BOOK92R

Notes:
“Room 202 Instrument & Equipment Record” on front
“NB-WI-4” on spine
“3-59/12-67” on spine

Blank pages: page opposite page 1, 299, 300, inside back cover sheets

-page 43 has 2 graph sheets taped to it
-page 75 has 1 (8.5x11) sheet taped
-page 78 has red tab with “inst location” wrote on it at top of page
-pages 86/87 have 3 large graphs between pages
-page 87 has 1 (8.5x11) graph and 1 (8.5x11) sheet taped to it
-page 99 has 3 graphs taped to it
-page 101 has 1 (8.5x11) graph sheet
-page 105 has 1 large graph sheet attached
-page 123 has 1 half sheet taped to it
-page 131 has 1 long thin sheet taped to it
-page 173 has 2 graphs taped to it
-page 176 has 3 small thin graphs taped to it
-page 177 has 7 small thin graphs taped to it

Scanned by:
Sheila Finch
RSICC /Oak Ridge National Lab.
September 3, 1999
Standard Blank Book
No 38

Journals Double 5 and Cts, no Units
S. E. Ledgers " " "
D. E. Ledgers Full Page Form "
Records with Margin Line

In 160, 200 and 300 Pages

Made in U.S.A.

TO REORDER THIS BOOK, SPECIFY NUMBER, RULING AND THICKNESS AS INDICATED ON BACK COVER OF BOOK
A DOOREM & PRASE PRODUCT
Water pumps and decks hostile, pump intake should be closed off when not in use. To limit water spilled on floor.

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### Instrument Check

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Value</th>
<th>Scale</th>
<th>Source Distance</th>
<th>Start-Up Scale</th>
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Notes:
- R-1 and 08.2 are under the tanks.
3/20/58  
Sy N - Panel meter read 0.15 mV while
recorder read 0.03 V while

Celebrating after shutdown

Panel 0.0027
Rec 1.00

INSTRUMENT CHECK

Date 3/21  Time  8:30  A.M.

Instrument  Value  Scale  Read  Stand-Up
DC-1  52  5K  500 V
DC-2  50  5K  500 V
Log N  70 mV
R-3  600 mV
P.M.  V E n

3/24/58

Wet pumps for well leaking badly
may need inside adjustment.

INSTRUMENT CHECK

Date 3/24  Time  7:25  A.M.

Instrument  Value  Scale  Read  Stand-Up
DC-1  50  5K  500 V
DC-2  50  5K  500 V
Log N  70 mV
R-3  600 mV
P.M.  V E n
**INSTRUMENT CHECK**

<table>
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<th>Distance</th>
<th>Start-Up Scale</th>
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<td>3/25</td>
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**DC 3 error on 1 x 5 scale.**
Jumped from 50 to 80 and oscillates.

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**INSTRUMENT CHECK**

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**INSTRUMENT CHECK**

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**Various controls on magnet make jump and break magnet release safety.**
### Instrument Check

**Date:** 4/1  10:00 AM  PM Source No.: 1

<table>
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<tr>
<td>Log N</td>
<td>8.0</td>
<td>12500</td>
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<tr>
<td>R-1</td>
<td>102</td>
<td>7500</td>
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<td>P, M</td>
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Log N calibrated with number 4005893  .0012 .001  110  100

**Date:** 4/2  10:00 AM  PM Source No.: 8

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<td>1250</td>
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<td>7500</td>
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<td>P, M</td>
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**Date:** 4/7  10:00 AM  PM Source No.: 7

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<td>DC-1</td>
<td>95</td>
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<tr>
<td>Log N</td>
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<td>1500</td>
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<td>P, M</td>
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Instrument checked 5 times responded to:

**Date:** 4/8  10:00 AM  PM Source No.: 8

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<td>R-1</td>
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<td>P, M</td>
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**Date:** 4/15  10:00 AM  PM Source No.: 8

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<td>P, M</td>
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Instrument checked 5 times responded to:
Date: 4/1/61 Time: 8:20 AM Source No. V

Instruments:

Instrument: Trip
- DC: 80 x 300
- DC: 20 x 300
- Log R: Trip
- R: Trips
- P M: Trips

Note: LN 116 power seems to last two jumps on scale.
After period, meter has responded for minutes.

Date: 4/1/61 Time: 8:20 AM Source No. V

Instruments:

Instrument: Trip
- DC: 80 x 300
- DC: 20 x 300
- Log R: Trip
- R: Trips
- P M: Trips

Note: Trip level maintained on DC-2.

Date: 4/1/61 Time: 8:20 AM Source No. V

Instruments:

Instrument: Trip
- DC: 80 x 300
- DC: 20 x 300
- Log R: Trip
- R: Trips
- P M: Trips

Note: Trip level maintained on DC-2.
Date 5/9  8  26

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### INSTRUMENT CHECK

**Date:** 6/29/56 9:32 AM  
**Time:** 

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### INSTRUMENT CHECK

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**Time:** 

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<tr>
<td>45</td>
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### INSTRUMENT CHECK

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**Time:** 

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### INSTRUMENT CHECK

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**Time:** 

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<tr>
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<td>6/18</td>
<td>800</td>
<td>10x50</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** DC-2 not operating properly. The trip level has been lowering over several days and is now 10x50. Also check viewing light(s) are intermittent. Trace is some times erratic.
<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/17</td>
<td>Inspection</td>
</tr>
<tr>
<td>6/18</td>
<td>Inspection</td>
</tr>
<tr>
<td>6/19</td>
<td>Inspection</td>
</tr>
</tbody>
</table>

**Instrument Check**

- Date: 6/17
- Time: 8:30 AM
- Instrument: Trip
  - P.M.
- Date: 6/18
- Time: 8:30 AM
  - Instrument: Trip
- Date: 6/19
- Time: 8:30 AM
  - Instrument: Trip

**Instruments**

- 6/17
  - P.M.
- 6/18
  - P.M.
- 6/19
  - P.M.
7-1 Remove DC-2 & R-1 contact from 201 and install in 201 between 3B1 & 3B6. Check for Y-source resistance after warming. OK.
Do not use DC-2 as Trip instrument. Level to be installed.
### Instrument Check

**Date:** 7/17 1918, **Time:** 8:30 AM, **Source No.:** 8

<table>
<thead>
<tr>
<th>Trip</th>
<th>Instrument</th>
<th>Value</th>
<th>Scale</th>
<th>Source Distance</th>
<th>Set-Up Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D.C.</td>
<td>55</td>
<td>100</td>
<td>125</td>
<td>1000</td>
</tr>
<tr>
<td>2</td>
<td>S.C.</td>
<td>55</td>
<td>100</td>
<td>125</td>
<td>1000</td>
</tr>
<tr>
<td>3</td>
<td>R.1</td>
<td>55</td>
<td>100</td>
<td>125</td>
<td>1000</td>
</tr>
<tr>
<td>4</td>
<td>R.2</td>
<td>55</td>
<td>100</td>
<td>125</td>
<td>1000</td>
</tr>
</tbody>
</table>

**Date:** 7/18 1918, **Time:** 8:30 AM, **Source No.:** 8

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</tr>
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<td>3</td>
<td>R.1</td>
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<td>1000</td>
</tr>
<tr>
<td>4</td>
<td>R.2</td>
<td>55</td>
<td>100</td>
<td>125</td>
<td>1000</td>
</tr>
</tbody>
</table>

**Date:** 7/19 1918, **Time:** 2:30 PM

- Test
- Test
- Test

**Note:** All values are in millimeters.
Zero on DC-3 was lowered and rechecked and the trim operated at the same reading of 1.40 oz.
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Range</th>
<th>Value</th>
<th>Whether to Add or Subtract</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1 x 1</td>
<td>6-7&quot;</td>
<td>paraffin</td>
<td></td>
</tr>
<tr>
<td>K2 x 1</td>
<td>6-7&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The paraffin treatment is applied to the sample.

1. Procedure 3 is set at a range of 6-7". The range x 100 should be added to the sample.
2. K1 x 1 is 6-7" paraffin.
3. K2 x 1 is 6-7".

Additional notes:
- Procedure 1 should be set at a range of 0-1000." and range x 100 to 19000.
- K1 x 1 range should be added with a range of 13% on x 100, ensuring it is not a trip.
- Range 10.5" is 900 M a sec.
Investigation of faults with instruments:
- K1/2 by disturbing by operation of 5-3 supply fan.

Insert in all switches (K1, K2, K3, R1-R4, P1, PM).

Check if one of the fuses present (5-3 fuse on).
- K1, R1-R3, PM do not seem to be involved.
- K2 2 3 V amp - still acting into fault. Looks like a fuse.

Disconnect K2, debar lead - still present in needle.
- Disconnect shield wire to replace K2 3 V amp - now.
- Must K3 2 lead - now.
- Check 2 by disturbing 5-3 supply - flat.

Trouble at 53 - when 53 supply in -
- K2, P1, PM not noticeable - A spin by me.
- K2, 21, P1, PM slightly.

Cannot be sure -
- put another wire in K3 amp (with 14-25), terminals
  reinserted at 15. - New month.

We supply for all now -
- 14-25 results in 53 result.
Supply for fire - all normal.

Note: "long" time draft x 6/2 - 10-30% decade. This has been

confirmed again - in generators, draft over x K2

draft to cause the defect phenomenon.

Chamber for Set 3:

- Hay @ 5-7% / day there > 10% -

- No drift noted K2 during the fire.

9:10 K2 peaked 11.133 in up 3 m @ 33-01 m Cheryl

By my own 5-434-415, already, on album.

Made 6133 "chamber in Set 3, chamber - 66/19, 0.08", 11:10.

Chamber in Std position.

Hay, again excludes any pure 15-25% by pure.

And change - on fire, period to perform this.

Some step.

Chamber out of deck in unchanged condition.

- definite ground coach.

Service notes continued:

- 520.6 - 2055.37K per 5-415.

- K2 & 6% on wood.

- Drain outlet - 1,200 x 10^-12 days

- 1,110 x 10^-12 mag.

- 128 x 10^-12 days

- 1,110 x 10^-12 mag.

- 128 x 10^-12 days

- 1,110 x 10^-12 mag.

- 128 x 10^-12 days

- 1,110 x 10^-12 mag.
No false tri's or malfunctions.

Suggested Instrument Check Form —
10-28-18 11:05 A.M. Instrument Check:

PM 1:

- PO instrument had been put into service.
- PM 1 went out.
- Trouble: 6507 (drum pump - main valve).
- 6507 main valve normally set between -0.8 m.
- 6507 main valve set at -0.8 m.
- 6507 main valve reset.

PM 2:

- 6502 main valve set.
- 6502 main valve reset.

10-29-58 8:17 A.M.

R1:
- 30

R2:
- 50

PM 1:
- 35/40
- 54/60
- 172/100

PM 2:
- 35/40
- 54/60
- 172/100

No filler screen during night.

Check R1 - R2 pumps: R1 was stopped; R2 was stopped.
R2 is still dripping together.

PM 1 was attached in the back of 6507.

INSTRUMENT CHECK

Date: 10-28-58
Time: 11:05 AM

INSTRUMENT CHECK

Date: 10-29-58
Time: 8:17 AM
10-30-78  Cactor Beam Irradiation REC - No demand for hot
over night (Cabinet @ 25°C)

* Instrument Readings - After monitoring

K1: 25°C  \( 10 \times 10^{-5} \) to 1.2°C
K2: 25°C  3.8 \( +10^{-3} \) to 3.8°C
K3: 25°C  1.3°C
K4: 25°C  1.3°C
K5: 25°C  1.3°C
K6: 25°C  1.3°C

Log:
Pm1: 0.1  40°C
Pm2: 0.1  40°C

Reactor HT off. 1 = 1100°C
2 = 1100°C

Reactor adj to 10% on K1 probe.
Observations:

K1, K2, R1: high background - unstable pH signal
K2: zero drift slight - watch
K2: high drift slight - watch
K1, R2: high drift slight - watch
R1: high drift slight - watch

Readings:

R1 = 252 ± 1
R2 = 18% ± 1
R3 = 110% 
R4 = 110% 
R5 = 110% 
R6 = 110% 
R7 = 110% 
R8 = 110% 
R9 = 110% 
R10 = 110% 
R11 = 110% 
R12 = 110% 
R13 = 110% 
R14 = 110% 
R15 = 110% 
R16 = 110% 
R17 = 110% 
R18 = 110% 
R19 = 110% 
R20 = 110% 
R21 = 110% 
R22 = 110% 
R23 = 110% 
R24 = 110% 
R25 = 110% 
R26 = 110% 
R27 = 110% 
R28 = 110% 
R29 = 110% 
R30 = 110% 
R31 = 110% 
R32 = 110% 
R33 = 110% 
R34 = 110% 
R35 = 110% 
R36 = 110% 
R37 = 110% 
R38 = 110% 
R39 = 110% 
R40 = 110% 
R41 = 110% 
R42 = 110% 
R43 = 110% 
R44 = 110% 
R45 = 110% 
R46 = 110% 
R47 = 110% 
R48 = 110% 
R49 = 110% 
R50 = 110% 
R51 = 110% 
R52 = 110% 
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R54 = 110% 
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R78 = 110% 
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R81 = 110% 
R82 = 110% 
R83 = 110% 
R84 = 110% 
R85 = 110% 
R86 = 110% 
R87 = 110% 
R88 = 110% 
R89 = 110% 
R90 = 110% 
R91 = 110% 
R92 = 110% 
R93 = 110% 
R94 = 110% 
R95 = 110% 
R96 = 110% 
R97 = 110% 
R98 = 110% 
R99 = 110% 
R100 = 110% 

Note: readings were taken at various pH levels, and the sample pH level was 4.34 (H2SO4) in 0.1 M solution.
<table>
<thead>
<tr>
<th>Instrument</th>
<th>Value</th>
<th>Readings</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td></td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>D1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1</td>
<td></td>
<td></td>
<td>5%</td>
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<tr>
<td>G1</td>
<td></td>
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<td></td>
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<tr>
<td>H1</td>
<td></td>
<td></td>
<td>1%</td>
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</tbody>
</table>

11-7-58

AMM - 60, C - 0.3

X1 + X1

Leak: Check ok.

- AMM calibration -

---

<table>
<thead>
<tr>
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</tr>
<tr>
<td>B1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>D1</td>
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<td></td>
<td></td>
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<tr>
<td>E1</td>
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<td>F1</td>
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<td>H1</td>
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</tr>
</tbody>
</table>

11-10-58

AMM - 60, C - 0.3

X1 + X1

Leak: Check ok.

- AMM calibration -

---

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Value</th>
<th>Readings</th>
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</tr>
</thead>
<tbody>
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<td></td>
</tr>
<tr>
<td>B1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
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<tr>
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<tr>
<td>H1</td>
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</tbody>
</table>

11-12-58

AMM - 60, C - 0.3

X1 + X1

Leak: Check ok.

- AMM calibration -

---

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Value</th>
<th>Readings</th>
<th>Standard Error</th>
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<tr>
<td>A1</td>
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<tr>
<td>B1</td>
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<td>C1</td>
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<tr>
<td>H1</td>
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</tbody>
</table>

11-14-58

AMM - 60, C - 0.3

X1 + X1

Leak: Check ok.

- AMM calibration -

---

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</thead>
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</tr>
<tr>
<td>H1</td>
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</tbody>
</table>

11-16-58

AMM - 60, C - 0.3

X1 + X1

Leak: Check ok.

