

| | | | |
|----------------------------|-----------------------|--|-------------------------|
| COMPANY: Bendix | | EQUIPMENT DATA | |
| HOLE: BRD-1 | CLAIM | Probe No. 321-02 | Probe Diam. 1.0" |
| PROPERTY: Union Oil | | Run No. 1 | NUCLEAR |
| AREA: Red Desert | | Log Type: Gamma | Neutron |
| COUNTY: Sweetwater | STATE: Wyoming | Detector Size: 1" x 3/4" | Ho. 8.15 atm. |
| LOCATION | | Source Type: 1" x 1/2" | 2.712 |
| | | Source Strength: 10" | 8.0" |
| | | Source Spacing: 8.0" | 8.0" |
| | | Disc Level: 5.0" | 5.0" |
| | | F Factor: 2.15 x 10¹⁰ | |
| | | Counting Rate: 1.97 x 10¹⁰ | |
| | | Deadtime: 1.52 μ sec | |
| | | Date Calc: Analog | |
| | | Casting Factor: 4-18-80 | |

| | | | | | |
|-------------------|--------------|--------------|----|------|----|
| PERMANENT DATUM | | GROUND LEVEL | | ELEV | |
| Log Measured From | Ground Level | From | To | From | To |
| | | | | | |

| | |
|------------------|---------|
| CASING RECORD | |
| Size (OD/ID) Wpt | From To |
| U | |

| | |
|-----------------|---------|
| BOREHOLE RECORD | |
| Bit Size | From To |
| 3 1/8 | 0 2400 |
| 3 1/8 | 1365 |

| | |
|----------------|---------|
| ELECTRICAL | |
| Run No. | 1 |
| Log Type | SP |
| Normal Spacing | 8" |
| SP CHL | Mud Pit |
| Probe Length | 6' |

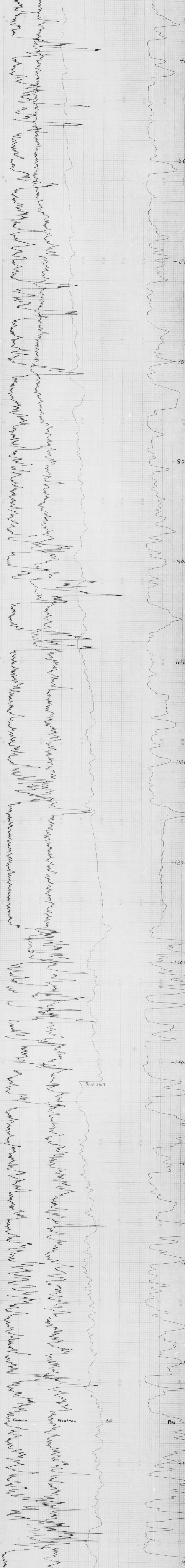
| | |
|---------------|--|
| CALPES | |
| Run No. | |
| Device Type | |
| Tool Position | |
| Minimum Span | |
| Maximum Span | |

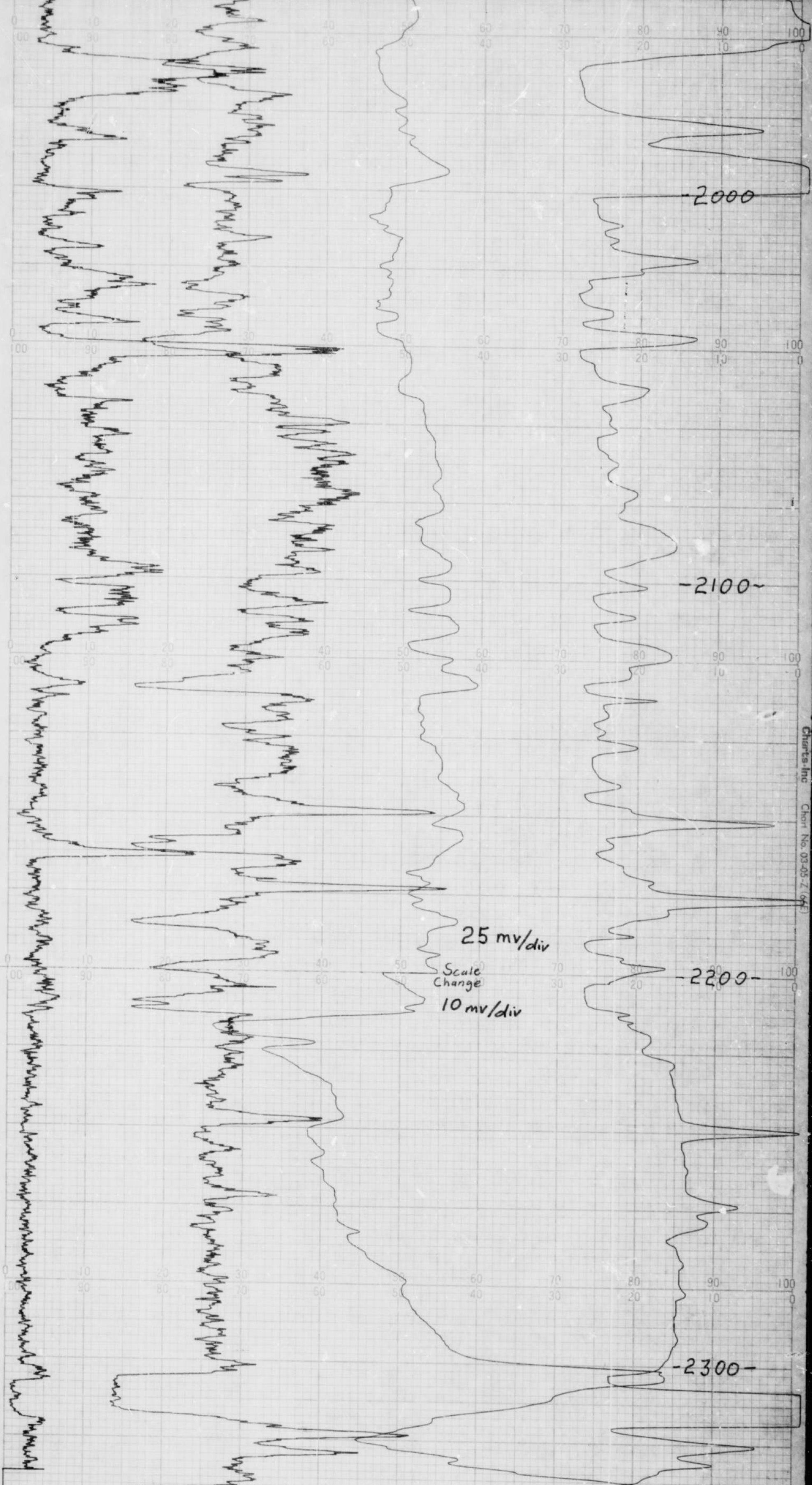
| | |
|-------------|-------|
| TIME RECORD | |
| Start | 17:30 |
| End | 17:30 |
| Total | 9.5 |

| LOGGING DATA | | | | | | | | | |
|--------------|----------|-------------|-------|------|----|-------|---------|-----|---------|
| Run No. | Log Type | Depth Scale | Scale | Rate | SP | Gamma | Neutron | Res | Remarks |

