

copy sent to BOWEN  
Grewes

**START**  
Rev 002  
12 17

**ENGINEERS INTERNATIONAL INC**

Joint Creep Test Data Sheet

Client Rockwell International Job No. 1072

Project Joint Creeps Location of Project Rolland, WA

Boring No. DC-2-A1 Sample No. 14 (Test No. 9)

Brief Description of Material Medium Gray Cast Iron Resalt

Test Interval 3057.6 - 3058.8

Initial Date of Testing 7/29/82

Last Date of Testing 7/30/82

Ambient Temperature 200°C

Confining Pressure 10MPa (1450 psi)

Axial Load 19000 lbs

Joint Dipping Angle 30° with core axis

Thickness of Joint Filling Material 0.5 μm

Description of Joint Filling Material Quartz

Sample Length 4.56 in Sample Diameter 1.875 in

WM DOCKET CONTROL CENTER  
AUG 12 AM 12:11

Remarks: Failure occurred prematurely even before the expected axial load (23,400 lbs) was reached.

Prepared By Mark J Ma Date 7/30/82

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Audited By \_\_\_\_\_ Date \_\_\_\_\_

Inspected By \_\_\_\_\_ Date \_\_\_\_\_

WM Record File 101 WM Project 10  
Docket No. \_\_\_\_\_

PDR   
LPDR

8509030020 820730  
PDR WASTE  
WM-10 PDR

Permanent Record

AUG 23 1982  
Initial kab

Distribution: GREEVES  
(Return to WM, 623-SS)

(F)(H)  
86110076

for Cook to proceed  
EI Form No. RML-010-01

23  
1513

1502823012

Bill  
Mull

Abstract  
Order

DO NOT use this form as a RECORD of approvals, concurrences, dispositions, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

Room No.—Bldg.

Phone No.

5041-102

\*U.S.GPO:1985-0-461-274/20024

OPTIONAL FORM 41 (Rev. 7-78)

Prescribed by GSA  
FPMR (41 CFR) 101-11.206

ENGINEERS INTERNATIONAL, INC.

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1/82 Rev. 001  
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Joint Creep Test Data Sheet

Client Rockwell Int'l Job No. 1072

Project Joint Creep Location of Project Pickland, WA

Boring No. DC2A1 Sample No. 4 (Test No. 6)

Brief Description of Material Umtanum Basalt

Test Interval 3071' - 3072'

Initial Date of Testing 6/11/82

Last Date of Testing 7/16/82

Ambient Temperature 200°C

Confining Pressure 10 MPa (1450 psi)

Axial Load 14,910 lbs / 18,640 lbs / 36,000 lbs

Joint Dipping Angle 35° with core axis

Thickness of Joint Filling Material Hairline

Description of Joint Filling Material Quartz

Sample Length 4.58 in Sample Diameter 1.875 in.

Remarks: Actual date of testing was initiated on 6/13/82 and had been keeping hydrostatically until the problem of power surge was solved.

Prepared By Ma Date 7/17/82

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Audited By \_\_\_\_\_ Date \_\_\_\_\_

Inspected By \_\_\_\_\_ Date \_\_\_\_\_ No. \_\_\_\_\_

1 ( 3 3 8 2 0 5 1 4 )

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Joint Creep Test Data Sheet

Client ROCKWELL INTERNATIONAL Job No. 1072

Project JOINT CREEP Location of Project RICHLAND, WA

Boring No. DC2A1 Sample No. 1 (Test No. 1)

Brief Description of Material DARK GRAY UMTANUM BASALT

Test Interval 3069.0' - 3070.2'

Initial Date of Testing 7/1/82

Last Date of Testing 7/9/82

Ambient Temperature 200°C

Confining Pressure 10 MPa (1450 psi)

Axial Load 14880 lbs

Joint Dipping Angle 10° - 35° w/ CORE AXIS

Thickness of Joint Filling Material HAIRLINE

Description of Joint Filling Material ZEOLITES

Sample Length 4.567 in Sample Diameter 1.873 in

Remarks: The sample was broken when the power of temperature controlled by

Prepared By Mark S. M Date 7/10/82

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Audited By \_\_\_\_\_ Date \_\_\_\_\_