- AMM calibration -

---
### 11/3/73 Level Safety

<table>
<thead>
<tr>
<th>Depth Range</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>v</td>
</tr>
<tr>
<td>K2</td>
<td>v</td>
</tr>
<tr>
<td>R1</td>
<td>x1</td>
</tr>
<tr>
<td>R2</td>
<td>x1</td>
</tr>
<tr>
<td>PM1</td>
<td>1100</td>
</tr>
<tr>
<td>PM2</td>
<td>1100</td>
</tr>
</tbody>
</table>

### 11/4/73 Level Safety

<table>
<thead>
<tr>
<th>Depth Range</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>w</td>
</tr>
<tr>
<td>K2</td>
<td>w</td>
</tr>
<tr>
<td>R1</td>
<td>x1</td>
</tr>
<tr>
<td>R2</td>
<td>x1 (13)</td>
</tr>
<tr>
<td>PM1</td>
<td>1100</td>
</tr>
<tr>
<td>PM2</td>
<td>1100</td>
</tr>
</tbody>
</table>

C1 - Range Draft 10-15% on key
Instrument Check

11-14-58

Standard

<table>
<thead>
<tr>
<th>Time/Min</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>K2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>R1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>R2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pm1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pm2</td>
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</tr>
<tr>
<td>Lmg</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Calibration

- C1: 266.36
- C2: 74.05
- C3: 25

Blotting paper placed over 75% of total cable

11-18-58

Standard

<table>
<thead>
<tr>
<th>Time/Min</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
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<td>K2</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Pm1</td>
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</tr>
<tr>
<td>Lmg</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Calibration

- C1: 39.16
- C2: 2.61
- C3: 2.36
Data: 12-10 AM
1.1.15

INSTRUMENT CHECK

Date: 12-10 AM
1.1.15

INSTRUMENT CHECK

Date: 11/12 AM
1952

-8
-6
-4
-2
0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

Date: 12-10 AM
1.1.15

-8
-6
-4
-2
0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

Output

-8
-6
-4
-2
0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

\[ \begin{array}{|c|c|c|c|c|}
\hline
\text{Date} & \text{AM} & \text{PM} & \text{Output} \\
\hline
12-10 & AM & 1.1.15 & 1.1.15 \\
\hline
\end{array} \]

12-10 AM
1.1.15

INSTRUMENT CHECK

Date: 12-10 AM
1.1.15

INSTRUMENT CHECK

Date: 11/12 AM
1952

-8
-6
-4
-2
0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

Date: 12-10 AM
1.1.15

-8
-6
-4
-2
0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

Output

-8
-6
-4
-2
0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

\[ \begin{array}{|c|c|c|c|c|}
\hline
\text{Date} & \text{AM} & \text{PM} & \text{Output} \\
\hline
12-10 & AM & 1.1.15 & 1.1.15 \\
\hline
\end{array} \]

12-10 AM
1.1.15

INSTRUMENT CHECK

Date: 12-10 AM
1.1.15

INSTRUMENT CHECK

Date: 11/12 AM
1952

-8
-6
-4
-2
0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

Date: 12-10 AM
1.1.15

-8
-6
-4
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0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

Output

-8
-6
-4
-2
0
2
4
6
8
10

-8
-6
-4
-2
0
2
4
6
8
10

\[ \begin{array}{|c|c|c|c|c|}
\hline
\text{Date} & \text{AM} & \text{PM} & \text{Output} \\
\hline
12-10 & AM & 1.1.15 & 1.1.15 \\
\hline
\end{array} \]
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<th>PM Shift</th>
<th>K-1</th>
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<th>K-3</th>
<th>Remarks</th>
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Guidelines:

- 12:19 AM: K-2 out of service - Deluge HPS out and CHP out.
- 12:20 AM: Check HPS.
  - Old HPS: 1140 rpm - Check OK.
  - New one: check宀ver the leaking.
- 12:21 PM: Check HPS.
  - Old HPS: 1140 rpm - Check OK.
  - New one: check for leaks.

SB 483
NC 1069 Quail - A9a
11/59
K-1 v - 
K-2 v - 
K-1 v - 
K-2 v - 
PM-2 v - 

12/9/59
PM-2
K-2
K-1
PM-2
K-2
K-1

12/30 5 
K-2
K-2
K-2
K-2

11/59
K-1
K-2
K-1
K-2

11/15/59
Casting chambers for 2nd basket experiments:
5/" x 2/" projection cavities: C1 - C8
Top valving: Lower branch - C4
(2/" - 1/" opening in side of dish)
Cut hole 1/" below 2/" opening to allow entry
with water at 1/" above.
C1 normal operation
C8 - 2/" opening
C-2 very slow ascent
### Instrument Check

**Date:** 2/15/99  
**Time:** 3:20  
**K-2 Trip**  
**Log N responds (512)**

---

**Date:** 2/16/99  
**K-2 responds Trip**  
**Log N responds**

---

**Date:** 2/19/99  
**Time:** 9:09 AM  
**K-2 Trip**  
**Log N responds**

Remarques:
- Année 1905 :
  - 1er trimestre : 1er mois
  - 2ème trimestre : 2ème mois
  - 3ème trimestre : 3ème mois
  - 4ème trimestre : 4ème mois

Remarque importante concernant la correction des erreurs:
- Corriger les erreurs trouvées dans le tableau.

Tableau:

<table>
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<th>Année</th>
<th>Mois</th>
<th>Calories</th>
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<td>650</td>
<td>15</td>
<td>635</td>
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Remarque finale:
- Le total des calories pour l'année 1905 est de 2350 kcal.

Nota:
- Les corrections effectuées sont indiquées dans la colonne "Correction".
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<tr>
<th>Run</th>
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\[ \frac{1.561}{1.21} = 1.283 \times 10^{-2} \]

\[ \frac{9.9197.5}{98.216.8 \pm 338.3} = 4.6967 \]

\[ \frac{4.6967}{12.7} = 0.363 \]
<table>
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<tr>
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<th>Deflector</th>
<th>Resump</th>
<th>Remarks</th>
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<td>2</td>
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<td>F20 cm/rev</td>
<td>450</td>
<td>5% s.s. extension</td>
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<td>Normal/zero</td>
<td>F25 cm/rev</td>
<td>349</td>
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<td>4</td>
<td>Vertical Traverse</td>
<td>40 cm/rev</td>
<td>308</td>
<td>4% s.s. extension</td>
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<tr>
<td>4</td>
<td>External/monitor</td>
<td>1m/rev</td>
<td>502</td>
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During initial run - observed temperature drift on log A of K2, very marked. Cables had not been re-located after duplexer had been installed.

Solution concentration device seems to work satisfactorily.

3-30-59 Re-balanced cable bundle which was hanging by code 8 deflector and seem to have temperature change in an area of log A. 5% s.s. drift. Replaced cable at end. 15/6m. 10 /6m. This is not quite as before, but more nearly normal.

3/14/59 K-2 trip, 1 source
K-1 trip
B-1 trip
PM-1 trip
PM-2 trip
log N expanded

When source inserted in log B - resistance dropped 3% by decade. Then K2 of log N inserted in log B. log B already placed under 8%. Test with output taken 400 ft. (200 ft. above lead mantle, 200 ft. above cable head. Bad or sound to be known. Double connection on head. Old lead 8 x 10^-4
New line 1 x 10^-4

4/4/59 Last Check:
K-2 trip
K-1 trip
PM-1 trip
PM-2 trip

4/16/59 Last Check:
K-1 trip
K-2 trip
PM-1 trip
PM-2 trip
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<td>C-1</td>
<td>U-235 G'</td>
<td>In S10</td>
<td>UCI</td>
<td>Y123819</td>
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<td>C-2</td>
<td>BF4 proton</td>
<td>Horizontal</td>
<td>*</td>
<td>*</td>
<td>*</td>
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<tr>
<td>C-3</td>
<td>BF4 proton</td>
<td>Vertical</td>
<td>*</td>
<td>*</td>
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<td>C-4</td>
<td>BF4 proton</td>
<td>E-112</td>
<td>UCI</td>
<td>Y100353</td>
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<td>BF4 chamber</td>
<td>E-112</td>
<td>UCI</td>
<td>Y100353</td>
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<td>UCI</td>
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(*) C-2 pre-amp L.V. power from Y100353
4-3-59

3:25 A.M. 
Check Amp. Bal. for x 10^{-13} on Multivibrator

Cal. 10^{-7} Set Meter to 10^{-7} + adj. Recorder to read 10^{-7}
Cal. 10^{-11} adj. Bal. to read 10^{-9}

re-check 10^{-7} & 10^{-11} points

4-6-59: Calibrations: Lamp burned out - some difficulty in
mounting of new lamp - bent flange on 3 stubber
solder lamp base to flange

(to replace) - unsolder lamp from flange - sees
flange attached.

4-6-59: Log N Calibration

9:45 A.M. Set 10^{-9} = 118 (Recorder)

set 10^{-11} = .0114 (Recorder)

Meter + Recorder not together - Cal. Recorder at 10^{-7} w/ meter
 só: Calibration: Amps Bal. at 10^{-13}

Some indication of drift in Calibration Pat (Recorder)

Current Source Calibration:

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<th>Recorder</th>
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<th>Recorder</th>
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<td>0.004</td>
<td>10^{-9 }</td>
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<td>10^{-10}</td>
<td>0.41</td>
<td>5 x 10^{-8}</td>
<td>230</td>
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4-6-57: 11:10 PM - COLORIMETER:
Recording oscillations - period about 1 min.
Between object, from sample, fixed at bottle position. Some oscillations present.

4-6-57: 2:15 PM - PHOTOMETER - Drifting - Reduced gain - Align all 9/6.5

4-7-57: 2:10 AM - COLORIMETER - Recorder Instable - Calibrate?
1/2 V all checks OK, Changed 1/2 V all for observation.

4-7-59: Inst Check
K-1 align
K-2 "
A-1 "

9-7-59 9:00 AM - Log N. Check Calibration
Log N. amplifier OK. Taped off very slightly.
Recorder Cal. with object on N=0.94. Adjust Y.E.

4-7-59: 10:30 AM - Log N. Error again in Recorder do meter.
Difficult to Set. Changed different methods. To single 1K headset - Observe - Y.E.

4-7-59: 10:00 AM - Colorimeter - Some drift - method not too bad.
Possible trouble from amplifier (ERNEST). But in 9/6.5. New specie drift.

4-7-59: 11:15 AM - Drift less but still excessive. Part original tube blank.

4-7-59: 1:34 PM - Photomultiplier - Set recorder 1/2 (tands).

4-7-59: Log N. Check - 11:15 PM - OK - Y.E.

4-8-59: Log N. Check - Calibrated amplifier (now very close)

9:30 AM NOTE: Recorder does not return to same place, depending on direction (up or downwards).
increased gain of recorder. Rondometer goes off - set this - agreement between meter +
recorder now much better - Y.E.
8-8-59: PM 2 moved from pout on table (approx 6 ft from tank + 3 ft off floor) to a point further North East (10 ft from tank and 8 ft off floor) (mark) 92

8-9-59: Direct Chucks: K1, K2, Hf, PM 2, PM 1, Joe
All present. (Mark) GE

8-9-59: 3:30 Pm = Calomel - 2nd sample - ground clay con
filter medium coarse. Tightness - OK.

8-9-59: 11:20 AM = Reported C1, presence in Counts.
Made observation - the thrown in Counts per
except on C4 when central switch thrown.

4-9-59: 3:00 PM - No Complaint on C1.
C4 Repeated fluctuating: Could not see
A good cause - C2 + C4 clear + No boys
Cross connected - Third Un-Cross-Connecting
C2 + C4. Both seem to count OK. GE -
Made slight change in C4 Stabilizer disconnect setting.

* aspirator switch pulse clear.

8-12-59: Surge drum 50 gal. (Mark) 72

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<td>194</td>
<td>274</td>
<td>1337</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2476</td>
<td>94</td>
<td>260</td>
<td>1359</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2483</td>
<td>97</td>
<td>146</td>
<td>1379</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2457</td>
<td>98</td>
<td>83</td>
<td>1480</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2356</td>
<td>98</td>
<td>92</td>
<td>1389</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2300</td>
<td>92</td>
<td>222</td>
<td>1390</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2237</td>
<td>196</td>
<td>225</td>
<td>1380</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2250</td>
<td>199</td>
<td>186</td>
<td>1420</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2112</td>
<td>201</td>
<td>15</td>
<td>1390</td>
</tr>
<tr>
<td>1/5/18</td>
<td>2175</td>
<td>201</td>
<td>147</td>
<td>1410</td>
</tr>
</tbody>
</table>

"Pre-ops C1/C4 some same required (also C3)"
"C1&C2 some grade required"
"C3&C4 some grade required"
"C3&C4 100% ready"
4/26/57 K-1 trip
4/26/57 K-2 trip
4/26/57 R-2 trip
4/27/57 Log N Calibration - Set Meter Mechanical 120/24 - OK

4/27/57 K-1 trip
4/27/57 K-2 trip
4/27/57 R-2 trip
4/27/57 Log N Calibration - Set Meter Mechanical 120/24 - OK

4/27/57 C1 thru C5 - Calibration check - OK
4/27/57 Log N Calibration - Set Meter Mechanical 120/24 - OK

6:00 PM Log N Calibration - Set Meter Mechanical 120/24 - OK
11-59

5-6-59

5-4-59—Log N—8:15 AM—Calibrate all across OK
5-4-59—Log N—1:45 PM—Log N Calibration OK—
Calibrated input—Altered the output function—
Just responds with rapid, violent oscillations—
5-6-59—Log N—8:15 AM—Calibrate all across OK
Just input plus circuit—oscillations regularly
peaking about 6 to 8 CPS; during which
Time period meter swings from about 520 to
remaining input lead shows oscillation to Accl—
Re connect input—response was OK—
Later—Kathleen will not stay Calibrated—
occasionally shows rapid oscillations—

Between 2 PM and 5 PM repeated Calibration procedure—
Kathleen Cy mourned not staying in Calibration—
Temporarily installed ORNL Log N in adj. each—Connected
To recorder. Made no connection to period Scaum count—
from Log N. Also replaced battery in Recorder—
}

5-7-59

Counting Chamber—

None o channels from register opetation on counter—
found to be due to shock through each
The amplifier—

Ments 255 in spring counter. This quality reached
the definition—

Ments CH 1 green counter—
4410 LR 2 and shock remaining. This not so many
since then as to skdims in their rack—

In C1 channels internal swing—shock-should
be regular model—

7-15 PM—Rearm beam—

Calibrate—Reinstall at unadjusted Beam—
Vertical traverse preliminary:

<table>
<thead>
<tr>
<th>Depth 1</th>
<th>Depth 2</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,560</td>
<td>2,719</td>
<td>1062</td>
</tr>
<tr>
<td>2,600</td>
<td>2,721</td>
<td>1047</td>
</tr>
<tr>
<td>2,480</td>
<td>2,740</td>
<td>1002</td>
</tr>
<tr>
<td>2,630</td>
<td>2,790</td>
<td>1061</td>
</tr>
</tbody>
</table>

- log N = 0.003 (per 1) \(3 \times 10^{-10}\) amps
- log D = 0.023 \(2.3 \times 10^{-9}\) amps

- C1 detector in 1st arm hole
- C3 detector as vertical traverse probe

C3 run-out - Upper limit not being run out, cable pulled off arm & pulled from 18 to bottom 1 stake. Lower stake badly bent.

- West and fusion units status:
  - 1 - 235 cts, contaminated k-shell
  - 1 - short - ignore check out model
5/15/39 8:30 a.m. Circuitry installed & C/F power checked calibration.

5/15/39 9:04 DNM comment: 11% Blacken. IC-2 in tank.

9:25 a.m. Put 6146 225-fm in cap 

Note: 6146 225, (5-1) 16, 0.84, 12.

625 = 6146 225, (225-5), 0.98 2m, 60, 0.76 235.

Note: 6146 225 in tank.

5/18/39 8:35 Note: IC-4 (far 112) in tank.

Put E-11 chamber back in bell last cable run.

Chamber in NW corner.

8:40 Measure 10" - resist 5 x 10^9. chime 10^-5 - 5 x 10^-8. Draw box already.

10" x 10^-9 or

8:55 Circuitry, #4 and #5 - 3,5 x 10^-17

Note 12: 1 x 10^-13 - alg.

10:12 48 - Locate Chambers -

Detector Amplifier Recorder

N° E-111 Keithley Wheeler

(see box 201)

Only 2142)

58 E-112 (has been inside) 112kev, IC-4 Brown -

(see 101 order)

Brown is not from 112.
**5-13-39**

**Cathode ray preliminary**

Series of 1 minute counts @ chamber operating level:

- $A_i$: 1,003 (80%) $3 \times 10^{-6} 

- $K_i$: 0.99 ($2 \times 10^{-7}$) $1.4 \times 10^{-6}$

<table>
<thead>
<tr>
<th>Current (mA)</th>
<th>Counts</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>2719</td>
<td>1062</td>
</tr>
<tr>
<td>0.5</td>
<td>2721</td>
<td>1047</td>
</tr>
<tr>
<td>1.0</td>
<td>2740</td>
<td>1008</td>
</tr>
<tr>
<td>1.5</td>
<td>2748</td>
<td>1062</td>
</tr>
</tbody>
</table>

At $10^{-6}$, 2.9 x $10^{-6}$ mamp.

<table>
<thead>
<tr>
<th>Current (mA)</th>
<th>Counts</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.390</td>
<td>228.680</td>
<td>1073</td>
</tr>
<tr>
<td>21.460</td>
<td>227.780</td>
<td>1002</td>
</tr>
<tr>
<td>21.420</td>
<td>227.680</td>
<td>1062</td>
</tr>
</tbody>
</table>

- Cesium in NaCl solution; Cs Radium in NaCl solution.
- Center with NaCl solution; Cs Radium with NaCl solution.

**5-15-39, 8:00 a.m.**

- **Kiddley** by radiolo**g**ist to CTV power.
  - **Check calibration.**
  - Set chamber 1 of reading recorder.

- **DWR comment**: Use chamber 2A-3 in order.

- **DWR comment**: Use chamber 2A-3 in order.

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>30</td>
<td>25</td>
</tr>
</tbody>
</table>

**5-16-39**

- Set 8 in NaCl solution.
  - Put C-11 in chamber back on wall by cable wire.
  - Chamber in NaCl washing solution.

**9:00 a.m.**

- **Reading** 5, 5.2 x $10^{-6}$ mamp.
  - Read: 5,2 x $10^{-6}$ mamp.
  - Read 5,2 x $10^{-6}$ mamp.

**5-17-39**

- **Kiddley** had 3B-1: 3.3 x $10^{-6}$ mamp.