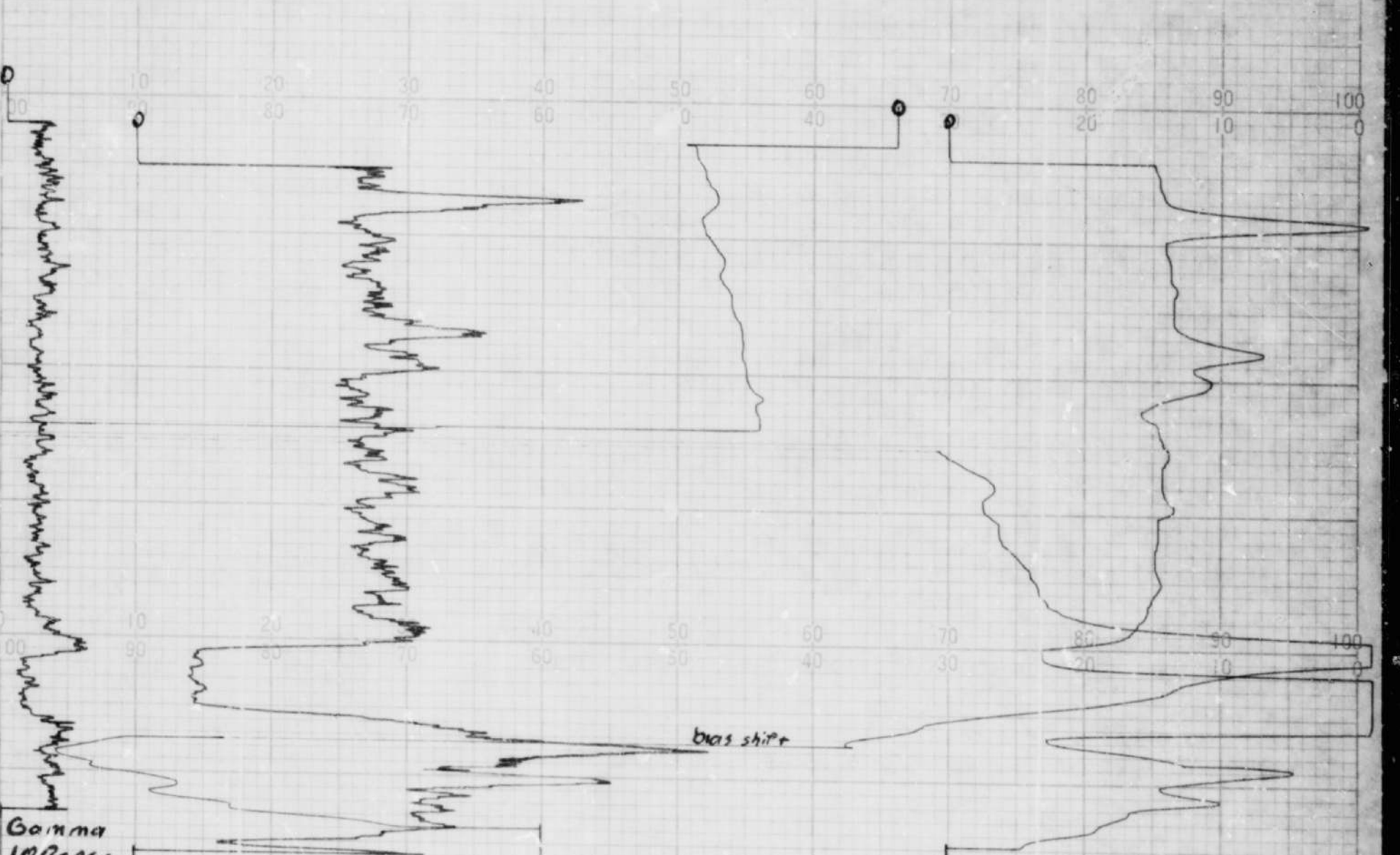
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|-----|---|--------|------|------|------|----|---------|-------------|-----|
| 427 | 1 | SP-Pes | | 0 | | | | | |
| 427 | 2 | Gamma | 2336 | 2235 | 100 | 30 | 20'/div | 100 cps/div | 0 |
| 427 | 2 | SP | 2336 | 2235 | 100 | 30 | 20'/div | 10 Mw | 9.5 |
| 427 | 2 | Res | 2336 | 2235 | 100 | 30 | 20'/div | 25 Ω | 7.0 |
| 427 | 2 | N-N | 2336 | 2235 | 100 | 30 | 20'/div | 100 cps/div | 1.0 |
| 427 | 2 | Gamma | 2335 | 8 | 2327 | 30 | 20'/div | 100 cps/div | 0 |
| 427 | 2 | Res | 2335 | 18 | | 30 | 20'/div | 25 Mw | 9.5 |
| 427 | 2 | N-N | 2335 | 18 | | 30 | 20'/div | 100 cps/div | 7.0 |
| 427 | 2 | N-N | 2335 | 8 | 2327 | 30 | 20'/div | 100 cps/div | 1.0 |

Remarks: **SP scale change at 2200' from 10mv to 25mv, SP bias shifts at 1420 and 280**

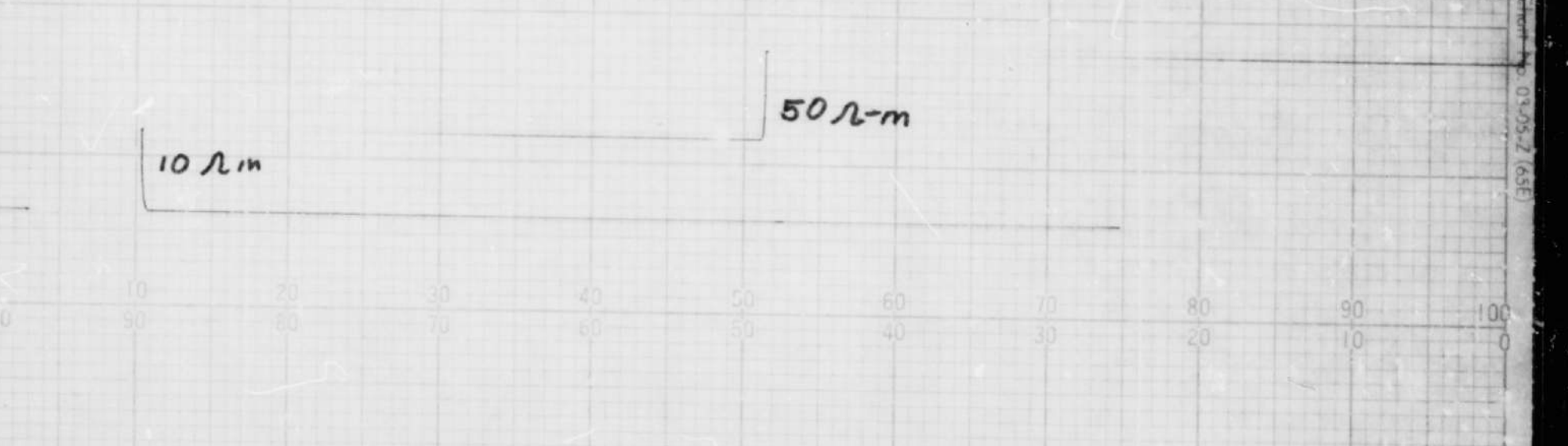
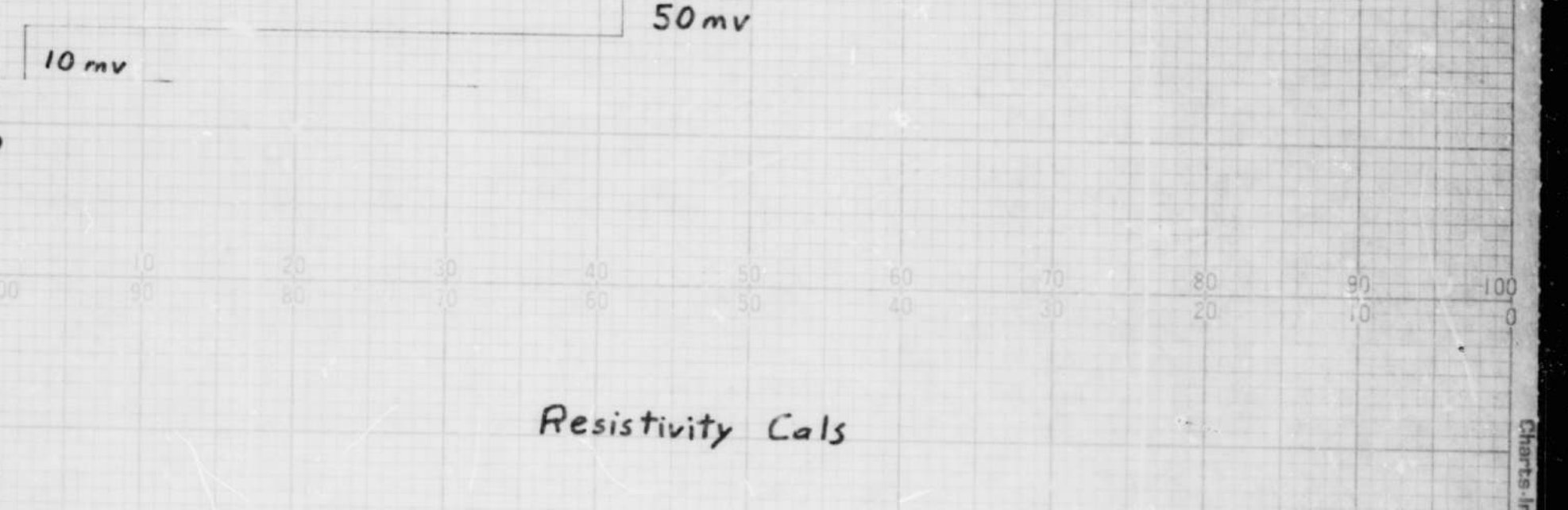
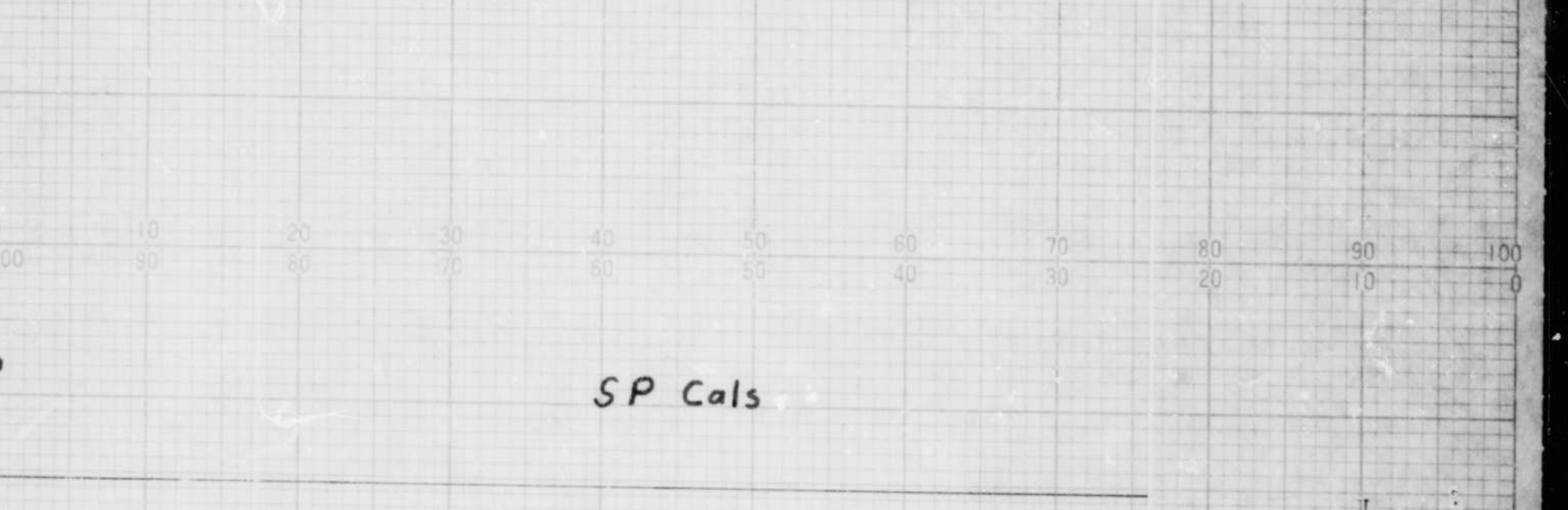