Inspected By \_\_\_\_\_ Date \_\_\_\_\_ No. \_\_\_\_\_

1033820515

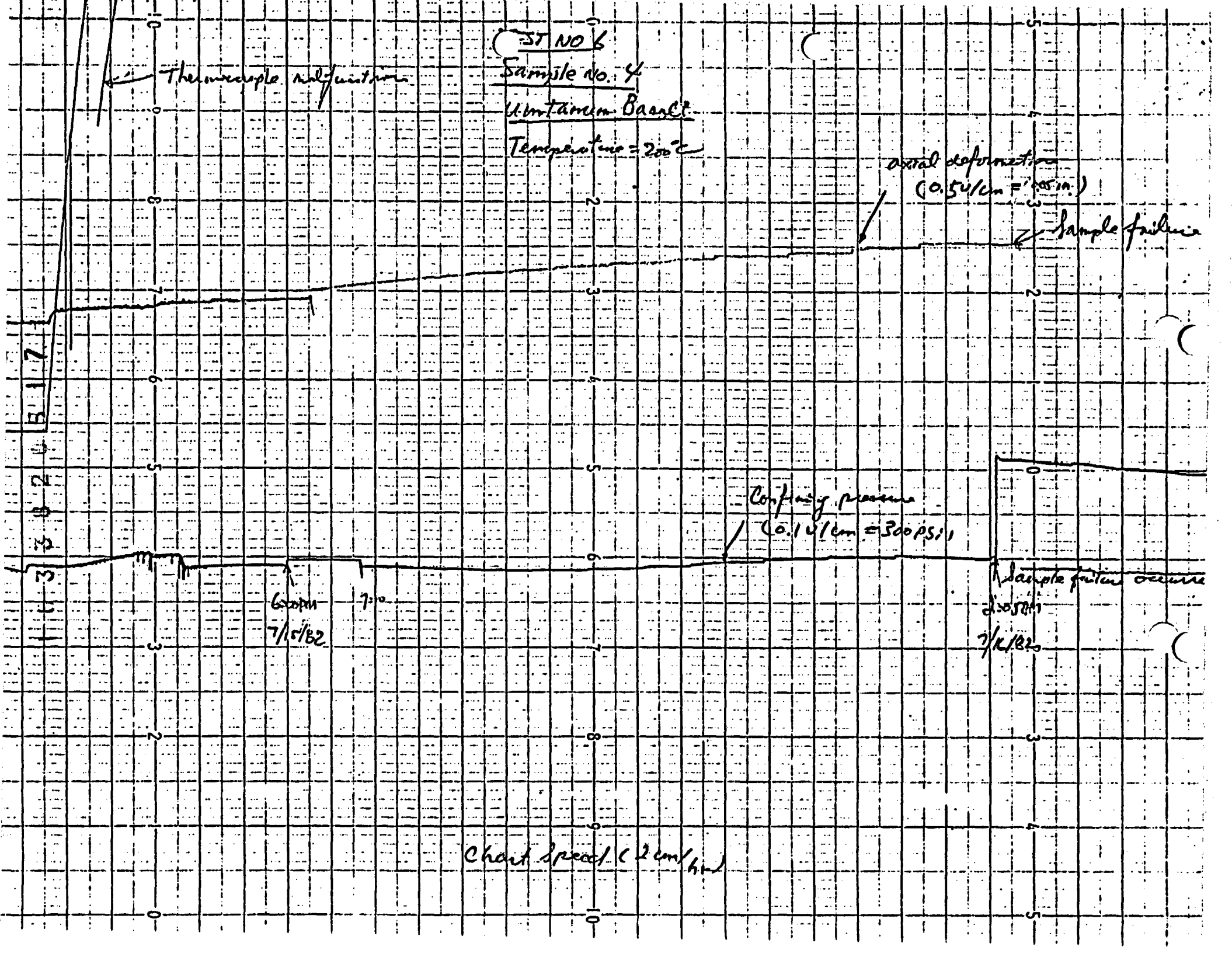
# ENGINEERS INTERNATIONAL, INC.

## Joint Creep Test Data Sheet

Client Rockwell International Job No. 1072  
Project Joint Creep Location of Project Richland, WA  
Boring No. \_\_\_\_\_ Sample No. 27 (Test No. 8)  
Brief Description of Material Uintanum Basalt  
Test Interval 3065.5 - 3066.5'  
Initial Date of Testing 7/15/82  
Last Date of Testing 7/17/82  
Ambient Temperature 200°C  
Confining Pressure 10MPa (1450 psi)  
Axial Load 35,500 lbs  
Joint Dipping Angle 30° with core axis  
Thickness of Joint Filling Material 1 μm  
Description of Joint Filling Material Quartz  
Sample Length 4.35" Sample Diameter 1.87"  
Remarks: The failure occurred when the full axial load was applied for 5 hours.