**5-18-39**

- **Radium**
  - **Kiddley**
  - **Radium**

- E-111
  - E-111
  - E-111

- E-111
  - E-111
  - E-111

- E-111
  - E-111
  - E-111

- E-111
  - E-111
  - E-111

---

**S8.**

- **Radium 10C-4**
  - **Brown**
    - **Brown**
      - **Brown**
        - **Brown**
          - **Brown**
            - **Brown**
5/10/55

Kettle to Broma
Renum polynly @ Broma adj. sec. @

K=10^{-6} \quad \text{Brom}=10^{+7}
K=10^{-11} \quad \text{Brom}=10^{+31}

Get chack Barron seat geer. Make high - Brom to Flan 10^{-2}m

1:24 p.m. chack you still high -
1:24 p.m. pnum 7
A-callocate

When mom gone is proper low and pume are
slightly high. Quantum 10^{-11} return will calble.

3:15 p.m.

To get kettle on some channel swap leads @ Top hat
swap here - leads in XZ not very many to first four to

Blacket

\begin{align*}
\text{F-111} & \quad \text{let in one channel is recommended on} \\
\text{F-111} & \quad \text{first under reduce} \\
\text{F-111} & \quad \text{pyg mark 6/12}
\end{align*}

\begin{align*}
\text{Topp} & \quad \text{Weeko} \\
\text{Breen} & \quad \text{Brown}
\end{align*}

Hand lead on floor 101

Throughout Agreements
2/10/59

9.40 a.m. - Regent 8 down 714.
10.30 a.m. - By changed channel decline for Keithley +
Rodman by No. 6 at top shut.

Summery 7 Mr. elevation:

<table>
<thead>
<tr>
<th>Chamber</th>
<th>Keithley</th>
<th>Rodman</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-1/12.</td>
<td>56.4167</td>
<td>56.4167</td>
</tr>
<tr>
<td>50-1/12.</td>
<td>56.4167</td>
<td>56.4167</td>
</tr>
</tbody>
</table>

6.18 p.m. level start:

| | Keithley | Rodman |
| | | |
| 2.13 x 10^-7 | 1.5 x 10^-10 | 15.3 |
| 1/14 | 107 |

2.10 p.m. level final:

| | Keithley | Rodman |
| | | |
| 1.00 x 10^-9 | 6.0 x 10^-9 | 144 |
| 1/15 | 203.7 | 196.0 |

Change cable connection at top 47:

| | Keithley | Rodman |
| | | |
| 8.11, 10.77 | 2.5 x 10^-9 | 1.16 |
| 1/16 | 2.0 | 2.11 |
Keithley Continued:

Amplifier and also found shifted down scale.
(Off scale now) Be adjusting "amp. bal" 
Empires present situation quickly, but after 
this is done and resets to oscillation again.

Finally had success in getting instrument 
Calibrated and back on scale, without it going 
"off".

**Observation:** Both times (days) when this 
occurred, instrument was being calibrated 
while reactor was running power, and just 
first went into oscillation when switched 
back to operate position, while there was 
a considerable signal on the chamber cable.

Ellis.
5-25-59 Instrument layout for first level run.

Detector
- C1 0-235 from chamber
- C3 0-235 from chamber
- K1

IN
- R1

201

Comments
- ORNL log N - defect E-112
- PM-1
- PM-2

R 2 - on floor by wall E-100

IN
- K2 - on floor by wall N-101
- Keitkly log - top 2 made by S'wall E-111

log N (ORNL) permit regular to 2.5 x 10^-8 amps
C1: Horizontal Frame 4' 0'235 prob (1-1)

C3: Normalizer 6' 0'235 prob (235-1)
<table>
<thead>
<tr>
<th>C.I</th>
<th>C.4</th>
<th>C.5</th>
<th>C.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>111,422.0</td>
<td>65,490.0</td>
<td>60.0</td>
<td>70.0</td>
</tr>
<tr>
<td>67,800.0</td>
<td>35,790.0</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>118,973.00</td>
<td>35,250.0</td>
<td>40.0</td>
<td></td>
</tr>
<tr>
<td>118,973.00</td>
<td>36,100.0</td>
<td>60.0</td>
<td></td>
</tr>
<tr>
<td>118,973.00</td>
<td>36,500.0</td>
<td>60.0</td>
<td></td>
</tr>
<tr>
<td>118,973.00</td>
<td>36,850.0</td>
<td>60.0</td>
<td></td>
</tr>
</tbody>
</table>

**Caption:**

Ketta by a point up to level 9 7.40. 7.40.

**Notes:**

1. Begin at the base @ 201 201. Each.
2. Line from this @ 201 201. Environ by parts 3.
106

Record of Unit End Service Activities 6/24/79 - 7/10/79

Control 240 T. Unable to get control circuit for temporary change. Nell claimed to operate properly. An AC power source was used from 20 late June 10 am to 10 pm. Plug into wall near gas cylinder made plug.

Cont Neg. Nell

Cont Neg. 7/2 Request for 110 vac for TSC panel which will be cut off at 8 am. Nell has power from wall outlet. When panel not properly set one switch overheated.

Inst. 27/6

Inst. 9/3

Inst. 9/2

DRC requests (a) new RCL chamber.
(b) fume unit.

DRC requests (a) K/IK outputs exchanged.
(b) Log N (OPAL) put on PM 2 recorder.
(c) PM 2 output fed to prevent OPAL (9/2). 40 retention.

Ruth artillery.

Ruth artillery.

1/10 Read - work in force cable connect 1

Log N chamber - Repaired.

7/10 Request swap unit leads for Log, S12. Nell needed to be exchanged in order to show Nell wire over/Log wire, Ruth. Exchange made at VCA left terminal.

- S12 find pump not operate. Shut down and began cleaning. Later, DRC discovers with.
- Nell button not set - set done.
- Nell find pump (vane) not turn. Subject in a switch is found. Cut out in 101. Not going 110 vac on control panel. Both sides of control.

- Ruth neutral disconnected from contactor 1 open. Chair to locate if neutral the plant in 101.

- 110 vacs to be 15 on A5 (log transmitter block) unable to trace down fault neutral. Run found from contact at ground in distribution box nearby.

- Violent oscillation 10-12 cycle/msec Read 75. Switch to 6001 for few sec. Then back to original - oscillation stops.

- Same as above - same remedy -calibrate.

- Log N recorder chart drive not operating.

- Control needs to automatic stand-by mechanism which has failed. If hung coming gone to ground still meter. Did nothing more with mechanism.
7/13  pm - In progress, cleaned, oiled, & replaced parts as indicated.

Reconditioning:

PM2 7/13 - PM2 inspector said 'unrelated.' If sensor below is set at 'backgroun,' then 'unrelated' to output. Receiver goes off scale but must allow delay, if any, before test. Damn, shouldn't wait another task.

Orders:

Order 1:

- New R16: found broken, soldered in. (!)
- Checked with signal generator. Some indication of disconnection is seen. Check & adjust frequency. This must be done every 0.5 minute or so. The output is not stable during this time.

Order 2:

- C1 not visible. After proper setting of connections & C1, channel 4 & R16 scale.

Order 3:

- C2 not battery box. Took 15V box from new instrument rack 20c & compared for C2. Scale 4 R16 #2.

Calibration:

- Each oscillator of unstable, cannot stop oscillation this time. Cannot wait for analyzer blank.
- Switched clock to dry & low CDR's light. Calibrate OK. Light - OK.

20/47

- DFC requests final DCR log & given PM2

- Received (7/14 b)

- Changed, put light receiver 10 days, main and facing generator.

- K2 said: 'Big jump at odd times, abnormal.'

- DFC request change receiver chart speed on log #1.

- Request for C4 in TSC log. C4 seems to be intact.

- Still not working. Located channel and a hint of C4 inside shell. .04 in. washer.

- System died. Re-Ran circuits, nothing going for it.

- Still dead. Check out bottom of C2. C2 not up, no signal found here.

- Reselected light signal from under grady of nightfall. 0.4y 0.95 DCR. Light. Signal changing looks at night again.

- Ground wire, dosen't work at all. 0.5, 0.3, 0.7.

- C2 reselected not working properly. Not proper receiver in receiver. DFC won checking with counter base.

- DTC test 9/25 - Probe not going properly - ground ohm.

- Check in song, not much in all. Shunt out after cleaning showed 20 mega ohms.
Rokhe again, claimed not reproduce.
Check, saw up down several times.
Reproduced, 2 about 003.255.

I did a light thin thin check, the 205
contact resistance with many about 30 0.5.
A high, primary source. But the filter, 25
and filter, 25.
Claimed guard, put back.

Rokhe worked 25. First time. Then back again.
Reproduced in some cases, but 25, guard.

J. F. E.
7/3/59 (R) Work on Channel C1 - not counting - reliable. 
No defects - (Count channel)
(Count channel)

7/4/59 (R) Practiced Band for red flags. 
JTE - changed up test CMR. Faster Ammeter on red flags experiments in TSK.

7/23/59 (R) More red flags. Note variability in Bridge amplifiers. 
Check out counting system Della.

7/24/59 (R) Checking system Della further checked. 
Note book work.

7/25/59 Clear out counts. 
There are no "counts" cycles. 
Beware June 11th.

In 204 - should stand up. 
Log N filter, a.

204, many are not taking again.

Approved B stand at high power needs +0.25 watt.

7/26/59 (R) Math court checks, 80V - 150kHz, 1kHz. 
Celebrate lesson to start with CMR.
CMR 225 to, CM 225, finally, Math court.

204 log in with power circuit out. (In "check")
In middle September K log volts from being oscillated.

7/27/59 (R) Further check of KID 2 rate counts, system in shop.
(Wanted to KID 2, noting)

7/28/59 (R) KID 2 check out - one operating system Bureau in 204. 
Kiddly log on for part of run. 
Fred switch, find - panel 2 in control, front contact.

7/29/59 R1, K2, Kiddly log and attention.

8/8/59 K2, in shop - Straight.
8/4/59 K2, in shop - Channel operation.
Kiddly log in shop.
8/19/59 Kiddly log in shop.
8/26/59 K1-2C repairs out. 
Reference 2. Replace both 115V batteries.
Bridged pre-ampifiers.
Repairs 2-11 8-8 7 9-12 47.
8-10-60: Ref: reports that new cite instrument trouble today 8-10: K1 seems pump-in - reader full scale - check every time opening.

As a whole: No problem.

Check:

- K1 reader reads 0.0 - check manually had to be read out
- K1's readings are not comparable - agree with above 0.05.

Instrument checks:

No pumps this morning.

K1 reader reads 0.0 - check manually had to be read out.
- K1's readings are not comparable - agree with above 0.05.

R1 & K1: Degrade for reader.

More K1 readings show K1 failure - instrument check for response R1, K2, PM, PM3, PM6, PM7.

(0.05: reading)

2:30 PM: New pumps - K1 measured.

K1 measured K1 measured. K1 back in 0.05 for observer - K1 measured 0.05 K1.

Check:

K1 pump out R1 & K1 fall.

R1: K1 pump out better in 0.05 full scale pump meter.

K1: 0.05
K2: 0.05

2/14/61 PM: Degrade K1 & PM - 4.7

7/15/61 Check of K1 pump amplifies & HP5 on receiving channel.

9/14/61 Instrument set up for pulse experiments - Sid.
9.30 am


Obs. Limit

Date: 20th August.

*4.47 am to 9.12 am.

Key: X = 2.3 x 10^-4

PM 1: 1400, I: 0.5

PM 2: 1000, I: 1.22, J: 0.9

UV light; 9000 - 5otti = 1.5

PM 3: 900, I: 1.2

X: 2.3 x 10^-4

Key: X = 2.3 x 10^-4

Key: X = 2.3 x 10^-4

Key: X = 2.3 x 10^-4

Key: X = 2.3 x 10^-4

1.35 pm: PM 540, I: 0.25 - 0.3.
set record timer for 5 sec.

I.e., pressure from patient HVOS ("pert")

3. What is the code to achieve light? 12 (1200)

R2: (baseline) 45 70 80 100 120 140 160 180 200

R2: 100 (200)

K2: (deviation) 0 50 100 150 200 250 300 350 400

K2: 150 (350)

K1: 90 (300)

K1: 120 (500)

K1: 90 (400)

K1: 120 (400)

K1: 90 (400)

K1: 120 (400)

K1: 90 (400)

K1: 120 (400)

K1: 90 (400)

K1: 120 (400)

K1: 90 (400)

K1: 120 (400)

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K1: 90 (400)

K1: 120 (400)

K1: 90 (400)

K1: 120 (400)

K1: 90 (400)

K1: 120 (400)

K1: 90 (400)

K1: 120 (400)

K1: 90 (400)

K1: 120 (400)
2/18/60: Activity nil in recent months in this area.
Instruments have been out - not included.
Instrument Check & servicing -
300 Kt./Ph. Leg - no power, fine out. Repairs from
CHV (L.H.O.K.) - Segment ahead at K-leg (311) to
CHV HCH. (Standard potentiometer). Check output of
Wheeler recorder.

On 7th Feb. (PM-2) - Set Zero - OK.
On 11th Feb. (PM-1) - Set Indicator on Renewal Power Supply - OK.
K-1 - DF - has been tried in well - OK.
K-2 - Neutral to earth - OK.
K-1 - Respect.
K-2 - Respect.

Remarks: New battery.

11/14/60.

1/18/60.

Temperature recorder - summary of 3 or 4 points.

Kleg in rack -

Continuous recorder summary on 3 or 4 points.

K-leg by switch, so that «was a gear
above switch» select, drives with march at #1
Bend when seen at "hold" point.
<table>
<thead>
<tr>
<th>$28/0.02$</th>
<th>$11.52$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2.018$</td>
<td>$2.81$</td>
</tr>
<tr>
<td>$2.3$</td>
<td>$2.3$</td>
</tr>
<tr>
<td>$0.2$</td>
<td>$0.2$</td>
</tr>
<tr>
<td>$0.1$</td>
<td>$0.1$</td>
</tr>
<tr>
<td>$0.01$</td>
<td>$0.01$</td>
</tr>
</tbody>
</table>
2-8-60  
Stay on first stage -
  \( C_1 \): PM-XP detector (220+250% A) 178-32-
  \( C_2 \): V3542 detector 004-
  \( C_4 \): V35 (5) 0h detector 04 69-

C2 did not work -

3-8-60  
Quintile checking required - DEC - C4 wrong -
  Check component -
  Replaced miniature section with long Section C2 - 1/2" x 1/2"
  C4 - 1" x 1/2"

IV-2h 907C - after burn-in, needle "Flערים" about 5 minutes from 95 -

Ripped hole in C4 40a 40k-

R14 - use 9R3 - C4 only -

Scale C2 - O+-L 524 -
  Check 51% 4 067-
  Replaced 164X5 with 64X7-
  When burn-in over note new time clocks and set off before burn-in.

3/8  
Replaced miniature with V3547 from shop 216
  Put in stage that had been 52-
  114-12 input 4.5 volts not Humphries
  Replaced Y 114-8 ok 106 scale of 100 with scale of 100-
  on scale of 100 only register than 16 - 32 82 above separate-
  115-2  Replaced 12A07 - V100 4 0k-

8/5/60  
RKC reports that K2 has been "he"-heated - 5000 no 2 lab has tipped over night of sometime during day -
  20p - check 1 20r - K2 okay -
  Rang 39806 0am 0 K1 rang 6700 00 20j

K2 not working - DC only 500 ohm, while 8517 K1 only 790 -

Cut 47  Rang 1 3/0" 4.6 1/2"-

3/5/60  
K2: Same supply leads @ instruments K1 K2 -
  Jumpro indicator 8 hilarious K2 mute.  Silence 100-
  Input store - Battery Supply 400watt -

2/9/60  
K1 in green lead: 1100" (K1 & 11.5-1)
  Jumpro supply K1 < 1x10^-8
  K2 (C1/C2 lead) 1010 10^-8 8-1 10^-8 -
  K1 (C1/C2 lead) 12x10^-7 12x10^-7 @ 8980

3/12/60  
Exchange detector & sight problem -

2/10/60  
K1 90 Hg -
4-1-60
Kz. seems ok. — 19 days.

DPC requested ahead of counting channels.

1. C2, Wd1, unknown reason.
2. C3, unknown amplifier in shop for service.
3. C4, unknown amplifier in shop, for service.

Servicing small cuts on C2.

No count.

Re-installed timer panel.

C2. Old pumpp & 1/2 BF, service.

Limiter, amp 1 = 30; amp 2 = 40.

No reject — Seems there was no power on pumpp.

Check to m/e C1, pumpp, rel. 100%.

Brought the end of kabel to attach the counter.

New timer channel working well.

HV = 1500 v. Amplifier: 07-83-123456
Gain 8. Count in 0.1.
POC = 20

Check C4, showed bad detector 810.97.

Replaced with RCD 2121.

Gain 4. J. R. 0.1.
POC = 50

4-5-60

A-4. 150 scale of 300 gain installe

- Background counts

10 min. count:

<table>
<thead>
<tr>
<th>Source</th>
<th>10 min.</th>
<th>20 min.</th>
<th>30 min.</th>
<th>40 min.</th>
<th>50 min.</th>
</tr>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>4</td>
<td>3000</td>
<td>6000</td>
<td>9000</td>
<td>12000</td>
<td>15000</td>
</tr>
</tbody>
</table>

Amplifier, C4, sh/d 812.

C4. 300 gain finished.

Remove RCD 2121 for batch check.