Gamma 100 cps/div
 Neutron 100 cps/div
 Main Log BRD-1
 Resistivity 25 Ω -m/div
 SP



Gamma 100 cps/div
 Neutron 100 cps/div
 SP 10 mV/div
 Repeat Section BRD-1 5-5-80 *1826
 Resistivity 25 Ω -m/div



Bondix Field Engineering Corporation
 700 West Grand Ave., CO 81602

Gamma-N-N-SP-Res

Date: **May 10, 1980**
 Truck No: **1826**
 Operator: **Traub**

EQUIPMENT DATA
 Probe No: **321-02** Ph. Div. **1.0**

COMPANY **Bondix**
HOLE **BRD-2** CLAIM

PROPERTY **Union Oil**
AREA **Red Desert**
COUNTY **Sweetwater** **STATE** **Wyoming**

LOCATION
 SEC **14** TWP **24N** RGE **94W** **RUT**

Permanent Datum **Ground Level** Elev. **2.15 x 10⁻⁴**
Log Measured From **Ground Level** Ft. Above Perm Datum **1.52 u sec**
Drilling Measured From Elev. **1.54 u sec**

CASING RECORD
 Size (OD) (ID) (WT) From To Casing Factor

SOPEHOLE RECORD
 Bit Size From To Normal Spacing Resistivity
0 **1605** **2488** **Max Pit** **8"**
 SP Dr. Log **.25**
 SP Dr. Log **6'**
 SP Dr. Log **6'**

NUCLEAR
 Run **2** **1**
 Log **Gamma** **Neutron**
 Diameter **NAT** **He³ 15 at. %**
 Casing Size **3/4" x 1"** **1" x 6"**
 Source Type **AmBe**
 Source Strength **2.71 c**
 Source Spacing **10"**
 Amp. Gain **8.0 V** **8.0 V**
 Drop Meter **5.0 V** **5.0 V**
 X Factor **2.15 x 10⁻⁴**
 Analog **1.52 u sec**
 Digital **1.54 u sec**
 Analog **4-18-80**

ELECTRICAL
 Run No. **1**
 Log Type **SP +** **Resistivity**
 Normal Spacing **8"**
 SP Reference **Max Pit**
 SP Dr. Log **.25**
 SP Dr. Log **6'**
 SP Dr. Log **6'**

CALIPER
 Run No. **1**
 Device Type **Max Pit**
 Tool Push **Max Pit**
 Minimum Dip **Max Pit**
 Maximum Span **Max Pit**

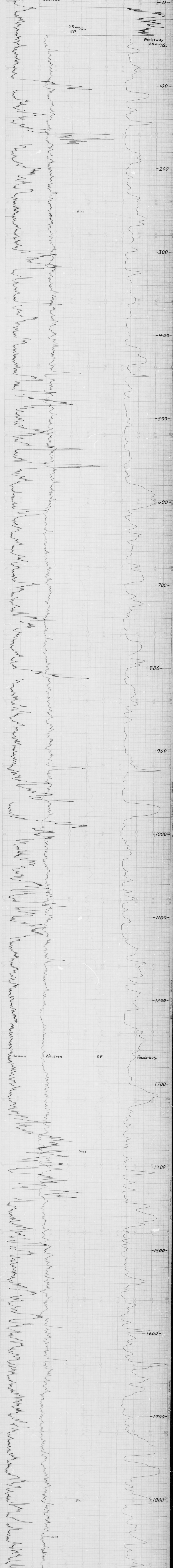
TIME RECORD
 Run No. Page Start Stop
 1 1 0600 2300
 1 2 0930 0600
 Total 3.5 7