Prepared By Mark S. Ma Date 7/18/82  
Reviewed By \_\_\_\_\_ Date \_\_\_\_\_  
Audited By \_\_\_\_\_ Date \_\_\_\_\_  
Inspected By \_\_\_\_\_ Date \_\_\_\_\_ No. \_\_\_\_\_

IC 33820516



Thermocouple adjustment

ST NO 6  
Sample No. 4  
Ultimate Base?  
Temperature = 200°C

axial deformation  
(0.5 u/cm = 0.05 in.)

sample failure

confining pressure  
(0.1 u/cm = 300 psi)

sample failure occurs  
6:00 PM  
7/15/82

6:00 PM  
7/15/82

7:00

Chart Speed (2 cm/hr)

TEST No. 7  
Sample no. 1  
Ustinau Basalt

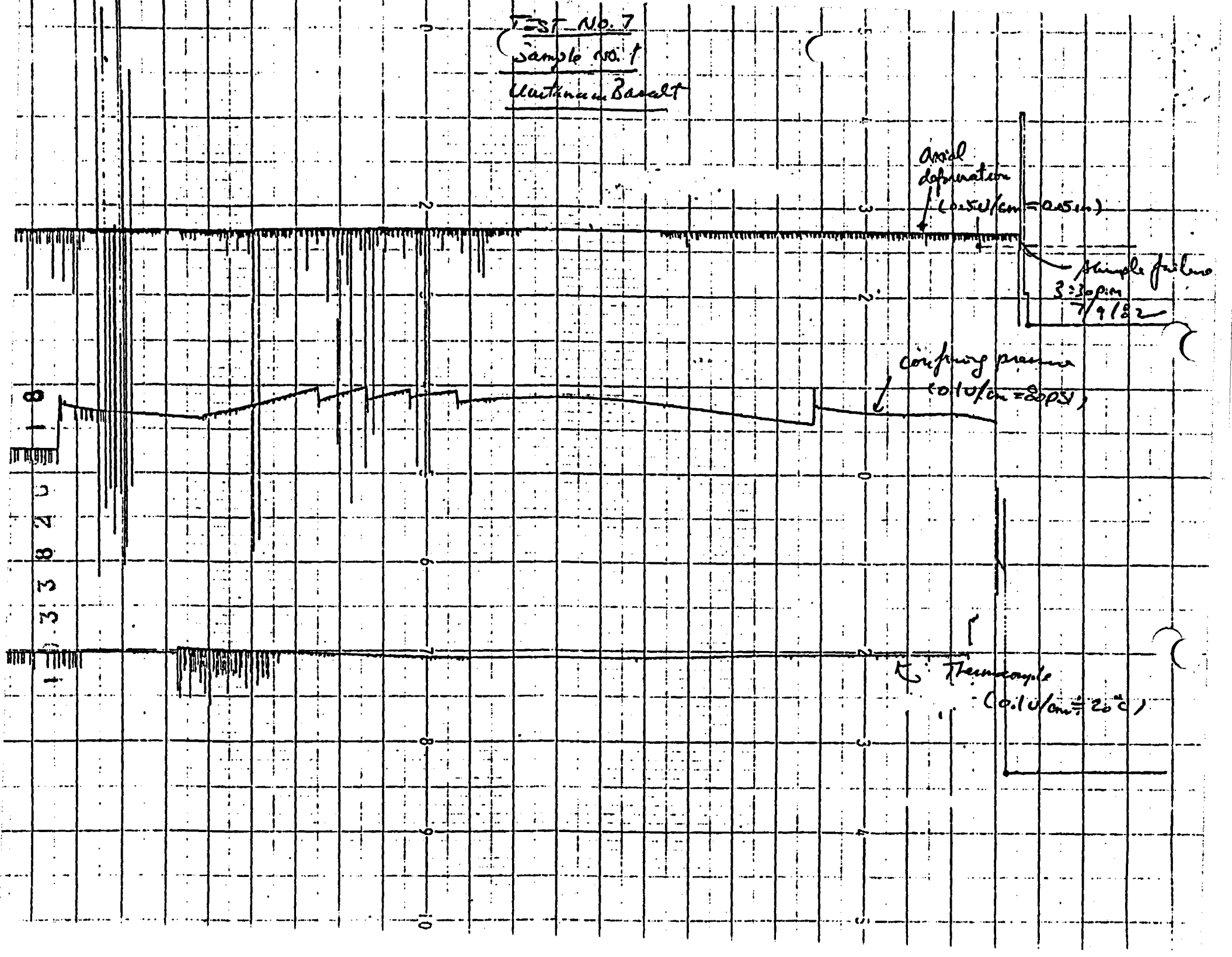
axial deformation  
(0.50/cm = 0.25 in)