5-3-60

A-7. pumpp, 11100 pumpp.

C7. See everything.

Prepare for counting experiments -

Cal. High.

RIDL scab 2. Check counters.

Repaired Pumpp, Supply, for trip event at R2.

Starting Pumpp, Sh/d 812, C4, 1, 2 above, 71 days.

Pumpp was 87 at 92.3, for 0.13 hrs. on Saturday,

5-4-60. Check instruments:

Counting Chambers:

a) HV supply, 45 v, 50; R113471 (1) V.

b) Replaced with RCD2121.

Gain 4; J. R. 0.1.
POC = 50

5-5-60

A-5. Check, RCD 2121.

1. Counting chambers.

2. 300 gain, 11100 pumpp.

3. Replaced with RCD 2121.

POC = 50

5-6-60

A-5. 300 gain, 11100 pumpp.

Check counters:

Counting Chambers:

10 min. count:

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<td>15000</td>
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</table>

Amplifier, C4, sh/d 812.

C4. 300 gain finished.

Remove RCD 2121 for batch check.

5-7-60

A-7. pumpp, 11100 pumpp.

C7. See everything.

Prepare for counting experiments -

Cal. High.

RIDL scab 2. Check counters.

Repaired Pumpp, Supply, for trip event at R2.

Starting Pumpp, Sh/d 812, C4, 1, 2 above, 71 days.

Pumpp was 87 at 92.3, for 0.13 hrs. on Saturday,

5-8-60. Check instruments:

Counting Chambers:

a) HV supply, 45 v, 50; R113471 (1) V.

b) Replaced with RCD2121.

Gain 4; J. R. 0.1.
POC = 50

5-9-60

A-5. Check, RCD 2121.

1. Counting chambers.

2. 300 gain, 11100 pumpp.

3. Replaced with RCD 2121.

POC = 50

5-10-60

A-5. 300 gain, 11100 pumpp.

Check counters:

Counting Chambers:

10 min. count:

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Amplifier, C4, sh/d 812.

C4. 300 gain finished.

Remove RCD 2121 for batch check.
C2 - back in operation
PA: 26102.6.8
1st Rev. #1857, Air 22000, V101, G11, CJ, L3
Y103305 ET.52

PM: Opposed, reported Jenny panel motion:
- G 6 had paper & 34 - no clearance,
- between 6.91

Production present w/o PM:
- Check bank - regular SV 5 - monitor

Prep for Ewers with "5/19", U 236, 0.92

PA: 494
L3 Y123801
Y1000303
Y123800
Y100363

C2 22000
C3 2100
C4 22000
C5 22000
5-22-2

R-1 - In use - Set trim at between 130-150% full scale. With input shorted set gain so that meter reads 2/3 scale.

Que input - reading 9% of scale.

R1 Reversed - hangover - gain not following output of amplifier. Check output wire.

5-22-2

No counts on V35 counting channel.
Scope attached - got - background noise only. V35 counter reads 0 counts. V35 not outside. Counter case - Mounted outside of tank.
Common power supply for counter voltage.

5-22-2

Investigate failure to count on channel C2. V35 not in.
No H.V. at connector in probe. 1/2 at @ battery.

R2 @ A-vamp

Loose (open) lead in adapter-connector on A-vamp input.

Replace - Set trim: Gain 8. RT 08. PD 40

Recheck - Set trim: Gain 8. RT 08. PD 40

Dissimilar metal check: K1 not firing on 3x6" sample with same in contact. (Power end 24 volts @ 6 ma) Check battery in K1 each month. Dead - replace.

PM-2

Dissimilar metal strip gone on 3x6" sample.

11:34: Hit zero. Read 0. Balance set @ 327 (c)

R-1 Recorder now (10ms) in R-1 hang - will not be seen when input to recorder is shorted.
6-23-60  K-2 had drifted on ground - over weekend
Range 30'-50'.

6-24-60  loss on channel in K-2
6-25-60  Call to C. and C. C. - Both 7.7v servism done
6-29-60  Einstein to K-2

On Scope: 1 11/8 sec, 1100v, Y 10000, 3-08, 35
C3 3 1/2k 1612, 1500v, Y 10032, 160, 29

Data: 0.24, 0.25, 0.26, 0.27

6-28-60  Ofc called me K-2 - high background 10^{-12}, seek scale
(K1 m 3x10^{-18})
K1 0.85 x 10^{-12}
K2 2.3 x 10^{-12} (by photon)
Swap cap 1.5nF, 48pF
K1 1.0 x 10^{-14} (3310)
K2 1.2 x 10^{-15} (3310)

More new 500'

Back to paper instruments
K1 1.8 x 10^{-15}
K2 1.3 x 10^{-16}

Closest drift date
Note: L wire to beam = 1/4 in.
Cut wire out 1/8 in. beam
Run wire back inside

PA 2 9-217 20102
PA 3 9-217 20101
PA 9 6-94
Setting on dialer now 8.7 x 10^{-4} duty channel
Put in 18-3 back.
9.28.6:  Check K1, R1 - purple, green -

Recorder: K1, 2 - Blue, red, green - to be replaced?
Both red & blue - brown (no idea what color) -
Blue, green, brown - Red, green - no idea what color.  I -
(No idea) 2 - short recorder.

27.6.  Orange, green - K1 - not responding to each change?

K1 (purple) not responding to scale change or
replaced. Need scaling factor. R1 must not add
26.6.  orange.

- Check red, green. Set 104W, 680R.
Suggest how to.

R1 unstable to green - Recorder.

9.29.6:  Set channel C-1. For new mill 14BF, 16.5 rh.
- F2, 6R, 4R. For 24.

12.6.  2A3 - 1C1. Test from other hand vs HV -
- HV yes 14944 (267-1059) - at key 195998 vs def. plaid
(Rec. 8962).
- Made the connections & suggested used -
(2 channels) vs operation at -

10.6.  Call for cable OK 464 - 140060 -
- 54F.
- Made & keep up to 22 - any further? -
-建议 14944 (267-1059)

11.6.  Received results of 410 1.240624 go check

11.6.  Check K1, R1, green R1 Recorder.

A with signal at recorder right terminals seem all

Test - Range
2.0   3 R
5.0   5 R
7.0   7 R
9.5   9.5 R
OK with best signal I report knowing

B - Signal from R1 channel - They record 0.5 + (3.5mv)
C - Signal from R1 channel - R2 (R1) record 0.5, 0.1mv

This record 0.5 +

Did not reset when 0.5 and 3.5 got off scale - @ 0.4 +

Day H - R2 record read 0.5 -

People gave input to channel R1 or R2.

With Test Signal - Check - OK

OK with signal from and no channel.

OK no people (R1) dead end -

R1 = R2 wireman to R1 out of output panel.

R1 = R2 record dead at output panel.

R2 = R2 wireman (R1) was minimum 20 ml change.

No response to Test Signal - OK

Tube check - 2.4mv shadow off. Not except this reason.

2:45 p.m. No signal in Penn Amp. People no improvement -

11:40 p.m. 219 has stopped in the L - 2.4v, 0.5m -

Check receiver - 1205.219 is flashes.

Readapt year - set 11/25 at 11.5, 0.13.

Imp. Panel, R2 & R1, key not reset 0.5 -

1. A company at R2 trip valve -

K2: add signal to relay (R1)

E1 - 0.5v other test panel entering (1)

E2 - R2 with first panel entering (1)

Jumps 0.75v other panel read -

Day at E2 7.2 minute 6.3 -

Current Test Panel -

At least one check 297 relay no crossing point? Ouralley binned. R1 to R2 relay.

2. Stop for doctor only.

3. Check to E2 & K1 relay gate -

11:20 p.m. 202 a trip light not light. Other relay operated.

b. Pm 2a spoke to顺着 factory.
3-04-41: 43, back in tank.

2-18-41: Let N. check with 2-sided simulators - dean, to speak.

2-11-41: O.K., run at 250 rpm.

2-10-41: Run at 200 rpm.

2-09-41: A clamp on secondary.

2-08-41: Check at channel C-3 for minimum dropout.

3-17-41: Set up f. vertical beam.

3-20-41: No counts on secondary channel - pulse lost.

Check position.

3-18-41: Hold 0.5 sec.

Check pre-amplifier.

Channel f. 0.5 sec.

Check secondary.

No counts on secondary.

Check 0.1 sec.

3-16-41: 0.5 sec.

3-15-41: Replace 2CA in 4325 - qnancy.

Replace 2CA - dean. Buncher at 0.1 sec.

Check for spikes.

0.5 sec = 2.0 min.

3-14-41: 0.5 sec.

3-13-41: 0.5 sec.

3-12-41: 0.5 sec.

3-11-41: 0.5 sec.

3-10-41: 0.5 sec.

3-09-41: 0.5 sec.

3-08-41: 0.5 sec.

3-07-41: 0.5 sec.

3-06-41: 0.5 sec.

3-05-41: 0.5 sec.

3-04-41: 0.5 sec.

3-03-41: 0.5 sec.

3-02-41: 0.5 sec.

3-01-41: 0.5 sec.

0.5 sec = 2 min.

Buncher on.

Recheck with 2-sided simulators - dean, to speak.

No counts with 250V.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.

0.5 sec.
2-21-31: Change fuse holder K1
- to fuse C1. labeled 1.5A.

2-21-31: Repair point 8 circuit. spares missing, assembly.
a bit difficult.
Serious operation. does not require point 8 function, other
circuits to be adapted to new arrangement.
(Received Units - 5% to 6% of total ships).

2-22-31: Set channel 6-2 for 0.250 detuning.
PD may need finer adj. set at 61/2, 21/2, 60.
(5% more at 8. for main set, 10% channel.)

Sp point f. 1 m. 2" channel:
-gen. 6/5 12 p.m. 61/2".
8/28/31 11:30/2 10:40
10/25/30 11:40/3 10:40
10/29/29 11:40/3 10:40
10/20/28 11:40/3 10:40
10/21/28 11:40/3 10:40
10/22/28 11:40/3 10:40
10/23/28 11:40/3 10:40
10/26/28 11:40/3 10:40
10/27/28 11:40/3 10:40
10/28/28 11:40/3 10:40
10/29/28 11:40/3 10:40
10/30/28 11:40/3 10:40
10/31/28 11:40/3 10:40

C5 5/10F.

C8 5'10F.

C2 5'10F.

C5 5/10F.

C3 5/10F.

C7 5/10F.

C6 5/10F.

C1 1'15F.

C3 5/10F.

police silent

next to look into wide channel 8, set in 11.
set in 8.

PD 5.

police silent

next to look into wide channel 8, set in 11.
Made estimate for K-1 0/20.
Small mistake with K-1, fix up at once.
- Check to see location of channel with other cards.
- Check to see if marked on manual.

1941
- Not marked on manual.

Date: 1941
- Channel should be shown.

5-25-41
- Write name on manual. Filled at 1 part + 0.01.

4-25-41
- Test HV off for 1 hour.
- HV no. 2.
- Test HV off for 1 hour.
- Channel should be shown.

6-25-41
- Channel should be shown.
- HV no. 3.
- Test HV off for 1 hour.

4-25-41
- HV no. 4.
- Test HV off for 1 hour.

6-25-41
- HV no. 1.
- Test HV off for 1 hour.

6-25-41
- HV no. 5.
- Test HV off for 1 hour.

7-7-41
- HV no. 6.
- Test HV off for 1 hour.

7-7-41
- HV no. 7.
- Test HV off for 1 hour.

8-7-41
- HV no. 8.
- Test HV off for 1 hour.

7-7-41
- HV no. 9.
- Test HV off for 1 hour.

8-7-41
- HV no. 10.
- Test HV off for 1 hour.

7-7-41
- HV no. 11.
- Test HV off for 1 hour.

8-7-41
- HV no. 12.
- Test HV off for 1 hour.

7-7-41
- HV no. 13.
- Test HV off for 1 hour.

8-7-41
- HV no. 14.
- Test HV off for 1 hour.

7-7-41
- HV no. 15.
- Test HV off for 1 hour.

8-7-41
- HV no. 16.
- Test HV off for 1 hour.

7-7-41
- HV no. 17.
- Test HV off for 1 hour.

8-7-41
- HV no. 18.
- Test HV off for 1 hour.

7-7-41
- HV no. 19.
- Test HV off for 1 hour.

8-7-41
- HV no. 20.
- Test HV off for 1 hour.

7-7-41
- HV no. 21.
- Test HV off for 1 hour.

8-7-41
- HV no. 22.
- Test HV off for 1 hour.

7-7-41
- HV no. 23.
- Test HV off for 1 hour.

8-7-41
- HV no. 24.
- Test HV off for 1 hour.
Monday 7-21-61
2:30 pm. PM2 report gas up scale -

8.2 2.02 2.02 meter, reset to 153 kg.

Replaces; bit, or opposite sense, makes gas run.

there was no up scale deflection of

instrument panel meters. checked with

8-2-61
7:00
9:45 PM2 - 102 - bar
Replace 222 - power supply.

8-3-61
set up 3rd century channel for multiplexer in rig.

3005 - 0.4 - 0.4 - e

set 10416

8-4-61
set up 4th century channel in 200-

3" dia. 0.852" 0.852" 8/30/61

set 3" dia. 0.852" 0.852" 8/30/61

some decades made paper print - work on this.
8-19-44
Phratt #1 down 12 202
9:09

8-19-44
High Level Run -

8-24-44
Curtain System - repair fixture

Manometer = replace long and tubes -

9-14-44
Re comes supply air method -

8-27-44
Re not set - readjust trip point

9-14-44
Re not drip - set trip point down to trip 100% with 100% trim gear.

9-15-44
MPR canned channel setup -

9-16-44
Check out HV channel

9-16-44
100% - LV Gain 32, RT 0.0, PTV 0.15

10-1-44
What channel point 5% for 0 or xie digit 5?

In all several runs, had to chip 50+ of gear.

Mr. Wright - Exhibit
10-6-61

R1 - not bright. HS supply limited. Replace R2.

10-12-61

R1 open. PTC not working. Pull all 4 pots.

10-13-61

R2 10% lower than reference.

R3 open. Replace PTC.

R1 should.

10-31-61


R1 25-27k (11000. 5%) 6%
Kf adj, after put regular record morn.

Wax bauble pug. 2.5 x 10^{-7} to scale.

Keeps to came.

Check cable at detector. Reassure.

Ka - trace sensor stable. X1 range, someone.

Kl - up scale deft agent. 154 seen to settled down.
3:23:42 | Direct current in house. Time taken over 1000s.

- Check magnet supply - not in error.
- Check safety - good supply set in.
- Need to maintain field in adjustment, adjust lines for need to reset them.
- Regular 20½v indicator in hall magnet.
- Supply rectifier.
- What still seems to be: 20½v, 80v, 80v, (no longer used) 80v.
- Set underhand 030 with signal directly on jumping.
- Clock, not operated or 80v direct.
- Local battery box, not charged.
- K1: No response to signal.
- K2: weak, K2 sensitive, not appropriate.

K1: Battery box, replaced.
- Still no response.
- Shop signal at 3 23 42 in 100.
- K1 not or K2 chamber.
- K1 not or K2 or K1 chamber.
- Did get occasional magnetic indication signal.
- K2: no signal.
- Signal carrier: card had been pulled
  back in field connectors.
- Re-positioned now if that is correct.
<table>
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<th>R4</th>
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* Adjust 111 recorder pot. to get recorder reading same as meter reading.

PM-2 Pop. adjust: with 111 off adjust for zero signal output.
Balance pot. - 1111.

<table>
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<tr>
<th>Gains</th>
<th>- 1111 (111)</th>
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<tr>
<td>Scale</td>
<td>1000 vs. 15</td>
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<tr>
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<td>100</td>
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* Adjust for 1111, 1111.
<table>
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<th>Time (H:M)</th>
<th>Activity</th>
</tr>
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<tbody>
<tr>
<td>9/30/61</td>
<td>10:00</td>
<td>TRIP 1</td>
</tr>
<tr>
<td>10:00</td>
<td>TRIP 2</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>TRIP 3</td>
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<td>12:00</td>
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<tr>
<td>13:00</td>
<td>TRIP 5</td>
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</table>

**Note:**
- TRIP 1: 10:00
- TRIP 2: 10:00
- TRIP 3: 11:00
- TRIP 4: 12:00
- TRIP 5: 13:00

**Descriptions:**
- TRIP 1: Check for leaks (subsequent entries)
- TRIP 2: [Additional notes here]
- TRIP 3: [Additional notes here]
- TRIP 4: [Additional notes here]
- TRIP 5: [Additional notes here]
6-1-62: Payment for chassis, channel for experiment.

- U233: Count 11 grain.
- Channels C1, C2 have residual under test.
- Pre-amp taped.
- Channel C3, with 2" marker under test, has pre-amp 502 on top of lid.
- Replace 132 pre with 1575 diode and clamp.

U333: 437 p.p.i. 123800 LA -> 5A123748 (2)

HV = Battery box -> 113.5V

- Motor drive for lens section.
- M-3 selector: selector not operating.
- Note: use off direction selector.
- Selector: can be ok.

Note: R1 & R2 shunt, need to check.
Supplied.

4.34am: Channel C. Recommend removal of channel.
Not sensitive enough for 0.1.