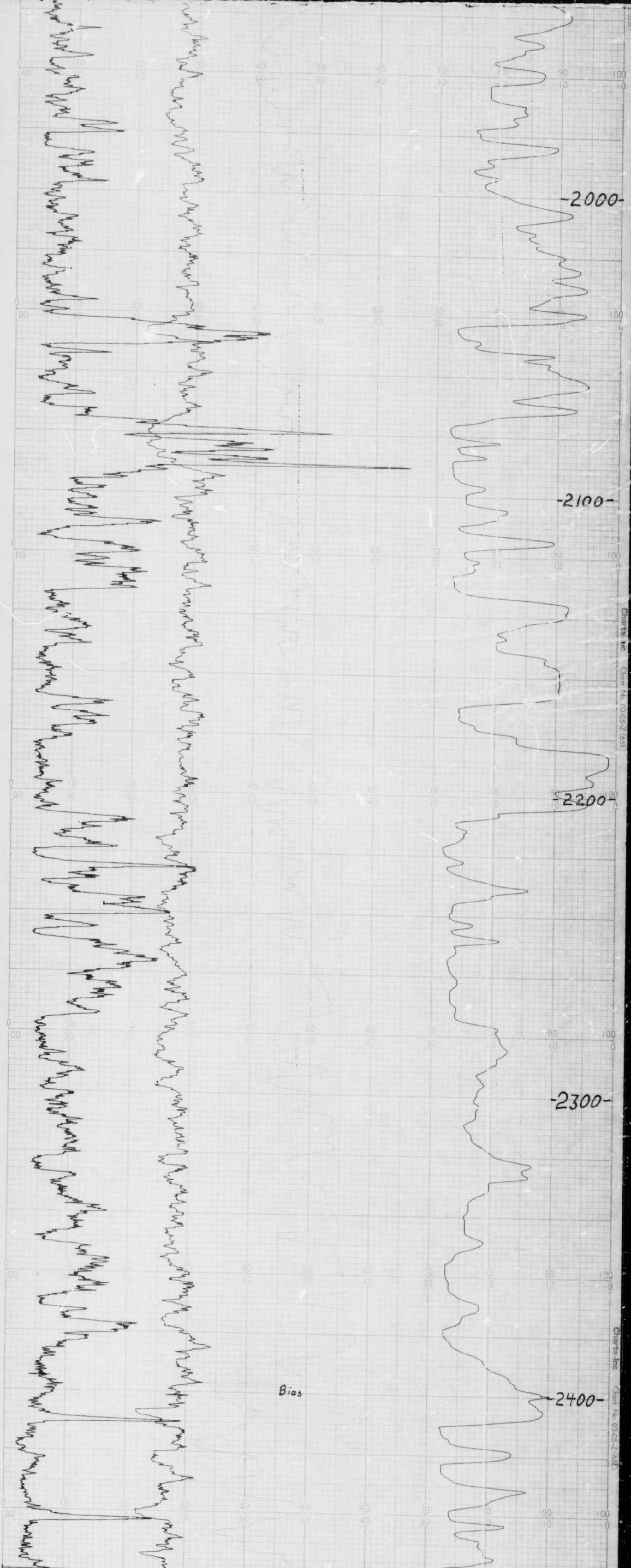
LOGGING DATA

| Core Type | Log Type | Depth From | Depth To | Footage Logged | Speed Ft./Min. | Depth Scale | Spine Units/Div | Pen Zero Div. L. | Digital Time | Remarks |
|-----------|----------|------------|----------|----------------|----------------|-------------|-----------------|------------------|--------------|---------|
| 430 | 1 | 0 | 2488 | 2488 | 30 | 20'/in | 100 cps/div | 0 | 1.0 | 5' |
| 430 | 1 | 0 | 2466 | 2466 | 30 | 20'/in | 100 cps/div | 2.0 | 1.0 | 5' |
| 430 | 1 | 2466 | 2366 | 100 | 30 | 20'/in | 100 cps | 5.0 | 1.0 | 5' |
| 430 | 1 | 2466 | 2366 | 100 | 30 | 20'/in | 25 mv | 7.0 | 1.0 | 5' |
| 430 | 1 | 2466 | 2366 | 100 | 30 | 20'/in | 50 Ω-m | 5.0 | 1.0 | 5' |
| 430 | 2 | 2466 | 2 | 2464 | 30 | 20'/in | 100 cps | 0 | 1.0 | 5' |
| 430 | 2 | 2466 | 8 | 2458 | 30 | 20'/in | 100 cps | 2.0 | 1.0 | 5' |
| 430 | 2 | 2466 | 40 | 2426 | 30 | 20'/in | 25 mv | 5.0 | 1.0 | 5' |
| 430 | 2 | 2466 | 40 | 2426 | 30 | 20'/in | 50 Ω-m | 7.0 | 1.0 | 5' |