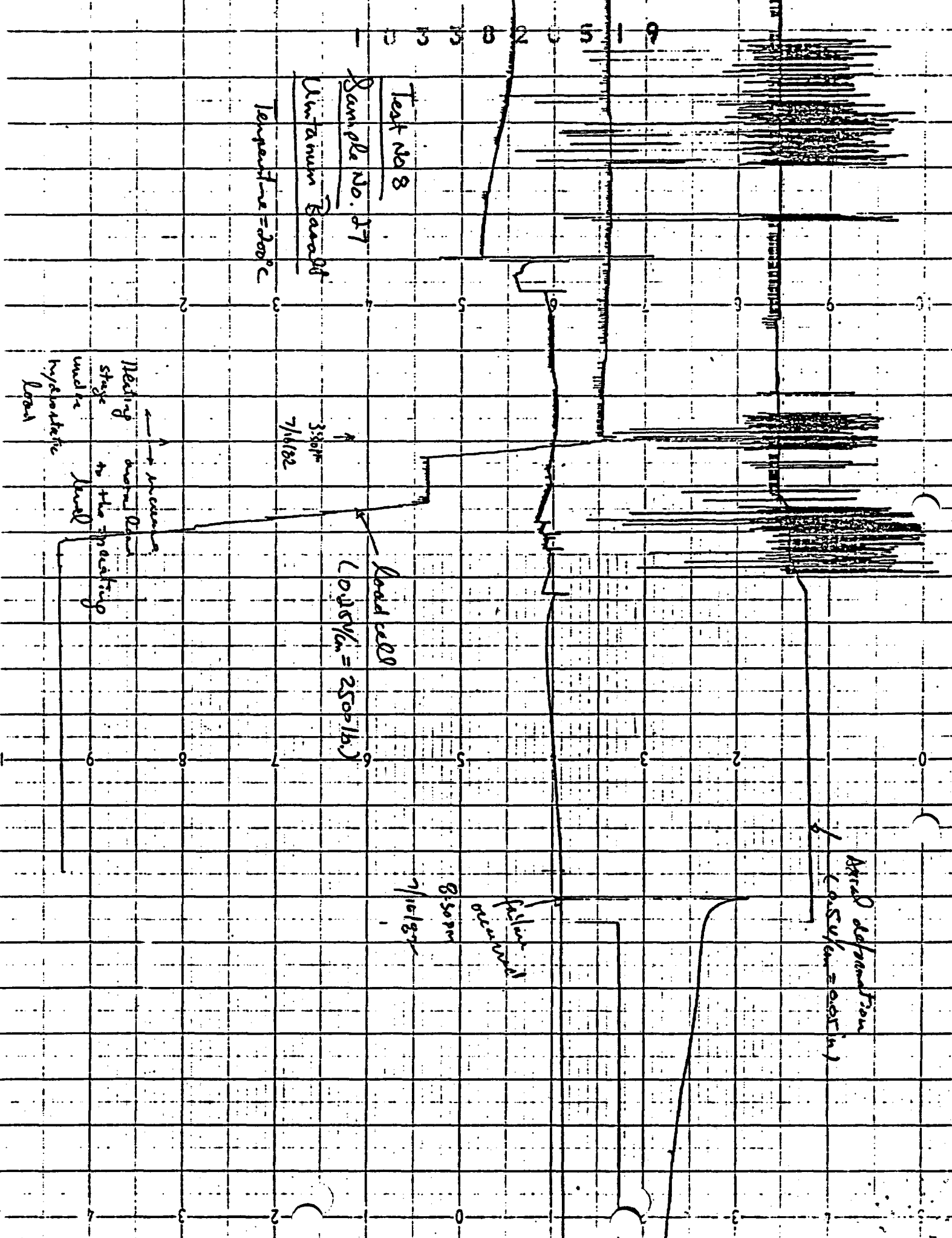
Sample failure  
3:30 p.m.  
7/9/82

confining pressure  
(0.10/cm = 20 PSI)

Ther. sample  
(0.10/cm = 20°C)

8  
1  
6  
2  
0  
8  
3  
3  
1





Test No 8

Sample No. 27

Uranium Base of

Temperature = 200°C

380PM  
7/16/82

Load cell  
Load cell = 250 lb.

850PM  
7/16/82

Nesting stage under hydrostatic load  
→ increasing  
→ decreasing

Actual deformation  
(0.55 in)

Failure observed



1 0 3 4 8 2 0 5 2 0

Test No. 9

Sample No. 20

Manufacturer: Bussell

Temperature = 200°C

Load cell (0.25 v/cm = 2500 lb)

Axial deformation (0.5 v/cm = 0.05 in.)

Temperature  
stabilization  
stage

Sample failure

8:40 PM  
7/30/82

Confining pressure  
(0.25 v/cm = 2500 psi)

Sample failure (1450 psi)

Char speed (2 mm/min)