- Suggest R1, R2.

6-5-62: Check at R1, R2.
- Repair R1 & R2, supply power supplies (Duke Chang)
  Set B1 + & D200 for each channel.
Set up point @ latitude 120 - 160° W.

6-14-62

0901 - W.A. Co. 200 A

K1 - Ady resonator deflection was too high.

8-14-62

K1 - Adj. resonator deflection had drift on scale.

While resonator @ 50%.

9-14-62

Preparing equipment back for operation in 80. Check equipment.

Main not operating - check pilot board, etc.

Start but no time delay indicates.

9-19-62

Country Channel

(2 times) pins short one weekend)

Contact in main gain control a must.

9-18-62

Request for modification on receiver unit.

1. Ability of second resonator and power probe section.

2. New resonator installed.
   a. Solution well.
   b. Run 201
   c. Dry solution.

3. Surge time Band 1000.

Q-15-62

1. Maximum mean time
   a. Long
   b. Short

2. Seignor & Co. vs. ship (not). To return.

3. Check controls at sub test.

9. Set record in scale 802. 16 gain, check below for Type K. Check Channel - Thermo couples.

Despite thermo couples are:

Type T (installed) gain 4.28 mv/sec° C
Type J (New, right) - 0.35 mv/sec° C
Type K (Closed) - 0.40 mv/sec° C

Some cutting down only 0-100% range available for Type T (C) - changes about every 100°C.

50% Reserve K3 is dead - then can use Type T Thermo couples a must.

5-18-62

Looke up in main monitor in 800 - 400° C

Reset for 8-100 monitor in 174.100.

Check back control - New battery - Check seems to indicate operation.
Check signal on scope on background.

<table>
<thead>
<tr>
<th>CN</th>
<th>T</th>
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<tr>
<td>1894</td>
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Check signal on line 8. 800v on line 9.

Check signal on line 9.

Set gain 82, 8V/R. 0008 C. T. 8: 2.

Output 90 on scale 12378.

\[ C_0 = \frac{C_T}{C_0} \]

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<td>25852</td>
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<td>1579</td>
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Check signal on line 9. 800v on line 10.

Set gain 82, 8V/R. 0008 C. T. 8: 2.

Output 90 on scale 12378.

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Output 90 on scale 12378.

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Check signal on line 9. 800v on line 10.

Set gain 82, 8V/R. 0008 C. T. 8: 2.

Output 90 on scale 12378.
16-248. Check Instrument System. Note

A. Counter:

- Transmission 4' OF, 4 OF, 12 OF, 68 OF
- 1 OF, 4 OF, 12 OF, 68 OF
- 2 OF, 4 OF, 12 OF, 68 OF

B. Switch:

- On 1 OF, 4 OF, 12 OF, 68 OF
- Off 1 OF, 4 OF, 12 OF, 68 OF

10-23-82

Thermal Data:

- Temperature: 15°C, 15°C, 15°C
- Humidity: 70%, 70%, 70%

10-22-82

Review of Instrument Setup for Naval Experiment:

- Instrument setup for Naval Experiment:

1st channel for measurement in water level. Placed in paper
- 25% OF
- 50% OF
- 75% OF

10-14-82

Protocol Check: 2 OF in 20F - 1 OF 20F

10-13-82

Concrete Check: Li 2. Se 132799 - Normal. 57.5 20
- Ti 100 1 - Se 18778 - Temperature 32.5, 8

11/15/21 Approx 2-2.5 x 10000. Not following meter.

11/15/21 Not able to turn. Needs adjustment.

12:42: Check chart, see no indication of M-1 and M-2 with sync generator.

PM: T<sub>1</sub> = 11.26, T<sub>2</sub> = 9.73

Load: 0 @ balance setting 415 (same music wind only)

PM: 0.989

AM: 2.22

RPM: 2.25

1200: 0.290

1800: 0.321

3000: 101 @ 415

Load: 2000 @ 415

With varying load, generator will react to h = 2000 rpm. No effect.

In 11/5/21 1.015 x 10000. See no effect. No indication of chart reaction. 4-5000 rpm.

Light 2 @ 0.465(1000). 5 rpm.
176

1.00 a.m. Check Pic No. Second look at temperature effect on bucket at 217. 1118117.

(25°C at 0.21, noted earlier with source and blank 0.25°C.)

(1.30 a.m.) Still cycling at 1.30 a.m. 200 g.p.m.

In 2021, changed input valve to 25°C + 0.05°C now have cable until it hits the water after going through.

Cycling in bucket with 0.01 channel 1E115 live sheets.

Fig. 3.
AVL with 18 channel 1°C.
4 AVL with 12 channel 1°C. no bucket near 1°C blocked.
5 AVL with 12 °C no back even.
11-23: Adj - yes on B11 panel switch.
Some wire民众 to get yes - yes correspondence
between panel of B11 - B10 to B11 1-2012
Shorting input panel yes.

1-22-68 K-2: no response for source of trouble -
snapped cables at instrument in 382.
Indication of a trouble in 384, but cell.
Battery box hot - cable not shorted, must be
in battery box. Replaced battery if re-installed
in 384. Some response ok - still heavy.
Brought in from 210 - 7/12/60

R: Mari. Check battery 150/600. 
Post in feed box.
Continued next page (is 13 continuing

Afternoon failure - to shop - see file.

1-29-63 - BVL now installed (1-25) in 201. Adjust cable one to recorder, 202.

BVL Recorder

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<td>202</td>
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Response to changes at BVL slippage on Recorder:

BVL Recorder

10^-8 (7.8 x 10^-8) 1.2 x 10^-8
10^-11 (cal) 2.8 x 10^-11
10^-12 adj DBs 10" 3.0 x 10^-12
10^-13 3.0 x 10^-13

Current in BVL 10^-13 2 x 10^-13 from 2.6

Recorder on Log

Power: 10^-13 1.3 x 10^-13 from 2 x 10^-13
10^-12
10^-11
10^-10
10^-9
10^-8

Down BVL: 10^-7 10^-6 10^-5 10^-4 10^-3 10^-2 10^-1

Up BVL: 10^-11 10^-10 10^-9 10^-8 10^-7

Note: end of set print
2-1-63 Over mention band 1 suggest amplification fault.
No change with replacement or I take them second amplifier.

2-3-63 2 resistor check if resonance or AVc system with recorder
         not taken amplifiers.
         Installed 2 conductive shielded cable in place of cable
         used in 1962.
         Band gain stable, resonance is regulated power.
         Band was ground 1 amplifier much more sluggish
with recorder in regulated power (grounded in 1962).
         Grounding signal cable @ recorder (by process) no change
         Check Recorder Response:
         With battery 6.3V and resistor 10k 1k 50 ohm 100 ohm

      6.3V input shielded, response - then very
         consistent, butting at each position. Band essentially
         same.

2-1-63 Modified AVc output wires to provide
         full 63V @ 50A to recorder - Attenuator on
         AVc was as follows:

         23.5k
         63k  1k  0.5V
         25k  0.5V
Set-up for safety system timing measurements.

1. System check using PM-2 channel.
2. Scram time, starting with manual scram.
3. Valve operating time.

Apparatus:

- PM-2 Channel 1
  - Input to PM-2 control unit

- More Time Tests
  - PM-2 Time Constant (refer PM-2 Ref)
  - More fast dump times (refer Safety Tests Ref)

4/6/88 - Test with Commander
- Channel #2 1100 bsc Channel 1
- Key Signal 420 7714 50A Channel 7
- 1100 600 Channel 5 (used added Res)
- Key Release 110 bsc 8
- Key Release 200 bsc 3
- Key Release 300 bsc 7
- Probe - 50 bsc 6

4/6/88 11:55 PM 20:38 2:38 minute
3/18/63 R.G. third performing his sheets. Data in experiment notebook.

3/18/63 Can't think what tomorrow.

3/18/63 Kept busy in Rhode. Cannot remember subject.

of Record Notes, to proceed out. Input from T.C. E-111 which has been used in ORNL by channel.

4/14/63 Experimental setup in Nell for new device (BW)

Country Channel: (2) schizophrenia,

Age.

Name.

Channel.

C2

249

1000

4

8

15

2500

1500

12379.8

4/10/63 Replated C1 on latest with E 85 REL 499

Set gain 8

RT 0.2

PH 15

Smooth 2

MVR 1500
3-10-13 Scale trouble 123799 (Refer to notes, channel 10)

4-16-63 Non-equality channel capacitance (full complaint)
(Redesign channel 10 for arrangement)

K1

K2

C1

C2

K7

Log 0

C4

C5

K3

K0

If the returned to control room, checking log back to normal. 1 point indication normal.

1-5-64 (B) Some trouble reported on log.

Located at 0.15 " west of junction of 0.10 " channel - 10 sec section of log.

Just cannot report on injected amplifier normal.

Trouble in that all.

Known circuit in section.

Rectify by bottom 2 channels of mandrel. log 0

K2
5-6-63 Begin setup for temperature compenstartion equipment.

5-7-63 Modification 2: Nell joined by bank in 211.

5-8-63 Check out meter on M-3, Nell.

KF: Battery is dead. Pulli, cable and circuit.

5-8-64 Check output channel 507, K-1.

K-1 had been acting peculiar recently.

Channel 507 channel which had been burned.

5-18-64 PM-1 Power supply 2A 2A.

5-19-64 PM-1 Replace head with 652-15-4 unit.

5-20-64 Experiment with output channels C1, 2, 4.

5-21-64 Check output channels with C-7, 2, 4.

5-23-64 New rectifier tubes in channel 507, 506, 509.

5-25-64 New rectifier tubes in channels 507, 506, 509.

5-27-64 New rectifier tubes in channels 507, 506, 509.

5-29-64 New rectifier tubes in channels 507, 506, 509.

This is just preliminary check to see if we got a response. Needs to be checked.

5-31-64 New rectifier tubes in channels 507, 506, 509.
7-9-63
Work on vacuum chamber... same as 10-6-71.

7-15-63
Set up in 1000 mil 9.5-15 div. to check period on
new R-5 or chamber.

Arrangement of instruments

\[ \begin{align*}
R_1 & : \text{CA. 8-110} \\
R_2 & : \text{CA. 50-111 (other from borg siewet)} \\
R_3 & : \text{new R-5 chamber.}
\end{align*} \]

\[ \begin{align*}
& 600 \text{ V.} \\
& 1200 \text{ V.} \\
& 600 \text{ V.}
\end{align*} \]

\[ \begin{align*}
\text{Sim.} & \text{ PA Siewet siewet MW Scale} \\
C_1 & \text{ 2° 1934 + } 20 \ast 13.801 / 16.82105 \ast 2002 + 0.8165 \\
C_2 & \text{ 5° 1997 + } 20 \ast 10 \ast 13.801 / 16.82105 \ast 2002 + 12.264 \\
C_3 & \text{ 1° 1005 + } 20 \ast 10 \ast 13.801 / 16.82105 \ast 2002 + 53.61 \\
C_4 & \text{ 1° 1005 + } 20 \ast 10 \ast 13.801 / 16.82105 \ast 2002 + 12.184
\end{align*} \]
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7-11-13

Set up to check phono with new amplifier.

- **Country Channel**: 2
- **Gain**: 945
- **Input**: 950
- **Output**: 860
- **Frequency**: 1kHz

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<td></td>
</tr>
<tr>
<td>R3:</td>
<td>5kΩ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R4:</td>
<td>1kΩ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R5:</td>
<td>100Ω</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R6:</td>
<td>10kΩ</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
After running from 14. Allowed to cool and calculated radioactivity.
Mixture contained 3.4% further away.
Mixture of 40° from 20°,
(40° from 20°, 40° from 20°)

Afternoon: ran them point.
Before we checked counts.

G 154 166 616 1076 1841.0

Counts after 1 h. high in case. Only 3 cases.
Ran data in folders. Still counting data.

Radioactive Values in Lists

<table>
<thead>
<tr>
<th>Zn</th>
<th>Cu</th>
<th>G</th>
<th>Ag</th>
<th>Count</th>
<th>Radio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7.65</td>
<td>7.36</td>
<td>7.36</td>
<td>7.36</td>
<td>7.24</td>
</tr>
<tr>
<td>2</td>
<td>8.21</td>
<td>8.21</td>
<td>5.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4.44</td>
<td>4.5</td>
<td>4.28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

in by been obtained from up 6 x 10**3
8-1943

Reported scarn without instrument scram.

Heard noise, probably through intercom, as if relays were chattering wildly followed by scram.

Found solenoid valve at Sro Dump well burned out.

begin Request counting channels to double check period measurements.

\[ \begin{array}{ccc}
C_1 & C_2 & C_3 \\
368 & 270 & 50 \\
407 & 276 & 41 \\
381 & 286 & 44 \\
391 & 261 & 43 \\
376 & 209 & 48 \\
376 & 232 & 49 \\
398 & 296 & 36 \\
403 & 280 & 44 \\
401 & 391 & 38 \\
389 & 275 & 37 \\
\end{array} \]

end

8-1943

C4 tube. In lower amplifier.

Use C5 ampl temporarily.

T-2 2'wet, 9'wet 901 1.5 2.5 1.0.

8-1943

One 1") counter at SW14.

8-1943

Ion chamber for K2 channel wet.

Driesed, deiced, cleared, & dried.

8-1943

Re-installed I.C.

Rigged pumping device to liquid level indicator.

8-1943
At 9:00 am PM-1, noted recorder readings on "operate" range.
(Instrument ground just before taking readings)

<table>
<thead>
<tr>
<th>Source</th>
<th>Distance</th>
<th>Reader 1</th>
<th>Reader 2</th>
<th>Reader 3</th>
<th>Reader 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.05Mg</td>
<td>20°</td>
<td>64.8</td>
<td>32.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25°</td>
<td>51.4</td>
<td>22.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30°</td>
<td></td>
<td>16.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35°</td>
<td></td>
<td>10.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>40°</td>
<td>8.6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Recorder readings approx. 2X m.m. gamma level.

At 9:00 am CT was below in air supply to Rhodie.

At 9:30 am CT was below in air supply to Rhodie.

1:15 PM Panel 1, remove "Ted Pumps" vacuum,
connected between Terminal B and left terminal b of block.

At 9:45 am Panel 1, remove "Ted Pumps" vacuum
connected between Terminal B and left terminal b of block.

At 10:00 am Panel 1, resume "Ted Pumps" vacuum,
which had been turned off at 9:45 am.

Panel 1, open Circuit on 50/60.

D.A.G indicates overload at three levels: 100, 150, 200.
200

\[ \text{July 6.07, 1980} \]

C1 reported may be faulty. On low end of short period noted readings out of line - several readings lower than process. Control is 23000 ohm.

9-11-68: C1 reported faulty - Not renewing.

Replaced C1 with new one (23000)
Signs from C2 to Leads Proc in 11-1 is amp good.
Check PM all seemed normal
Check HV to Sensors

After taking these measurements continued to check item noted normal other on amplifier output jag.

Could affect signal by moving cables.

Replace with 2A V1000 367(2) fit to 3672 pre-amp.
Signs # L78 on 6A jumper Cable.
HV from C1 HV Cable.

Still may be some drift. Need to check.

4-7-69: RER reports additional by channel.
Brought in Backout V1 Y-100% and PM as shown in Test file of entry 705.5 in 1900.

11:00 installed both C1 & 2 in 201. Shorted adjustments is sign of amp has jammed. Seems to be necessary to remove 200.

After + hours again up to normal.

Need to replace Batteries 5/20 in December.

Recorder at first off scale + Batteries very low.

Recorder Topg.: 124/9 6/4.0x Replaced
3/5/7
12/4/7 - Good but slow
3/5/7

Channel calibrated 10-10-69 at from 10%.

Proof for use.
203

Calibration of safety scheme

(Sample generated on respect to main scheme)

<table>
<thead>
<tr>
<th>K1</th>
<th>$K_{1}$</th>
<th>$K_{2}$</th>
<th>$K_{3}$</th>
<th>$K_{4}$</th>
<th>$K_{5}$</th>
<th>$K_{6}$</th>
<th>$K_{7}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>3x10^{-9}</td>
<td>10x10^{-12}</td>
<td>3.8x10^{-2}</td>
<td>3x10^{-12}</td>
<td>9.4x10^{-12}</td>
<td>1.5x10^{-12}</td>
<td>6.4x10^{-12}</td>
<td>1.7x10^{-12}</td>
</tr>
<tr>
<td>3x10^{-12}</td>
<td>3x10^{-12}</td>
<td>3x10^{-12}</td>
<td>3x10^{-12}</td>
<td>3x10^{-12}</td>
<td>3x10^{-12}</td>
<td>3x10^{-12}</td>
<td>3x10^{-12}</td>
</tr>
</tbody>
</table>

Adjust K1 so that it is equal to K1 under

1.2x10^{-9} | 1.2x10^{-9} | 1.2x10^{-9} | 1.2x10^{-9} | 1.2x10^{-9} | 1.2x10^{-9} | 1.2x10^{-9} | 1.2x10^{-9} |

VT, trip circuit before main trip

1.25x10^{-9} | 5x10^{-9} | 1.25x10^{-9} | 5x10^{-9} | 1.25x10^{-9} | 5x10^{-9} | 1.25x10^{-9} | 5x10^{-9} |

Shift range to 1.25x10^{-9} | 1.25x10^{-9} | 1.25x10^{-9} | 1.25x10^{-9} | 1.25x10^{-9} | 1.25x10^{-9} | 1.25x10^{-9} | 1.25x10^{-9} |

UT & METER HELP TOGETHER - SET METER TO 1000

UT TRIP AT 3x10^{-9} UNTIL METER IS 91%

check contact make on this trip

10x10^{-9} | 91% | 91% | 91% | 91% | 91% | 91% | 91% | 91% | 91% | 91%

Increase load slowly - meter contact makes "Pop" at 3x10^{-9}.
<table>
<thead>
<tr>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
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<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>200</td>
<td>300</td>
<td>400</td>
<td>500</td>
<td>600</td>
<td>700</td>
<td>800</td>
<td>900</td>
<td>1000</td>
<td>1100</td>
<td>1200</td>
<td>1300</td>
<td>1400</td>
<td>1500</td>
<td>1600</td>
<td>1700</td>
<td>1800</td>
<td>1900</td>
<td>2000</td>
<td>2100</td>
<td>2200</td>
<td>2300</td>
<td>2400</td>
<td>2500</td>
<td>2600</td>
<td>2700</td>
<td></td>
</tr>
</tbody>
</table>

Set operating check to req with assembly on floor.