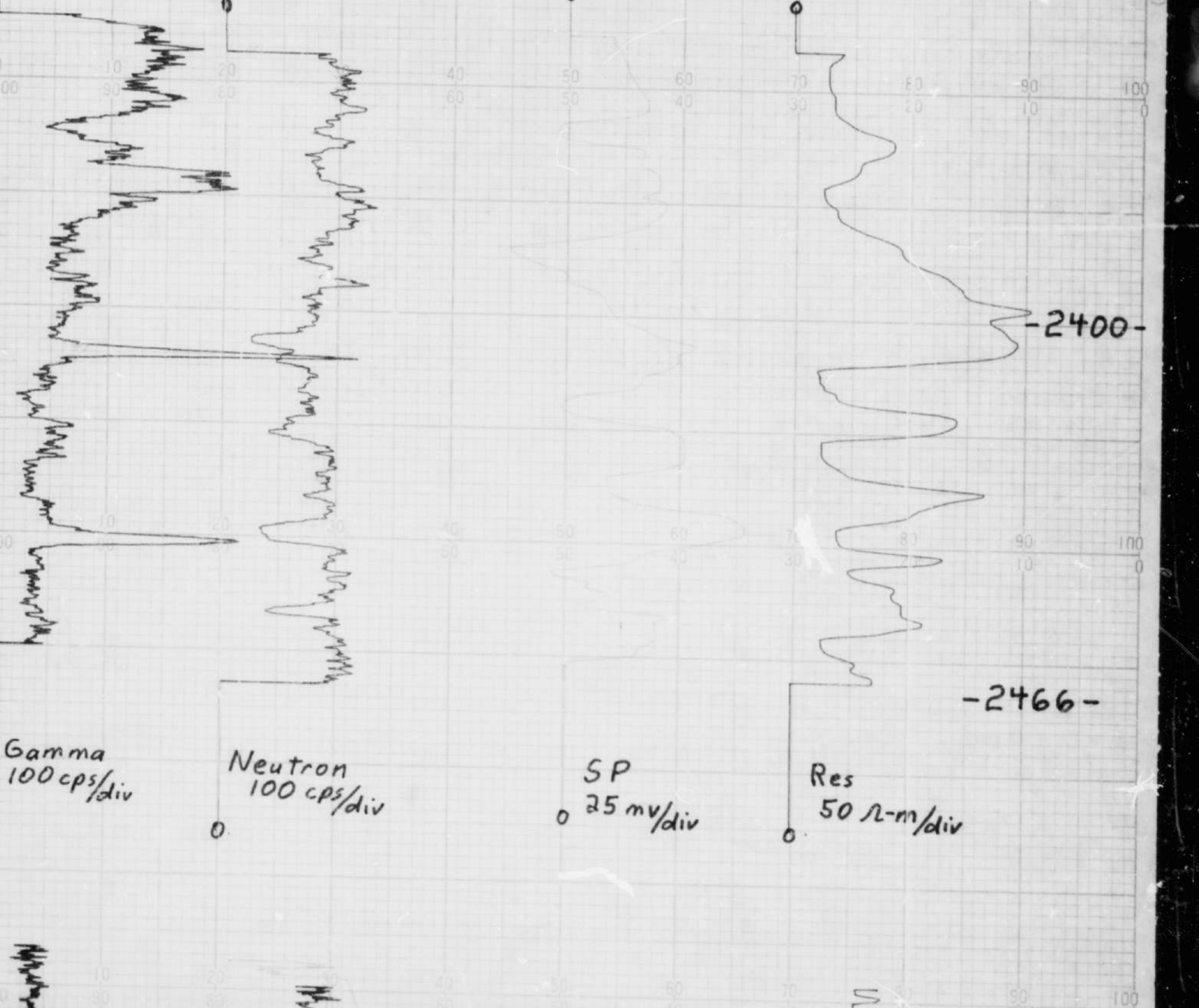
Total Footage Logged: **2566**

BRD-2
May 10, 1980
Unit #1826

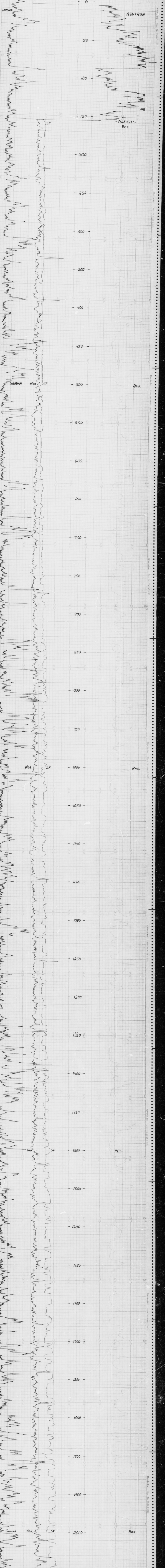




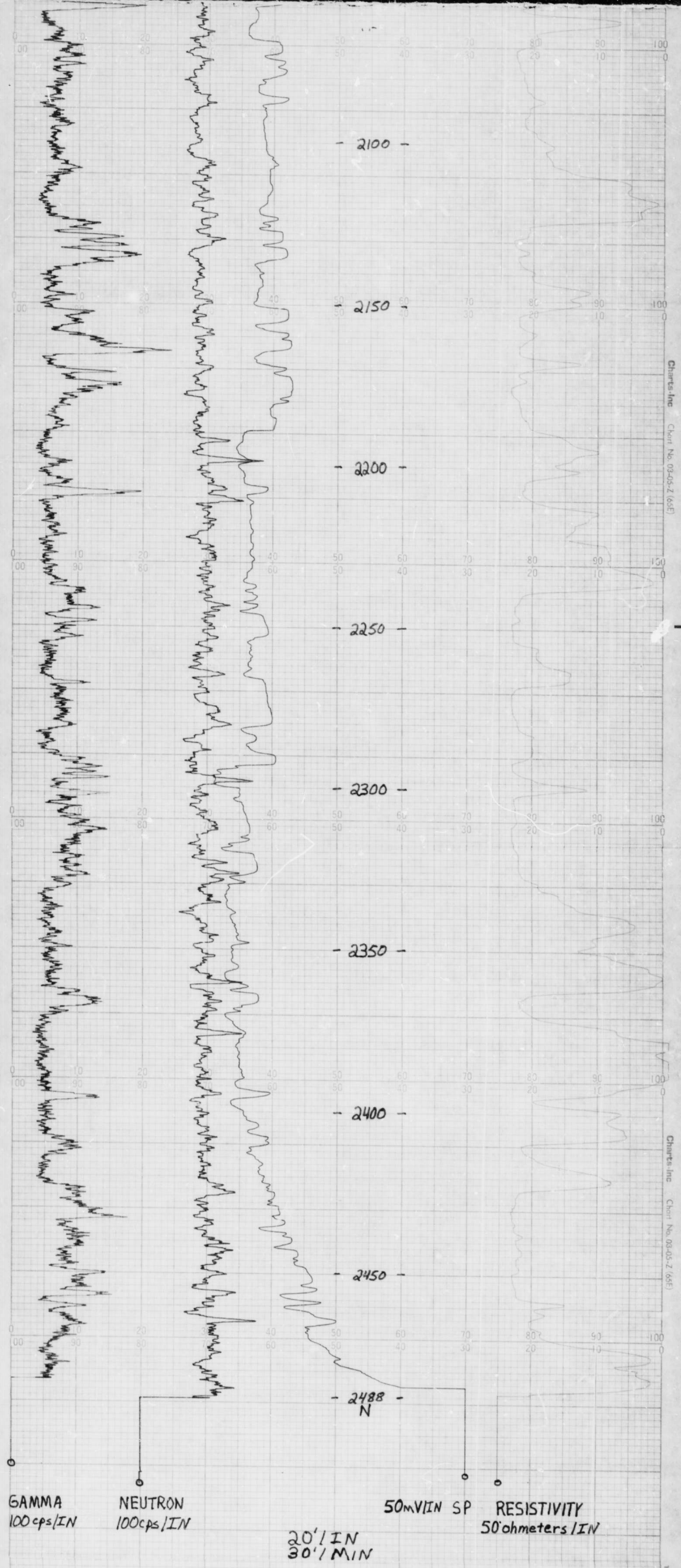
BRD-2
Repeat Section



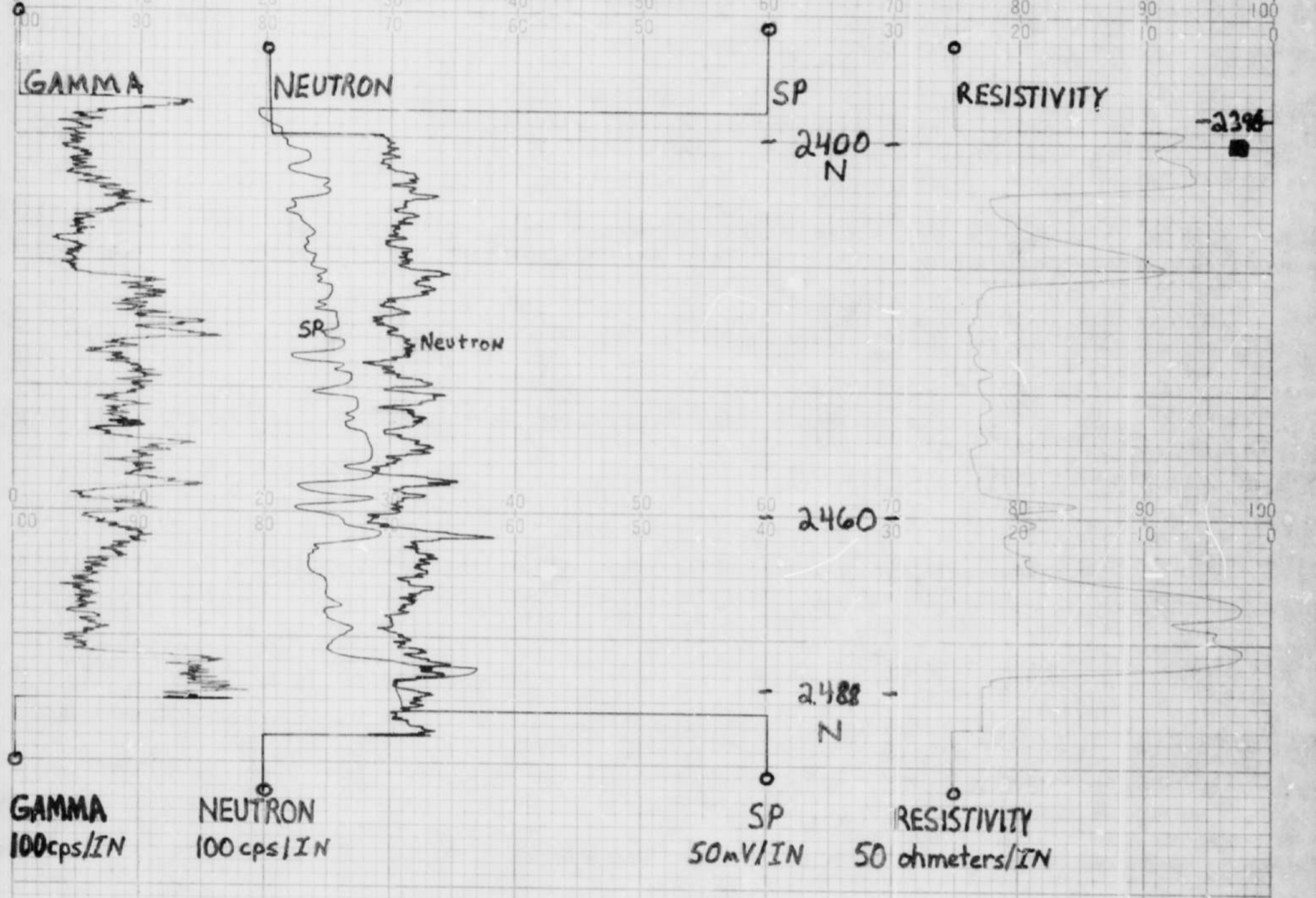
| | | | | | |
|--|--|---|---|---|--|
| Benefix Field Engineering Corporation 1100 S. 1st St. Suite 100 Phoenix, Arizona 85004 | | Gamma Neutron-Neutron Resistivity SP Neutron-Neutron Resistivity | | Date: 5/15/88 Truck No: 1826 Operator: S. O. Crud | |
| COMPANY Benefix Field Engineering HOLE BRD-3 CLAIM PROPERTY Union Oil AREA Red Desert COUNTY Sweetwater STATE Wyoming | | | EQUIPMENT DATA Probe Set No. 321-02 Model 3100 Run No. 1111 Log Type Gamma Detector NaI Source Voltage 31/2" x 1" 1" x 6" Source Strength 3200 Service Spacing 10" Comp. Perm 8V C Factor 5.01V Analog Digital 2.13 x 10 ⁻² Sp Reference 1.92 u. sec. Date Calc. 1.04 u. sec. Date Print 4-15-88 Case No. | | |
