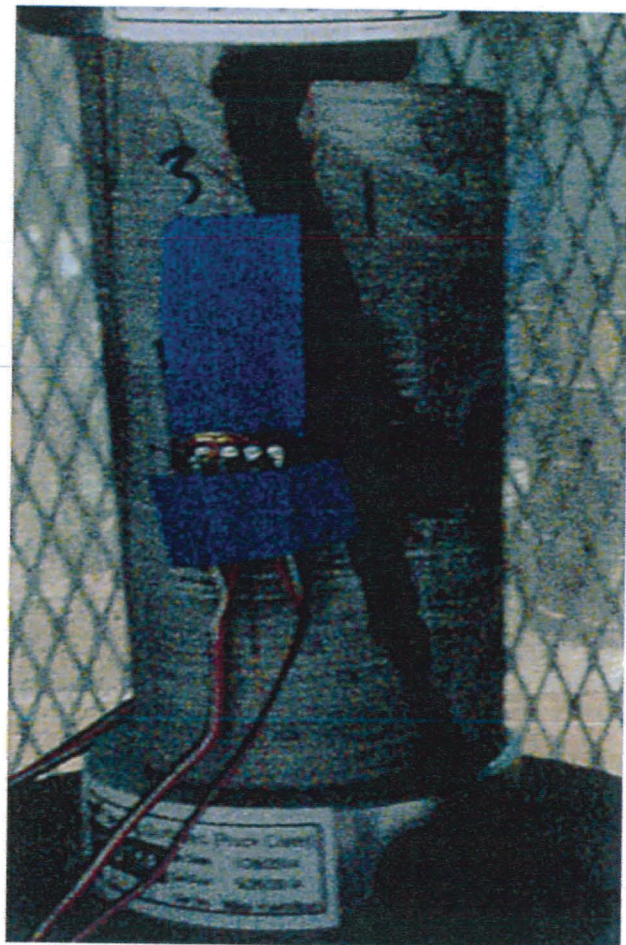
Tested By: Mike Hamilton *MLH*  
Test Date: 1/26/2014 *1/31/14*  
Reviewed By: Allen Cottingham *MAC*  
Review Date: 1/30/2014 *1-30-14*

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Specimen Prior to Testing  
("MP-115 L3-24 BH before test.jpg"):



Specimen After Testing  
("MP-115 L3-24 BH after test.jpg"):



Comments:

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