During operation check, noting failure of fuel gauge to indicate. Water gauge and fuel indicator reading were normal.

All relays in circuit appeared to be normal, no stuck contacts.

Triple switch in crankshaft isight. Fuel gauge switch was in up (closed) position. This switch, though out of the control line, was still wired into circuit. Had served as a pilot dump by water.

Secured leak at terminal 31R, pointed up leak. This eliminated this switch function. Switch had not been shown on second wiring print 1/4/43 because it was no longer considered part of operation.

Instrument location shown on floor plan.

\[ \text{Diagram of fuel system} \]

<table>
<thead>
<tr>
<th>Channel</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>296</td>
<td>1573</td>
<td>376</td>
<td>1444</td>
</tr>
<tr>
<td>Res. Amp</td>
<td>443</td>
<td>244</td>
<td>1550</td>
<td>302</td>
</tr>
<tr>
<td>Amplifier</td>
<td>Y112361</td>
<td>Y112363</td>
<td>Y112362</td>
<td>Y110363</td>
</tr>
<tr>
<td>Setting</td>
<td>16,012,20</td>
<td>10,020</td>
<td>3,001,20</td>
<td>8,00,2,20</td>
</tr>
<tr>
<td>Pipe Map</td>
<td>Y123456</td>
<td>Y123456</td>
<td>Y123456</td>
<td>Y123456</td>
</tr>
<tr>
<td>A, V</td>
<td>1200</td>
<td>1200</td>
<td>1200</td>
<td>1200</td>
</tr>
<tr>
<td>Scale</td>
<td>Y123456</td>
<td>Y123456</td>
<td>Y123456</td>
<td>Y123456</td>
</tr>
</tbody>
</table>

All channels are operative.
10-10-63

Reported change in sensor duty f/K.

Remain normal start-up range 10x10^-6

Add ideal drift of background up during day (0f/2)

Background = 3 x 10^-11 (30% of 10x10^-11 scale)

Replace IC C-111 with IC K-101 (from 5-2)

14:00 Local Rhett IC E12 1fc current for period made red pencil on diag 10-9

positions a = c, c2, c4

deg 80 30 258 6: remove
10-4-63  Instrumentation Location monitoring slab tank.

Taped Al strips (spacers formerly used in slip test) to floor under tank to hold Ion Chambers in place.

T.C. channels:  T.C.  Battery Supply

Ki  N-102  +600v
K2  N-101 (internal cutoff)  +600v
K-log  RS  +600v
P-log  N-104  +600v
Rheotto  E-112  +1200v

Checked voltages at battery supplies with 1 Meg load on
600v & 2 Meg on 1200v. This put load of 0.6ma on batteries. The 600v units still read 600ma load & dropped to 5800ohms under load.
The 1200v unit read 1150 no load & dropped below 1000
10-11-62

Under load, decreasing 0.2 ppm with 2 MVR on output.
Replace batteries in unit.
No load & load reading 81200v.
(A second 1800v unit which had been in use on Backman Iog channel was checked but not replaced by good 1800v unit.)

12 TC (N10) on side 1 under tank:
Reading 0.5 negative -
Pulled from under tank and placed vertically outside tank. Now OK.
Detailed instructions for work with assemblies on flow by hand.

Countertop model, placed out of easy reach. Steps:

1. Placement.

[Diagram with labeled parts, including SI, CI, SL, and KL.]
10-22-77 Counter acting for pulsed system - Drawn

[Arrangement on the following pages (p.127 Drawn pulsed neut. 11)]

(Draw counter channel file)

(Draw NO pulsed neuter p123)

(Charles not stopping system)

(Reprinted, left side folder for storage)
10-20-63. Assay on setup of long counter to check yield of neutron generator.

Sensor: RS 7-5 1" counter. RS 1x0 jumper 40-1
Channel C3: PA 45-B

1A  Y123290  07-02, 20
40265  60  Y123371  1700V

Output of 10-2 30. (Test run 54923)

Used jitter on Beam Accret meter, with source M-221 in target.

Disappeared when source removed.
11-6-63 - Pumps sequenced fast so that 3 sec run for normalizer & counting only during pulse from accelerator.

+ gate from EP gate generator (uph. 570 v. Mh.) & UHF

cut only for 800 sec. Rectified in Sander 1/24/54.

Works at 70 volt pulse (amplitude 250 v.) 5 sec.

Count Channel 3:

Remove PA from 1' counting gate.

Add: 6010A & 4' 1/2 6012.

Red. 1' 2.540. Use C. @ 102.5.

Angle for setting 2x, 0.2 y, = 30. (Red. 60-80.)

Pickup at angle = 10 sec.

Gate in @ 0.8 wavefront sector. Clip head at the end of the pulse.

Clip head in countup to gate output.

11-7-63 - Sander 1/16/64, & gate cut out. Set in 1/24.

(less pinger discrimination at gate output but cliphead still in place.)

Removed clip leads — in-oc. erected leading edge.

Reduced signal output from 608 to better than 10-8.

Making first decade stage unstable.

11-20

First gate on cancer to detector — #1

Set pike filter +

worked, but not as well as gate @ 608.

Load effect from gate output & HP output.

12-3

Gate on goal of 608 positive.
With amplitude of 2 V/Div., no signal at output line.

Next amplitude of 4 V/Div. - counting gate pulses.

Set it at 4.5 V/Div. gate level.

11-11-63
Module mode for mixing signals at output to make.

201-05. Ref. to EXP 11/63.

11-16-63
Check out module for operation. Gate output set at "6" (400).
Signal from RF, range from 75 to 5 kHz.

Lat: 2016, 02. PHT 20.

Scope bias - 25 appears ok.

Red light on dump will not level count-out.

Connection at dump will not good. Slight end to make good contact.

or

11-7-63
Pwr - 140 VDC - remove to make above 110 VDC - Fixed

2.

11-24-63
The cheat. Terminal trouble at 011 serum by next year.

12-5-63
Evidence of 0.14 V/pulse on background timer after above.

Pulse.

Effort to find out source - 11-26-67, 11-67.

13-6-63
By substituting different amplifier, 0.14 V/pulse to 0.2 V/pulse.
11/4-63 Comma's org via Rs push emitters E115,801 in mixer.

Check E115 in mixer

Component Y1,4341

Amplitude of pulse - max 1000v

Pulse symmetric. 3us overall width.

Photo in (Tri file)

Set up C5 normalized as 011/6/63 (p 216)

11-10-63 Avoid wasting pump faster in nells.

Small 6x5 tank pump has been tried to this document.

Pump - five days operate.
12-11-63, Instruments arranged for monitoring small solid system.

<table>
<thead>
<tr>
<th>Channel</th>
<th>Count</th>
<th>C1</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1</td>
<td>2</td>
<td>2&quot; BF₃</td>
<td>2&quot; BF₃</td>
</tr>
<tr>
<td>Lin. Amp</td>
<td>2</td>
<td>44 B</td>
<td>349</td>
</tr>
<tr>
<td>Lin. Amp</td>
<td></td>
<td>Y123801</td>
<td>Y100303</td>
</tr>
<tr>
<td>Gm.</td>
<td>14</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Bφ.</td>
<td>0.2</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Aφ.</td>
<td>20</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

For belting supply
Facing over shop

PM 1
undershop
pick tank

K1
Center from foot down in cubicle
C4
Put chamber on platform
K1 & S chambers at 2 & 3

After experiment, re-treated leg & K1 chambers around
pallet assembly area, received C1 & C2 from source.
Traverse, 95-40
202 6/30 14 04/12/02 N.P. 1720 N.C. 11/25/01
P.H. 100  PM. 220V 60 Hz.

Good pattern
Output of 80-2 P.H. + thru 1P40 BR & solder "E2"

Normalizer 8W-75
C3: PA 6403 N.C.
1A 173 300 N.M. 4/12/00
Q.H. 47 400 N.M. 4/12/00
P.H. 15

Output to 309er "E1"
Polier all > 15V - (max. 10V) then < 40V

(04:45:00 removed from C3 - Max. for 1620 out rose
4G to 2 by switching to 466B)
12-24-63 Power failure - All power to 31/2

1-2-64 (Power not restored on 1-1-64 - K1 reported
off-scale +. Power to K1 cut-off by ADC @ 30 P/kW)
K1 to ship for service - refer to file or instrument.

1-3-64: Return K1 (Y124628) to Rm 262 10:02 AM.
K1 Back ground: 15 x 10^-12 0.5 x 10^-12

Calibrate K2 (Y12V024) & Check Top - refer file.

Check New Source B-50 (TMC CT)
Pm-1 41 5 55
   (refer file Pm-1)
Source trip on contact at 41100V (0.44 sec)
  Suggest trip voltage 9 10 21200V

Pm-2
Top sensitivity 1200V - low level @ 12 high level @
  contact.
1-3-41  Stage check on K-1 & K-2. (Refer to File)

- New Ssama  K-1  10x10^-12  1"
- Cs  Ssma  K-2  10x10^-12  1"
- Ba-86  Pm-1  270 (1195) contact
- Pm-2  1200v  12"

1-9-41: We are using values in 475 tank for second "sense" controlled means of removing water from assembly. Refer to Full file Control Circuit Job.

1-14-46: Counterp Channel: PA473 checked shales gain 225 ohm, instrumentation placement for removal 4 035 exp.

<table>
<thead>
<tr>
<th>Channel</th>
<th>PA</th>
<th>RA</th>
<th>RAIS</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-01</td>
<td>446</td>
<td>1238</td>
<td>1.253</td>
<td>B1</td>
<td></td>
<td>C1</td>
</tr>
<tr>
<td>C-02</td>
<td>247</td>
<td>1023</td>
<td>1.415</td>
<td></td>
<td></td>
<td>C1</td>
</tr>
<tr>
<td>C-14</td>
<td>486</td>
<td>1238</td>
<td>1.534</td>
<td></td>
<td></td>
<td>C2</td>
</tr>
</tbody>
</table>

Log = e^-12
1968. Quiet Channel. Minimise stop - refer to
RIOL - first check clipping

Log N - second channel.  Y9068 0.996 Light管理工作 out

Operating replaced with Y9068 unit.

Logs 1 channel Y9068 calibrated internally and with JRC
signal generator.

1-11-69. Log N Channel. 0.998 Y9068现任 it be operated.

85. Internal calibration OK.

<table>
<thead>
<tr>
<th>Signal</th>
<th>Value 10^-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>10^-9</td>
<td>1</td>
</tr>
<tr>
<td>10^-8</td>
<td>10^-3</td>
</tr>
<tr>
<td>10^-7</td>
<td>10^-11</td>
</tr>
</tbody>
</table>

Finish RIOL tuning service - as agreed.

Channels:
- C1 HUPS Y123872 placed in both stacks
- C3 No pulse from output to output.
- To provide 2 operable channels, drop C3 & use C5 HUPS (Y123871) for C1 channel.
11:15  Hurry, quickly run, don't mention sex sharply.

That, from jumped up & zipt. By shutting again
manages to reduce record how to progress kind.

(There was some evidence of hopped reading
recorder 1/14/44 already one was made to get
recorder used with expert speed. This seemed
shorter & clearer.) Shoring earlier checkpoint
reduced had expected with making legal amendment.

11:30  Power to white cabinet

12:30  Power to green - sublet which

indicates system OK.

11:45  Put T on new J Cs. WPS & the both HV & HV 3 coils.

Now have HV to all three counters.

Check pulse amplitudes:

<table>
<thead>
<tr>
<th>C2</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>32</td>
</tr>
</tbody>
</table>

Gain 16 0.2 20 10 40

For HV 90

1500 1415 1500 HV

Pulse Ampl: 60-100 40-200
Page 225

1. Decontaminate the companies' concrete tunnels & Roats. Note:

- LEBL C-112 Sea Chambers
- RS is used in tank & feeding Konkako log
- C-112 is used in tank & feeding Rottett
- Interval is in reducing tank pressure & minimize
  "leaking" of chemicals.

Check point used was levels attained during period 4:

1/3/41

Near end of period began collecting reactivity values
on Rottett at equal level of 1.8x10^-8 s (calculated this date,
see Rottett file). Collected 35 readings - June 17sec.
Our race - found level at 17 sec before began heating.
This was 1.8x10^-8 s.

R-S/F-112 & 7% This difference not
enough to warrant switching sea chambers - which would
require adapters to fit cables to pressure (RH) and top
connecting line.

Comparison between Rottett & Konkako log
(1-11-41 period 1  14.7 ± 15.2 ±
(5) 15.2 ±
6.4 ± (8)
6.4 ±

\[ S_0 = 72.5 \]
\[ S_0 = 13.5 \]
\[ S_0 = 18.945 \]
\[ S_0 = 37.98 \]
\[ S_0 = 37.98(6363) = 16.8485 \]
226

1-26-64 PM-2 17V lar. Spotted 2x2; C6 = 100x1 (2 X)

1-22-64 Blot date taken 1/11/64 to compare Rholette with

<table>
<thead>
<tr>
<th>Country</th>
<th>Rholette</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>10.89</td>
</tr>
<tr>
<td></td>
<td>7.03</td>
</tr>
<tr>
<td></td>
<td>9.57</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1-23-64 Compare Rholette - Rholette - 65x -

<table>
<thead>
<tr>
<th>p</th>
<th>Bp</th>
<th>Rholette</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.54</td>
<td>7.11</td>
<td>6.8</td>
</tr>
<tr>
<td>11.47</td>
<td>11.43</td>
<td>12.4</td>
</tr>
</tbody>
</table>

Overall count rate rather high - should coincide
with shape of sand. G -

This not enough - need 50+ sleeves.
The three reading man-chamber channels seem to have somewhat more noise than usual, particularly evident on log records (small on log panel meters). Deflect air stream & air intake duct part in Fig. 101. Seems to be no difference on log. It's ok for operation. Refers to 15-20-2106 for detail on log.
2/2/68: Keithley log recorder (Sheekco).

- Could it be battery or repeating standardizing?

- Battery ok.

- Manual standard operated only once — not sure of case.

(After no repeat of this trouble so far)

2/2/68: Keithley recorder chart drive momentarily slow. CKE called & had running by time KE2 arrived.

1:10pm:

Reported noise on log & teletypewriter. This had appeared after earlier (before lunch) period, when data was dumped.

Earlier similar noise problem had been noted on all panels instruments, as well. This time, only log affected.

2:40pm:

Check on noise on log channel:

- Signal & NV connectors at top half of battery apparently OK.

- Swap signal from IC with KE2.

1. KE2 IC = KE2

2. KE2 IC = KE2

Noise now on KE2. Trouble is not in log Amp (470)
   Swap battery leads -
   Both traces normal! No noise.

   d. Return batteries as orig. - Narrow leg trace -

   e. Swap brake trailers. - Unit marked "K2" now to K2 -
   Unit修剪 presumed near to leg.
   Trace normal.

   (If noise develops on K2 in future, check battery first.)

20/4/88: Made repair. - Leg abnormal - Failure of clutch drive -
  Adjust clutch -
  8:29 further pressure on clutch needed.

22/8 M-Z Recorder - After battery change - as precaution.
  Not standardized.
  Leads to battery not secure. -
May 16
Cut reed - check drive stepped again - slipping clutch.
Re-secured change of control bolt - re-set reed.

After re-assembly & havu adjustments - another run check.

Start: 1:58:28
End: 2:33:30 - Jumper 1.35 minutes - 700%.

50 m/d = 3 x 10 = 36 m, 6 x 10 = 30 m.

We shift is just 25 m.

Stems ok.

Need to find check of 2 pm from records - so it can be used.

Spring cable for throttle group installation in 108.
4/1/65 9:30 A.M. Call to check C1 - will not step at end of power dried out.

Notes: Both C1 & C2 counting thru "reset" mode. PA-A twin running - thin gate scalers on Power HP + PA-A twin - West ADC twin controls

3/10/65 10:45 A.M. Shunt connected for remote operation - PA + power supply in Room 108.