| LOCATION NE1/4, NW1/4 SEC. 34 TWP. 23 RGE. 93 Perm. Data: Gross Level Elev. 6811 Log Measured From: Ground Level 0 Ft. Above Perm Datum Drilling Measured From: Ground Level Elev. 6811 | | | CASING RECORD From: To: Size: 3 1/8" | | |
| BORHOLE RECORD Bit Size 3 1/8" From surface To: Depth: 2560 Type Fluid in Hole R.O. + 581200L Safety cap Pressure Fluid Case Fluid Level 155' | | | ELECTRICAL Run No. one Log Type Gamma Normal Spacing SP (+) SP Reference mud ground SP Depth 25 Well Length 4' CALIPER Run No. Log Type | | |
| Remarks Longitude = 102.3144 Latitude = 41.1077 | | | TIME RECORD Start 11:00 End 11:55 Time 2 hrs 55 min 21 sec | | |



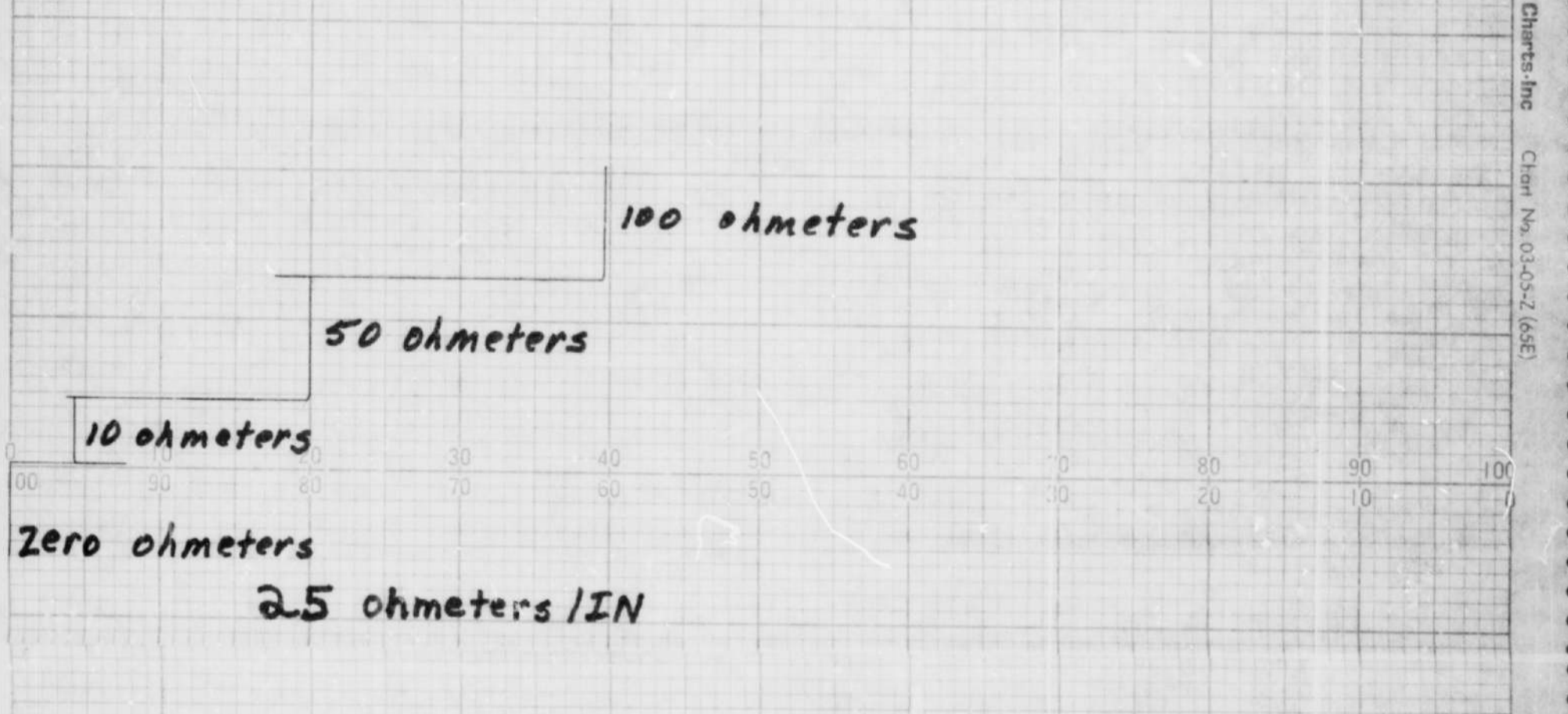
Charts, Inc. Chart No. 03-05-2 (65E)
 Charts, Inc. Chart No. 03-05-2 (65E)
 Charts, Inc. Chart No. 03-05-2 (65E)
 Charts, Inc. Chart No. 03-05-2 (65E)
 Charts, Inc. Chart No. 03-05-2 (65E)



REPEAT SECTION
BRD-E



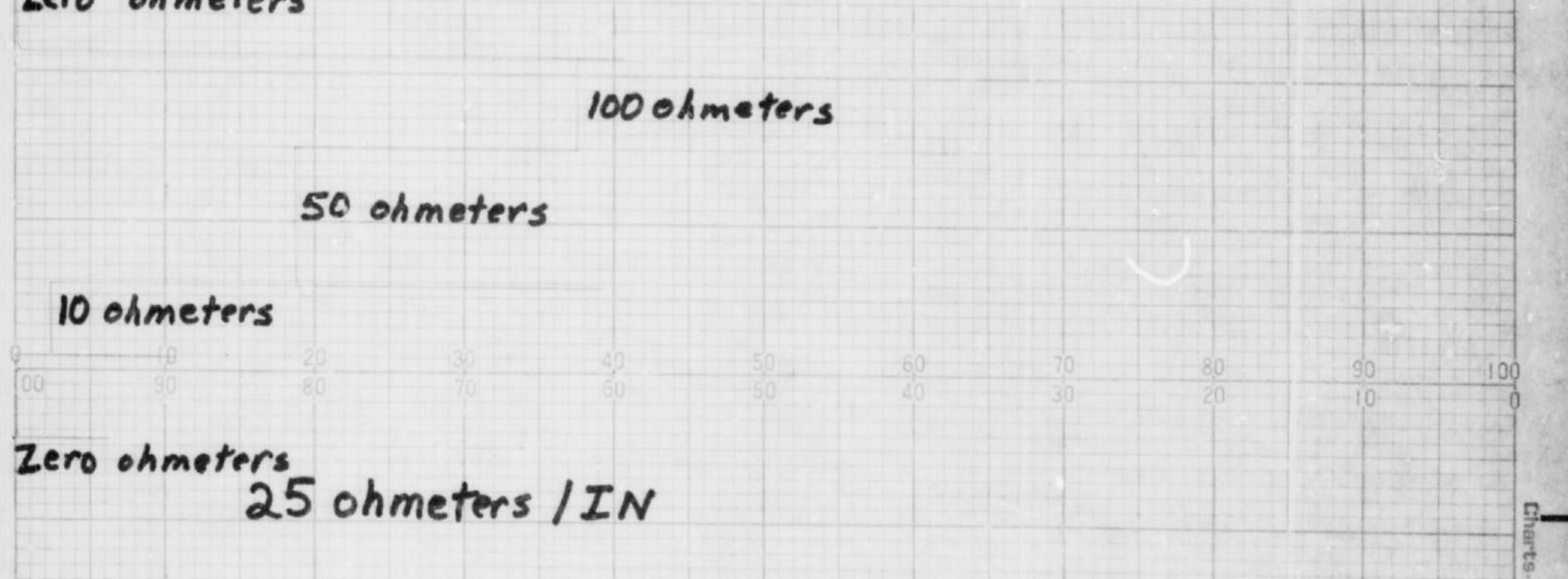
BEFORE RESISTIVITY CAL



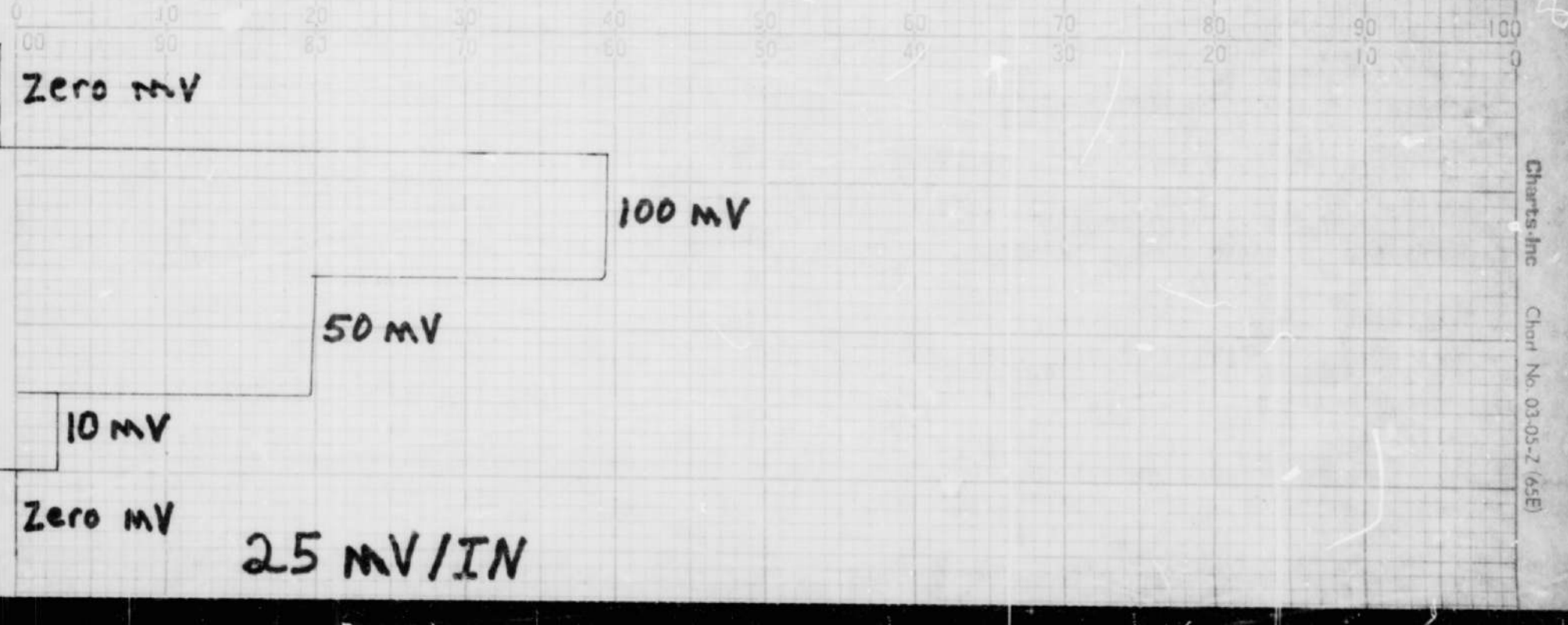
BEFORE SP CAL



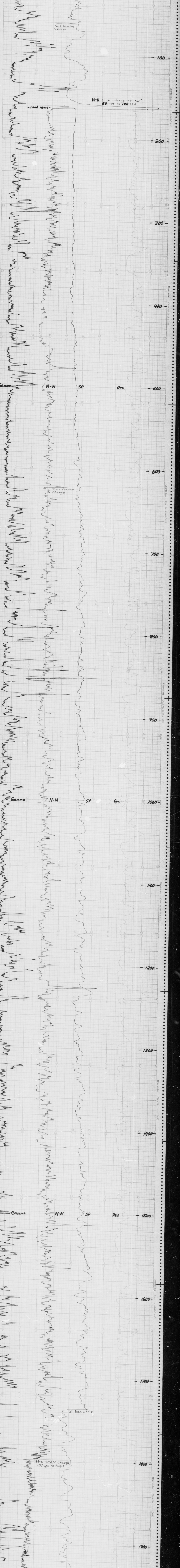
AFTER RESISTIVITY CAL
BRD-3

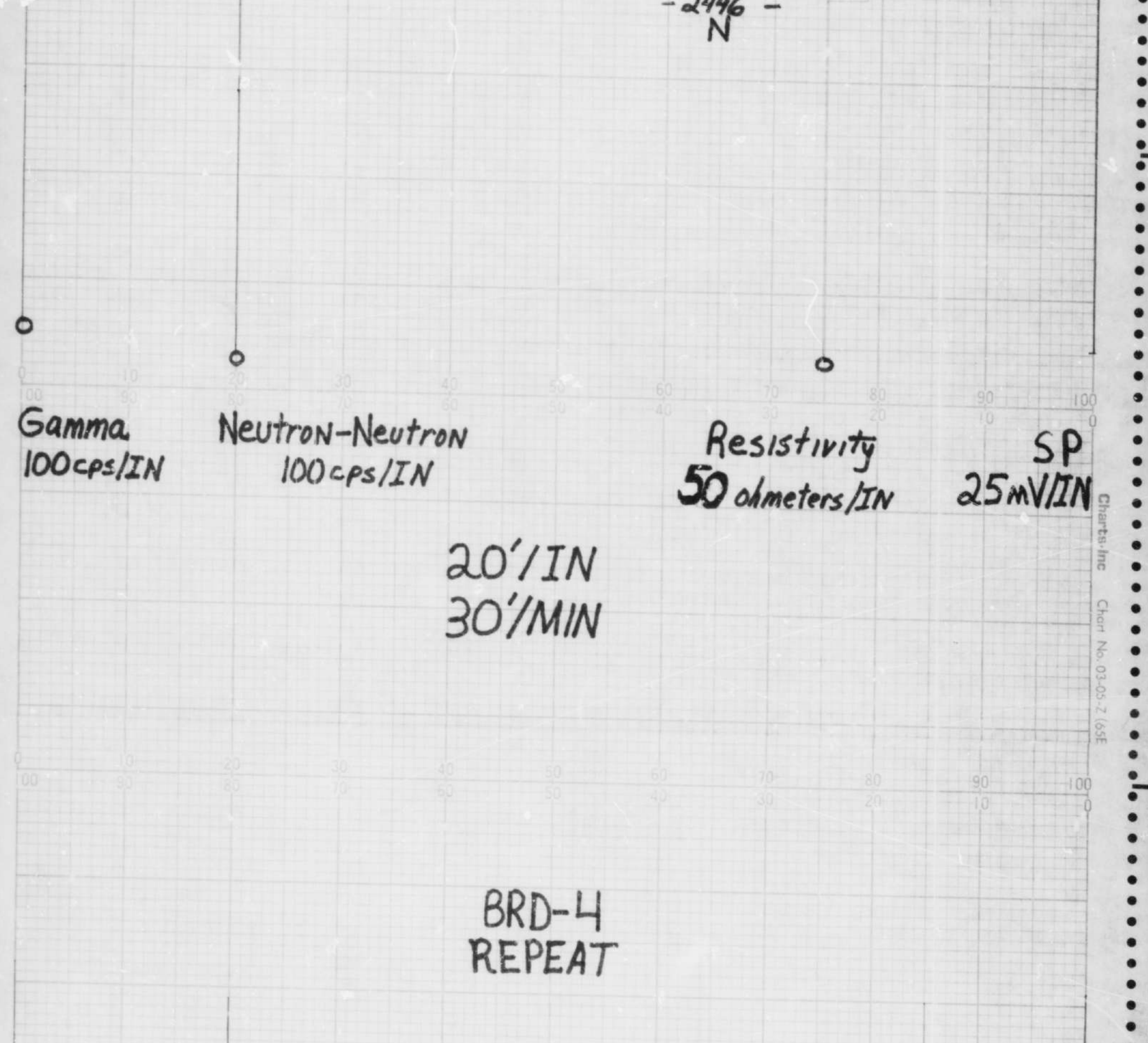
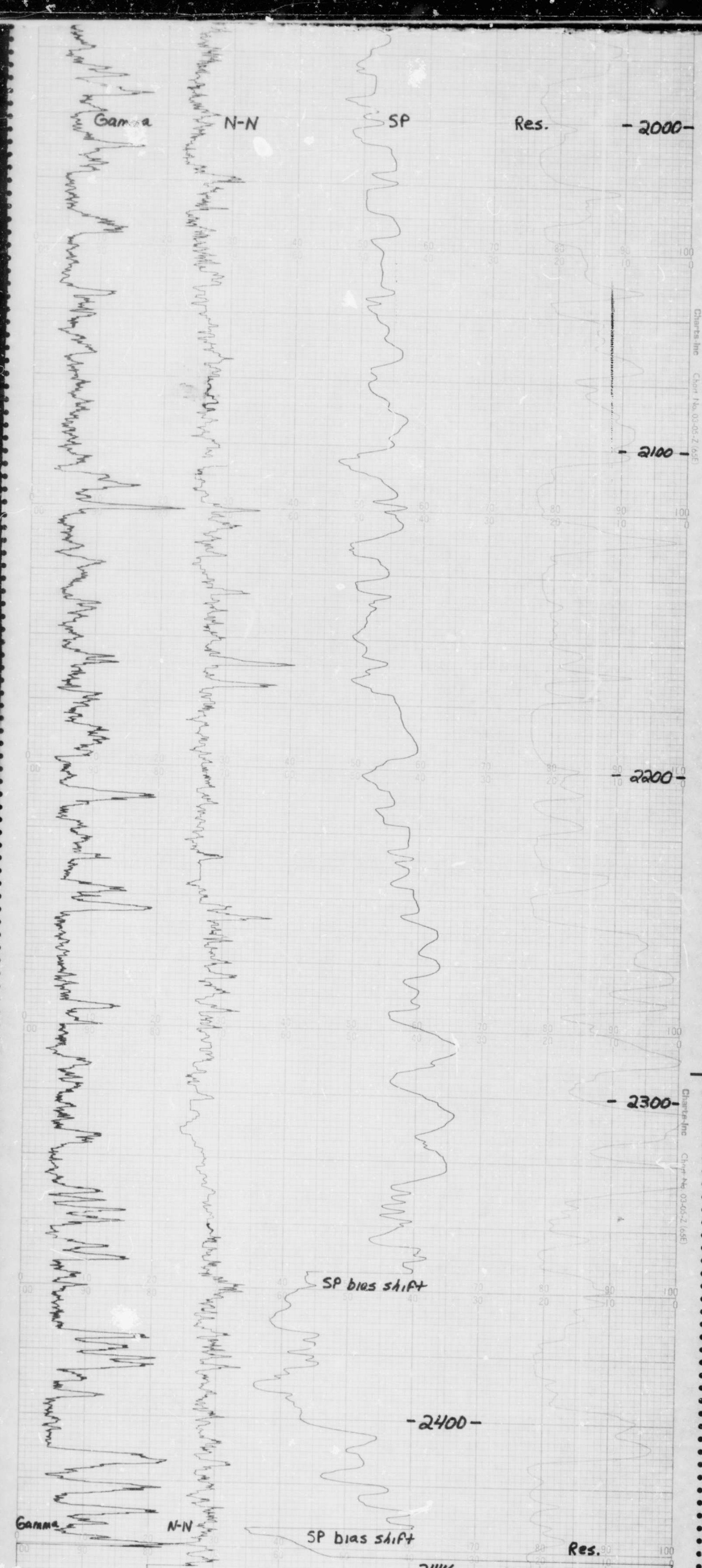