RSN 77A, E 245 (mainly received for West End) now disassembled by end of fixed part barrel with 20% battery box

Check with gamma beam - read X 10^-7 count

System regains
5-25.4
R-8 low Chamber. RSU 77# F242-245. 6/5/71
water{}ight beam up with 20' signal + cable
(b) preliminary check in lab (BM 940) recorded in
25 feet RS low Chamber. 1
HV = +400v each 25.8

Weston: Sensor Channel 1 2 3 4 5 6
sensor 1 = 245 K1 <10^(-13) + 7 x 10^(-1)
sensor 2 = 242 K2 <10^(-13) + 8 x 10^(-1)
sensor 3 = 244 log 510 log (-) 6 x 10^(-1)
sensor 4 = 243 (10^3) 6 x 10^(-1)

350B Sensor Source

5-26. 4th RS low Chamber with OKE, recorded E-112

Sensor 1 2 3 4 5 6
sensor Channel Source Distance Reading Reading
F245 K1 m 229 24 1.5 x 10^(-1) 1 x 10^(-1)
F242 K2 M 257 23 4 x 10^(-1) 3.5 x 10^(-2)
F 244 log K1 9 x 10^(-1) 5.5 x 10^(-2)
F 244 log K1 9 x 10^(-1) 5.5 x 10^(-2)
F 245 log K1 9 x 10^(-1) 5.5 x 10^(-2)

Background F 242 16 5 x 10^(-13) 2 x 10^(-11)
F 243 20 5 x 10^(-13) 2 x 10^(-11)
F 244 20 5 x 10^(-13) 2 x 10^(-11)
F 245 20 5 x 10^(-13) 2 x 10^(-11)
F 246 20 5 x 10^(-13) 2 x 10^(-11)

m 43 13 2 x 10^(-13) 2 x 10^(-11)
m 229 5 8
157 Swap E 112 and F 242.

\[ F_{144} \text{(lHg)} \quad F_{144}(L2) \quad F_{245}(K1) \quad F_{245} \quad E_{-112}(E1) \]

\[ A_0 = \frac{0}{9} \]

\[ M_{-12} = \frac{3 \times 10^{-11}}{3 \times 10^{-11}} \]

\[ M_{45} = \frac{9 \times 10^{-12}}{8 \times 10^{-12} \quad 7 \times 10^{-12}} \]

\[ 5 \times 10^{-12} \quad 7 \times 10^{-12} \]

\[ \text{PA} = \frac{2 \times 10^{-13} \quad 5 \times 10^{-10}}{1.10^{-12} \quad 7 \times 10^{-12}} \]

\[ 1.2 \times 10^{-13} \]

\[ S_{\alpha} = \frac{F_{242} \cdot K_{11}}{F_{145} \cdot K_{2}} \]

\[ 7.51 \quad < 1.0 \times 10^{-12} \]

\[ 7.58 \]

\[ 7.54 \]

\[ 9.56 \quad 70.3 \text{ pm} \quad 2 \times 10^{-13} \]

\[ 9.51 \quad 30.5 \text{ pm} \quad 3 \times 10^{-13} \]

\[ 7.57 \quad 65.8 \text{ pm} \quad 10^{-13} \]

\[ 7.58 \quad 4 \times 10^{-13} \]

\[ 8.00 \quad \infty \quad 4 \times 10^{-13} \]

\[ 8.02 \quad 3 \times 10^{-13} \quad 3.5 \times 10^{-13} \]

\[ 8.03 \quad 2.3 \times 10^{-13} \quad 2.5 \times 10^{-13} \]

\[ 8.05 \]

\[ 8.09 \quad 5 \times 10^{-13} \quad 4 \times 10^{-13} \]

\[ 8.14 \quad 1.5 \times 10^{-13} \quad (505 \text{ pm}) \quad 1.2 \times 10^{-13} \]

\[ 8.17 < 10^{-13} \]
Bene alltid de beve plante no ennuis a 5kg
Two 1/2 & 3 eden 243 1/2 kg constantly 1nd Amer;
plante a 5kg.
Counting Channel --

HV - Rem-0.13 - 10 VPS & output power probe.

Data in fig. EF-0-2001 - 5/12/56

5/20-64

Line counting channels to check count

Centrifuge source

Po & % 213, 214, each < 20 ppm

Bkg (cpm) 219.2 262.9 315.9 633.3

Source (cpm) 289.4 365 323 421.4

33.4 31.5 30.9 46.7

Bkg 29.4 29.1 28.0 44.8

5/21-64

Clean recorder paper & refill with ink.

Replace battery on 5-1 recorder (76)

Check response & contaminate 5 sources (M-43)

K-1 Re-F242 a pipe at floor to right over oil in tank

K-2 " " " " behind tank

Log K-2 " " " to right over oil in tank

C-1 " " " #1773 " " " tank end log 43
Instrument response to source: $p = 2.22$

$K_1 \times 10^{-6}$

Source $1 \times 10^{-6}$

$K_2 \times 10^{-6}$

Source $2 \times 10^{-6}$

Source effect: $x_4$, $x_4^2$, $2 \times 10^{-6}$

Note: Short-up range on K1 & K2 now $3 \times 10^{-6}$ was small.

then with older model CRU our chambers

formerly starting on $10 \times 10^{-12}$, now $3 \times 10^{-12}$ a.f.

Receiver aperture in K1, K2 & log very good. Lacs

were on trace with RS, it's a receiver range. Then

with CRU, it's a range at least 10 times worse.

In our RS our chambers appear to be good.

Instrument check for sources: Source B-280

K1 $3 \times 10^{-12}$ a.f. $V_{pp}@5$

K2 $2$

PM1 1200V $18''$ contrast

PM1 780 (1200) $18''$ contrast

Log K1 responds to source

Operating range: short up

K1 $3 \times 10^{-12}$

K2 $3 \times 10^{-12}$

PM1 980V

PM1 500 (980V)

Adjust zero PM-2. After set balance to 457.
10:17:37 (below) at 72° for about 2½ minutes.
Secondary wave noise - fluctuation from 15-60% annual.

5:22:49 It is the most intense of the tests today.
Background is somewhat higher today.
Yesterday, 9 x 10^-12 was equivalent to 30 ppm in water.
Today, recorder was reading 0% before severe
waves.
Start-up scale for K-2 10 x 10^-12. Serum in 25% solution.
- 1.5 x 10^-12 g.

2:52 - Do not track in dark with weights.

2:52 - Do not keep water in bowl after washing.

Kim prefers - K2/K1.

Some data:

<table>
<thead>
<tr>
<th>Source</th>
<th>Test</th>
<th>K1</th>
<th>K2</th>
<th>K3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2 x 10^-12 (50%)</td>
<td>1 x 10^-12 (80%)</td>
<td>1.7 x 10^-12 (42%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2 x 10^-12 (72%)</td>
<td>4 x 10^-12 (45%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>log (opalescence)</td>
<td>&lt; 10^-13</td>
<td>10^-n</td>
<td></td>
</tr>
</tbody>
</table>
6-7-47 Install fuel probe module.
To check gauge fall tanks in field of calibrate manometers.

Reading with same fuel at tanks:
17.05
17.45
17.45
17.46
12.44

19.16 134 Tank year.
19.13
19.13

Set probe @ 7.13

Fuel Manometer:
- 6.71
- 6.70
- 6.70

Probe: 7.135, 7.135
4pm - Hot location for multiple cylinder array exp.

\[ \text{some 10G Ohm} \]

[Image]

3pm - Log N force rewire. Check contacts OK

This battery box has fallen from shelf under table. May be box plug issue

New battery worked OK.

7-7-68 Log N - No meter deflection on 10" calibrate

Check force 120mV.

To get in unsure quickly, replaced all tubes.

崭 new. Operation at 0-060 after one run.

July 9, 68 PM 2 channel: Vector sweep up to 10M, vector signal generator.

Note: No apparent deflection on output meter.

Vector selector; "30mV": Remain same drop 1.1mV.

Manual level; "OK": Remain ok.

"OPC" same now ok.

May be contact a select switch.
July 9, 1964

K1 & K2 a 2 x 10^{-12} rese.
K1 = 7.0 x 10^{-2} = 2 x 10^{-13}.
K2 = 6.5 x 10^{-12} = 1.8 x 10^{-13}.

Some evidence showing in background radiation.

July 11, 1964
K2 n.p. very very close to a k2-1. Carved through.
Can't assist.
This note on start-up scale 2 x 10^{-12}.
Still very much present, must vary 10 x 10^{-12}.
Call to JFE. Must come every 1000 time JFE.
Under constant storm. ? - Be on alert for recurrence.

July 14, 1964

Aug. 3, 1964
K2 moving again. (K2: ok)

Readout of tube connection above 2000 rems above

connection.

Replace battery box. (One did not indicate any failure.)

Noon same, still less but still present.

Snap heads at amplifier. New fuses. Problem in
lindre and/or head. Keep under observation.
Aug 4. An Setup, K7 & K1 both noisy.
K2 settled down within 2 minutes.
K1 noise remained.
Changed battery box on K1. Before putting
box in channel, sprayed plugs in battery box to
make better contact.

2 1/2 am Log N spread - some train - also on motor on
employer's observer.

9-15-64: History of noise problems on K1, K2, and Log N.
Log N 600V battery was found clean of any
noise, then put back in - still works OK! (?)
K1 and K2 both showing occasional erratic
jumps & jitters. K2 is by far the worst.
Installed spare 600V battery box on K2 which has
2 new batteries inside. Box just carefully checked
& found clean of any noise using Tektronix 543
0.2 sec/cm, 0.005 V/cm using micro Condenser

Carefully observe now and compare to just past
behavior.

Note: Both K1 & K2 perfectly quiet when signal
input was removed. Noise occurred only with
am connected. Observe now & see if any change.

(Note: New Bat Box (old K2) had 2 noisy batteries in it)

JFE
9-16-64 K & O - noise never occurred once - Clean - 9-21 -

beginning to suspect battery trouble for sure now. Have 4 30V batteries on shelf suspected of noise - observed each one carefully on scope & isolating condenser capacitor.

Did find several noisy conditions - some were quiet for several hours then producing large spikes - one found sensitive to line noise in air! Produced about 1 mv on loud noise close up. 

Continue observation.

Also: Increased capacity coupling of new parallel plate chambers compared to overall capacity of systems may make system more sensitive to battery noises than before.

9-18-64 New 1/2 V battery in Recorder P/1.2 9-21 -

9-18-64 Several sample 300 V batteries on bench - Continue examining noise problems - patterns of batteries both with & without load.

Purchased special battery & isolation boxes for this 9-30 -
9-21-64: Examples of 300V batteries under noise conditions:

Example 1 - Load: 5.1 meg., noise = 0.1V, peak-peak
   No load: 0.01V

Example 2 - Load: 5.1 meg., noise = 0.002V, peak-peak
   No load: 0.005V

Example 3 - Load: 5.1 meg., noise = 0.01V, peak-peak
   No load: 0.003V

Example 4 - Load: 5.1 meg., noise = 0.005V, peak-peak
   No load: 0.005V

Example 5 - Load: 5.1 meg., noise
   Under load: 0.001V peak-peak
   More than 5 sec: 0.005V peak-peak
   No load: noise < 0.0005V peak-peak.

Note: For few seconds after removing load, noise level is high but rapidly decreases - after about 10 sec practically no noise is detectable.

9-21-64: Lepton scope: (Example 3 above) for several hours - later on load = noise < 0.005V peak-peak
   No load = noise < 0.001V peak-peak
   This goes to show battery noise patterns unpredictable.

9-30-64: K1 - large fast spike on 60V system screen. Remove K1, 600V chamber battery. Checks for hot box for noise.
   General back about 0.005V, scattered spikes to 0.05V, and occasional isolated pulses off screen. This latter diminishes to almost no noise - over -
11-2-61. Corrected a pressure feed pump module, note 3.
   b. Initial water contact module, note 2.
      for Steam only intake system.
      Water pump screen.

Quality control:
   - Sensor AK Model 63C (Y-124254) not operational.
     Service: report file FF-N-2010
   - Sensor C-7 (Y125798) not operational.
   - RDN sensor not operational. Service required.
     file FF-W-2011

11-4-61. Completion of water tank 2 modules.
   a. Inspect dump module.
   1. b. Add new relay K8, as holding relay replaces
      older K8 which is out of service.
   c. Inspect feed drum module.
      Module from @ Sanigna.
During start up on experiment, spikes noted on recorder trace. With signal level 19 x 10^-12, positive spike of almost one decade occurred. Ten minutes later, there was another spike of magnitude between x10^3 followed in 1-30 sec. by a neg. spike of x10^4.

12-11-64

12-11-64 K1 was not been used at all in -2 x 10^-12 sec. Swap signal leads of instrument 200 times. After many trials, I have not conclusively shown one is better for K2 channel. Returned leads to both original positions. K1 was appeared to be normal. K2 was now used.

Log N now 1 channel and back to calibrator. I refer to file FE-W-2106.

12-11-64 Log N is normal.

12-15-64 Instrument checked

K1, K2, log for normal

K1 x 10 x 10^-12 seems

log normal

K2 seems to be normal

K2 may still have some problem

Log N both normal
12-15-47 AM-2 Stirling (Shaw Bank) FF-W-2108

Experimental Set-up - Control Circuit

- Use float-motor system and pump
- Small slab tanks
- Change pump to 3P contactor for well water pump supply
- Lead, drain & check valves plugged in
- Well water contact switch
- Check WT etc.
2:15 PM: no spiders seen, 20-40 cm under Thomas.
2:40 PM: one was 26.4 cm, Rate much greater.
2:15: only 1 spider followed immediately by smaller spider.
2:15: no spider.
No spiders with 10^-9 - 10^-7 region (a new target).
[Collaborative experiment]
TFE reagent no effect to light. See spider - in range where they had occurred.
8:00: no spiders - dry, swagging, leaves @ top but 201.
Swag again, leaves fit, top. No spiders.
Raining, possible to be under light in dry log statewide.
Replace batten box log chamber with empty station in 210.
Both chambers quiet, ok.

1/27/85: Laying chamber alarm runs out. Refer to equipment files.
1/27/85: Light - combination spread (Refer to FF-2100).
[Invisible marker]
Remove & install R.S. with 30. Check FF-2102.
Shop: Refer to FF-2102.
1-28-45: Ke: Trong - B стиль from 212 - ham hui

2-4/6-45: Robert L. Hagerman secured 5 T.C. Harperte in 201.

The extenso was through, internating with py23 on balcony of 201. Rinsed in rack by deck.

TC cloth in 201 by Ruth Miller, wraped.

TC extenso was open 2012-2007. Has 4 sputum for from 202 through 204.

T.C. 1-4, 6-16 are marked in 201.
2-4-45: COURSE
Some trouble occurred from panel 2 to 3, extend leads.

With pump, & pump module for instruction from panel.
Water drama & pump module to well.

Then still want to trim out head?

3-1-45: log - Replant winter have a person divide. Only a

second may or may be. One not.

Forgot put unit, van to sedan, 500 mi to van.

seems to be missing, black - red - 741.

black - red 74 -

PM-2: Now digging up on a post Fair period:

3-3-45: log - replace urgent current with following:

white - black - 74-

black - white - ok.

PM: Went again once. Only on recorder.

Need to check recoder.
2-4-45. PM. Reader. no cards in directory, unable.

Reading 12kg 2:30 12:15 AM.

Cards must be reinstalled.

2-8-45 K1 - Dew point +30% for a 10x10's range.

00:01 - Some though ambiguity.

2-10-45 RK2 negative. Logi calibration unstable. No end.

Line to power still showing on occasionally.

Check calibrator at 4.25am 15V battery is dead.

4-1-45 RK2 Reports using K1 Catch shows noise in detector./or battery. Replace battery. Seems better.


Check V-I register hanging. Replace drift watt

W-2 Leak test module.

W-2 not blown externally.

MT and re-wattled with new register OK.
4/23/15 Dry TC's through selecta switch to 100 K3

TC#1-4 to selecta switch

TC cannon explained in lab note sheet

1130 Read TC's - 142 in 41.4 in air
3d 4 in 41.4 in air 201

<table>
<thead>
<tr>
<th>Exp</th>
<th>TC 1</th>
<th>TC 2</th>
<th>TC 3</th>
<th>TC 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:50</td>
<td>0.52% (Std)</td>
<td>24.75</td>
<td>25.05</td>
<td>0.01°C</td>
</tr>
<tr>
<td>1.20</td>
<td>0.52% (Std)</td>
<td>25.75</td>
<td>0.015</td>
<td>0.04%</td>
</tr>
<tr>
<td>1.52</td>
<td>99.5</td>
<td>25.85</td>
<td>0.0109</td>
<td>0.0182</td>
</tr>
<tr>
<td>2.29</td>
<td>99.5</td>
<td>25.65</td>
<td>0.0182</td>
<td>0.045</td>
</tr>
<tr>
<td>3.23</td>
<td>94.5</td>
<td>25.10</td>
<td>0.0165</td>
<td>0.059</td>
</tr>
<tr>
<td>3.46</td>
<td>94.5</td>
<td>25.10</td>
<td>0.0165</td>
<td>0.059</td>
</tr>
</tbody>
</table>

4/23/15 Using K3 potentiometer to read temperature in experimental setup.