AFTER SP CAL



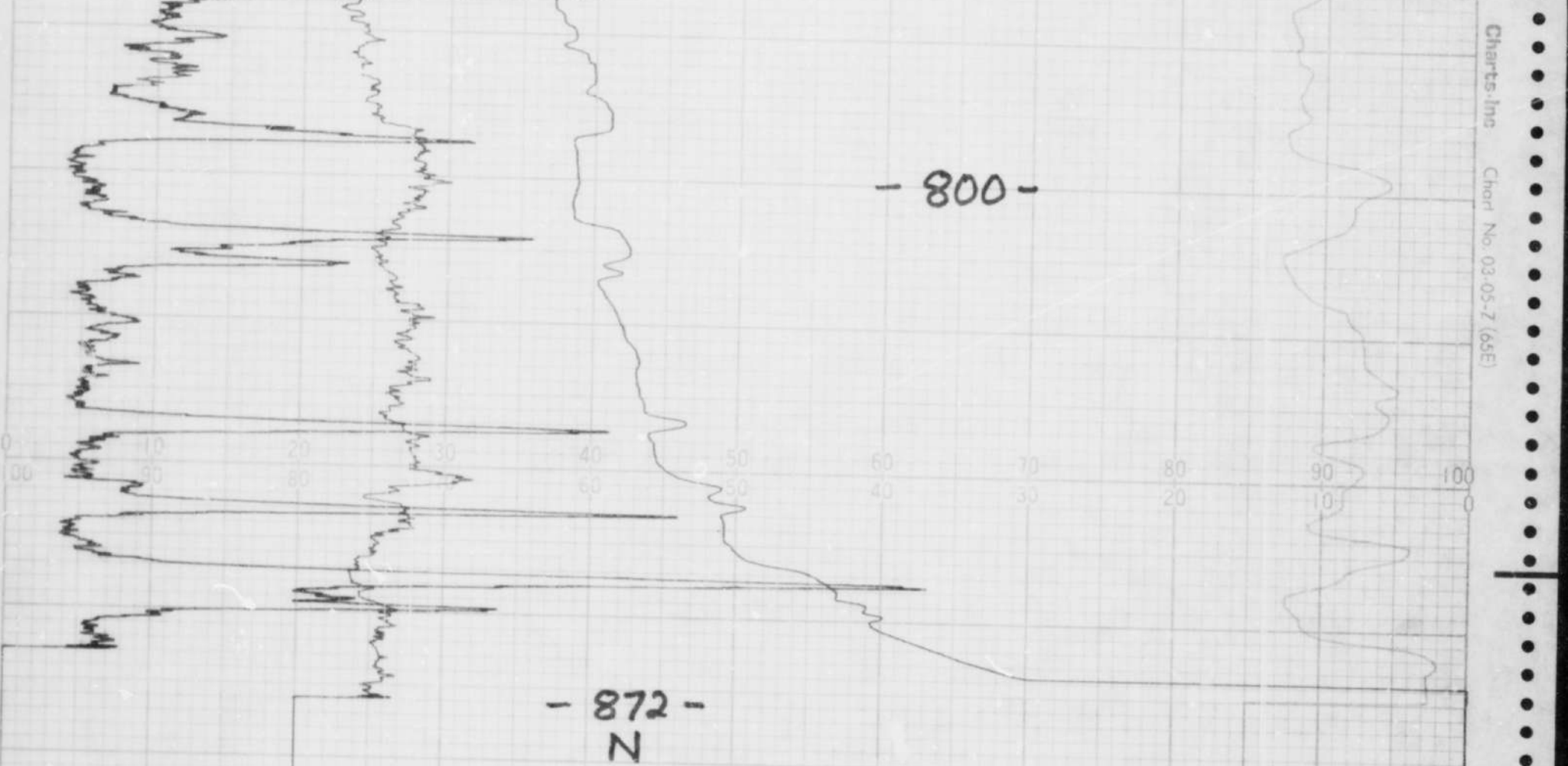
| | | | | | |
|--|--|---|--|---|--|
| Bedix Field Engineering Corporation Grand Junction, Colorado P.O. Box 1866 Grand Avenue, CO 81502 | | Gamma Neutron-Neutron SP Resistivity | | Date: 3/12/80 Truck No.: 1876 Operator: S. Sharda | |
| COMPANY Bedix Field Engineering Corp. WELL BRD-4 CLAIM Union Oil | | | EQUIPMENT DATA Probe Ser No. 321 - 02 Probe diam. 1" | | |
| PROPERTY Union Oil ARCS Red Desert COUNTY Sweetwater STATE Wyo | | | NUCLEAR Run No. One Log Type Gamma Detector NaI Crystal Size 8" x 8" x 8" Source Strength 1" x 6" AnBe Source Shielding 10" Amp Gain 8 V Disc Layer 5.01 V X-Case Digital Analog 2.15 x 10 ⁻⁴ Deadtime 1.97 x 10 ⁻² Deadtime Digital 1.52 μsec Analog 1.54 μsec Data Call A/14/80 Counting Factor | | |
| LOCATION SEC 19 TWP 23N 30E 92W KUT Permanent Datum (Ground Level) Elev. 6882 Log Measuring Point 0. Ft Above Perm Datum Drilling Measure From Elev. 6882 | | | ELECTRICAL Run No. One Log Type SP (s) Normal Shielding Mud Ground SP Distance 4' Cable Length 4' | | |
| CASING RECORD Size (O.D./I.D.) From To None | | | CALIPER Run No. Device Type Tip Pressure Minimum Span Maximum Span | | |
| BOREHOLE RECORD Bit Size 5 1/8" surface 2447 Depth Driller 2447 Type Fluid in Hole H ₂ O + 20% mud and petcoater Casing Joint Fluid Density 8.34 Fluid Visc. 163 Run of Mass Temp 100 meters @ 66 Run of Mass Temp 100 meters @ 67 BHT | | | LOGGING DATA Run No. One Log Type SP (s) Normal Shielding Mud Ground SP Distance 4' Cable Length 4' | | |
| Remarks Longitude 107.4706 Latitude: 42.1197 | | | TIME RECORD Start 1100 Stop 1500 Total 4 hrs. 26 hrs. | | |





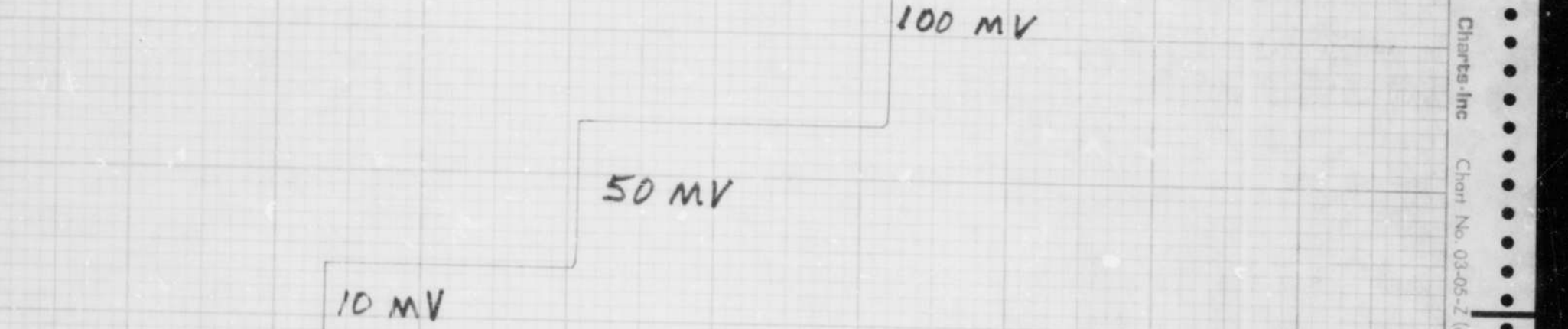
Gamma 100cps/IN Neutron-Neutron 100cps/IN Resistivity 50 ohmeters/IN SP 25mV/IN
20'/IN
30'/MIN

BRD-4 REPEAT

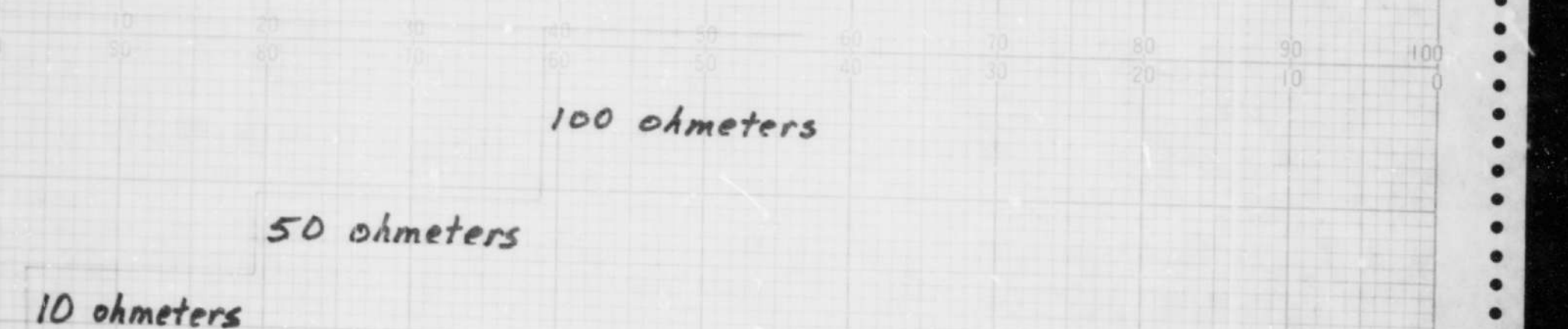


Gamma 100cps/IN Neutron-Neutron 100cps/IN Resistivity 50 ohmeters/IN SP 25mV/IN
20'/IN
30'/MIN

SP AFTER CAL



SP BEFORE CAL



RESISTIVITY BEFORE CAL