- Turn on K3 to assembly, see room air.
- 10°C in liquid.
- 3d v. external heat
- Room air.

Only on hooked to K3 K3 & channel # 1, lift from.

Room (16pm)
5-30-65 Log - K, K2, log, K3, PM 1 & PM 2.

5-13-65 Instrument Calibration & Dry Check.

5-14-65 Analog Channel Check - OK, refer to file 9PM-2001.
Liquid Level Manometer - Mt. Zephyr

Trouble - Drive docs only

1. Lower limit switch action does not drive up
2. Insulation paper between high-level and low-level does not drive up
3. Reducer of gain & minimum of temp drives down? (Should be motionless)

Tube Check:
Both 2400 and 75 mesh - Replaced

⇒ Unit now controls properly - or

PM-1 HVPS: Unable to reach trip check voltage (He equivalent to 750)
⇒ Replaced - 3/24 - or

5-10-65 PM-2 - low level light not always on:
⇒ Relay change current but light not operational

MV - again dropping? -
⇒ Snap Bender and MV - This does no good.
⇒ Trouble: upper limit switch!!
5/25/76: Mr. Trouhan Raised.

Stirred on "Open" for 1 minute, filled up to 3/4 full.

Net.

227 g

22% on 12%.

Open: always read 12% to 12.5% on 1/2 dia.

Close: open 3 minutes.

Close: steady @ 12% ± 2%.

Sig: Check readings. Ref. to P# data. FF: 4/1-2/1.3.

5-28-76: Castor Crush.

Request for setup to operate with system.

This setup will be used in process 11-14 and 20.

State wired in draft cell. Set modules up place a column.

6-2-76: New Battery and Microscope Controller for outside water tank.

RKB reported pressure reading high.
6-4-65 Repeated 40V - may spike - RKC said check up
          after operating - reset button several times
6-4-65 or 5-12

6-11-65 C3 channel feeding strong signal in bridge
          scale in "popper" operation.
          6-15 not operating.
          Check operation with signal from channel C4. OK.
          Swap detector-panels.

6-16-65 C3 channel needs to be checked out.

          (De 6-25)
7-15-65 Report that 40V reading in PM-1 unit.
          Stand held at a 600 - RKC reported it to be
          above 600V. I plan to fix it. No. PM-1.
          Check 120C.

12-15-65 Regan, 10 months coming to "lowing" unit.
          Need C4 tubeable PM-1.

Check slow H/Ps unit - BA Y-123871
          < 5000 & 500 enter.
          Replace H/Ps with AC unit in tracing mode.
          Use 40C candela chart. OK.
          Scale was in 24 position with 0 in 12 position.
          (R - 160C.) Y - 12

7-23-65 PM 1 saw 7-15-65 11:11 A "defective unit (sputtering)
          RAD MON 2013's - dry a week before & 25 steps A/C
          within..."
2-23-65  PM  - Under surface of buffer
Methe redin: X 100 pm

Replace 57/3, 57/97 tubes - Keep under substrates
for 24 hours

Nasal chamber - mechanical apparatus are seen
short mount chamber
2-28-65 PM 1:00 - On Plus

8-12-65  Call to check amni: sent photo meter
Level dropped for no reason for 502421t4 definite
or severe with activity as seen constant
Disc. sed 5. did 20m 6-8 get paper and
new drift. Need to release client

10-7 22m rnt stop part of fix. Why does it go well
plant up to trigger
Replace 57/36, 57/79 x 1
8-21-71 Spell - Could be top of chamber see thin
spill near. Documented need for tip of
chamber for cleaning.

During clean up operation lost from a drop
well valve wrench.

8-27-71 Prepared from for drops will diag valve.
low chamber re-pressurized at ten.

8-28-71 Power Failure - 8-16-71

- Time power on check dwellers.
  - K1 quite noisy for about 15 min.
  - K2 settled down after 15 min.
  - Log

- PM's OK.

8-30-71 Question re log personal trace. Changed slope
after standardization. Will keep track on this.

8-31-71 K1 not changing factor 13 on range change
zero off. Rascal goes - 0%
9:27 AM  
Kd/K2 have been reported as unusual
9:20 AM  
Run on recorder & set conditions on 3×5 in. tape
K1: 10% with spread of ±3 units.
K2: 15% with spread of ±1 unit.
Kt: 10% maximum set up as K/f = 1.7%.  
Check recorder batteries:

3/15
Regenerate batteries in K1, PM2, LM1, & CSM recorders
(Old batteries inserted 1-2-65 in all but log of that
3/15)

Set year PM2 455 to 457 or balance.

10:45
No spectrum K1 seem badly regulated. Trace
in K1, K. & log appears to be normal.

10:55
K1 reading past of experimental run. Just up
water level (multiplicak 3.5) then Aging
for 3 ½ minutes after which time K2 measured 10.

10:12 PM  
K1 drift 4 units to high level.
Refer to file.
Date: 1/5/65

Call to observe K2.

On 3 x 10^-5 range, had gone through several spikes.
1st to full scale! There disturbance points
are about 10 sec. and on an irregular frequency.

When began to full water in passion 3 x 10^-5
Noise occurred. Turned down with one
10% mag. spike at 21/2 min. In another 1 min.
get large noise at 10%. There was no switching
at the time. After this there are very
single spikes of 10% more frequent than before.

Register that K1 was many yesterday. Not showing
near as yet today.

Ca. K2 was change to 1 x 10^-5

0957 K1 & K2.

On draw out many frogs on K2. This during early
stage of drawn output.

Check cables at top hot of battery. All tight.

Measure battery at K-0. OK.

Check sensor lead to K2 angelfish. Lpget clean-
very slight amount dust on wires.

Tightened sensor lead to K1 angelfish.
11-11-65
Cut-out - Yong controller.
Set H. w/ 36°C, shunt @ 310°C
Watch shunt - mic. Cut H. @ 300°C subpr.

11-12-65
Varial H. setpoint ok.
Watch mic. for fault signs.

11-12-65
K-1: Hang, filter down - fatigue.

Noisy.

11-12-65
Log Channel: Signal level 10^-3 mV, getting occasional
noise jogs (10^-5 to 7 x 10^-7) staying for few seconds.
Then recovery. Top not present, signal 9 x 10^-3 from signal generator.
K-1: Still noisy.

Battery check - Log OK
K-1 voltage up - looks as if there is some more here.

Replace battery in K-1 channel.

9:15 K-1 noise level vastly improved
by home - may be the (3)

12:10 (Log reported worse than earlier this AM)

12:10 Sw. 7th chamber output leads at top hot in 201.
"Log chamber" has a K-1 movement.
"K-1 chamber" has a Log movement.
No导读er on K-1 from Romney.
11-22-45: log from D-12 maint. - should ring on instrument?
(Refer EF-W-206 for maint. service)

12-2-45: K-1 noisy - K-2C reports clearing by moving range switch
back and forth
K-3 is spare to replace K-1, 5a-16215

11-20-45: replace K-3, 5a-16215, record in EF-W-2163

12-2-45: Replacement K-3 is made - Zero drift of testing instrument

12-4-45: Reinstalled K-3, 5a-16215, replacement to shop

12-6-45: observed K-1 entering 24 minutes from shunt to mode,
however, this is not conclusive since no B2 was interchanged.

12-6-45: 90 dB drift algebraic, must go

12-6-45: 0930 check K1 - Operation appears good

2:00 - Sense on release of shunt value - closure

Shunt was as result of closure of shunt value, possibly

transient polarize or all instruments - K1, K2, K3, by

It appears that K2 channel is more sensitive then

channel affected.

12-9-45: K-2 Recorder long ago from unrecoverable fault (R Bend)

During run, this occurred 3 or 4 times change of instrument parameters continued to function normally.

All other circuits, fuses, still good.

May be electrical problem, but not have opportunity of

thorough review. Must wait for conclusion.
1-24-66: Thermocouple Calibration:

This used in exp checked with condenser.

This taped to thermometer bulb & top immersd in vacuum bottle filled w/ water.

Thermometer range -0 - 55°C to 0.1° markings.

Readings taken on water scale.

Mark = pointer reading on scale at set point.

Temp = readings on chart paper.

<table>
<thead>
<tr>
<th>Time</th>
<th>Mark (°C)</th>
<th>Point (°C)</th>
<th>Temp (°C)</th>
<th>Time</th>
<th>Mark (°C)</th>
<th>Point (°C)</th>
<th>Temp (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:17</td>
<td>48°</td>
<td>48.5°</td>
<td></td>
<td>10:12</td>
<td>46.5°</td>
<td>47.0°</td>
<td>47.5°</td>
</tr>
<tr>
<td></td>
<td>48°</td>
<td>48.5°</td>
<td></td>
<td>10:18</td>
<td>45.5°</td>
<td>46.0°</td>
<td>44.5°</td>
</tr>
<tr>
<td>9:49</td>
<td>46.9°</td>
<td></td>
<td></td>
<td>11:02</td>
<td>42.7°</td>
<td>43.1°</td>
<td>42.4°</td>
</tr>
<tr>
<td>9:48</td>
<td>48°</td>
<td>48.5°</td>
<td></td>
<td></td>
<td>46.5°</td>
<td>47.0°</td>
<td>46.2°</td>
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<tr>
<td>9:49</td>
<td>46.7°</td>
<td></td>
<td></td>
<td></td>
<td>46.7°</td>
<td>47.0°</td>
<td>46.7°</td>
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<td>Date</td>
<td>Notes</td>
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</tr>
<tr>
<td>1-28-46</td>
<td>Laid hatching from eggs in bottle at 110°F.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1:11</td>
<td>10.1 10.5 8.7°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:14</td>
<td>10.6 10.5 8.7°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:04</td>
<td>10.3 10.5 9.0°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:43</td>
<td>23.4°C</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

2-8-46

Control: water bath not heat.
Check furnace: flame A & B blown. [A-B-C]
Regulation, flame C, check C & ko nan. |
Current per phase 29.5A.

Switch: thermometer on Ki 30°C. Been this way for 30+ days (Ki 30°C). Angle 10° & 2°. 

5-21-46

Log N: 0.246 to 0.178.

6-3-46 PM2 H1PS attachment.

6-7-46 K-2 instability on record. Coming thru amplifiers.

Replace ballast - 210 V. in heat box.
6-28-64
K1 still easy
K1 also shows instability.
K2 received a Shtg(24), knocked in 24. Bkth.
Cf Ref W6W-2166
(6/11-21 Nacahn)

6-22-64
RK, reports that K1 has gotten progressively
tomato durng past week.
Spits every 304 minutes.
Checked connection at Battery
Checked gear head to turn 2 full turns
about an hour later needed to readjust
Gear back 2 turns.
WMT needs service... (Capt Ed done work this
week)

6-23/24
K1 still easy to mear (Ref. W6W-2168)
6-21-64
K1, K2, K3: Bogus chart. Checkers have been discontinued
from top to bottom during maintenance period. 
7-6-6 V Check plumbing at 61D RKE has made change over for water heating system OK.

Instruments place in 61D preparing for run with mains elements.

In chamber housing connected from relay @ 61D about 1' above bottom elements.

PM-1 Check flow at 61J cold.

PM-2 Mounting bracket is 5' above flow level.

PM-1 WPS weak - Replace 2x24.
12/26

12/26

Change: Std to Nell
Reduct: PM 2

Kitty, Ly Bx Chamber

Re Connect: Drain, Drain & Feed Valves under well
(Connectors had been made to pump)

Re Connect: Nell water pump, replace leads for Chapman

Module Change: Nell water module (2) on Parker

Service error from 3 3/4

Nelle Std Modules (2)

Change Std - OK
7-15-61

Start checkout - after modifying battery box.

To drain current to 3 ma at 60v. Turrent worked.

...after testing found due to bad strap?

PM-2 need to adjust zero & Trans. & to trip

End set to 39.4 e

HT Set to 10 returns

Low Trans set to 1,2 em.
Pull front when any one of their gates is open. Then at
when gates are all closed, there is a slow infinitely buggy
buggy in 202. Alarm since 202. Outside gate does not give "background"
were only alarm in 202.

After a few minutes went dead out?
Then did not appear to coincide with
re-check 9 closers down at 102.

Jumper remains date in morning only after
green light condition, red and light arePand
checked with in afternoon when had this

Incidence Jumper.

Jumper remains to missearch at outside gate

Flow of water 0.06
11/14/66 RKE reports - audible light on unit A, 6160 alarm. Set boar limit point down - normal, <134m. Need "geo" adj.

11/15/66 1:26P - ZOC called to report audible light on Amt 6160.
Adjusted right hand pot - as viewed from front of lowered panel.
Very slight oscillation brought meter needle on scale & Diana
Did not have enough height to see if adjust lamp in truth.

11/15/66 Removed K-2 for temporarily use in #18 with APR experiments.

11/17 Installed #1680 (under observation in #10) as substitute for K-1. This unit is noisy.

Report will HUPS on PM-1. Fixed.

11/17 ZOC - watch unit PM-1 - rep PM-1 #30 (FF-6-2107)

File report on gate trouble 1-9-67.
1535P Outside gate not making up to switch.
Arm has slipped on shaft & started hanging.
Found it difficult to operate switch.

Replaced lower section - arm, cam shaft & plunger. Lot of moisture in cup.
Switch hings dried out. Applied pressure to arm in normal direction only.
Mr. Garrison installed copper shim on side to position vertical.

12/3/66 Reinstalled 2:53PM qtr.
1-10-61. Install 3/4" NPT unit as K-1 after channel check of modification.

1-15-61. 6" pipe in SW18& required - line capacity 3/8" F.S. in water.
No problem shown. (773A)

1-29-61 (m) RKR. Request liquid (reflected) level probe to mount in HEIR element test tank to indicate water at 6" above top of element.

Everything probe circuitry available.

Put probe power switch & probe light on control deck front.

Use SW (42) to a probe mounted at top of tank.

Check out as above 30-1-21 is grounded.

Should knock for water.

1-24-61 RKR - Tried with water, Not work well for clear.

Enough conduct to prevent shorting relay.

Top probe circuit in place for testing, etc.

Relay Operation:

---
One needs a 4 volt drop across relay to operate control and illuminated probe light.

measured voltage on probe when浸没in water
Reaction @25%
Set de voltagem back at 20Vdc at tap.

When water in contact with upper pole, meter reads
870 pa.

If a dead shunt occurs, current would be:

\[
E = 20V \quad \frac{20}{1.52 \times 10^{-6}} = 13.16 \text{ pA} \quad \text{(less, actually because)}
\]

\[
R = \frac{2k \text{ ohm}}{1.0 \times 10^{-6}} \quad \text{meter resistance}
\]

Measured 78 pa:

\[
R = \frac{20}{7.9 \times 10^{-5}} = 2.52 \times 10^{-5}
\]

\[
R_{exc} = 2.52 - 1.0 \times 1.63 \times 10^{-5} = 163 \text{k} \Omega
\]

1.24.57 PM RKK - temp sensor, seems to read high by about 2°C

Read v at 3 PM: 26.2 and 26.3°C

Thermometer check: 26.2°C
1-26-57 RK12. Outside gate—viable to get it to operate.
Lever not near CCW, as required on this installation. Will move CCW.
Replace lever—can exchange. Now lever operating OK.

When turn on red light, got bugger continuously—regardless of switch position.
After makin lever back 4/32" to 6/32", got proper action.

RK12 shimm'md at angle to prevent gate hitting switch & possibly damaging same.

1700 Electrical crew (Crafty & Ed) here to install new switch.
11:30 Job completed.

1-26-57 Temperature recorder—Has been reading several degrees high for several days.
Replacement battery in '24 did not help.

Replace tube at oscillator amplifier.
Now seems to be reading properly.

Then was a drop of 20° or reading after
New tube installed.
2-3-17: Temp. readings ok.

2-1-17: Probe current meter mounted on module on console.

2-8-17: Water Shag temperature module (Mecon) both up and down.

2-15-17: K-2: EVR reports 3-way head trigger system

Note: test setup: Swap signals 1C -> 1K apart (0.2V)
Noise transfers 1K to 2K double check in 201.

Battery check: K2 bat. work. Replace one fuses 30V 0.1k in bat box. Now reading 22mA at kA, similar before.

was reading 2.2mA et drooping.

2-17-17: Looked at K-2, took it to 201 shop.

EVR reports temp. module again giving erroneous readings.

217/17 K-2 back in service - New 3 wires from 6342, specs.

2/21/17: K2 no 12 on trim.

Temperature now ok?

2/23/17 log N: Have made up system 2x 30V (03)

Below 30V in green.

2/24/17 log N: Swap 24 log N sensors.

Note signal log N channel. Figure out?
Log N channel. Run over Keithley 1412.

3-13-67

Log N 190067

3-14-67

Calc log N

Remover working properly from unit & sensitivity unit from
C.E.M. recorder (not presently in use).

5-22-67

Log N 190068 has a hard recorder adjustment. It is difficult to set recorder to correspond to meter deflection.

Remover 190068 & list on Y 40007 (RU) after modifying.

24 May 1967, unit Y 40007 has warmed up and is出售的.

5-5-67

Rewired Keithley log unit for use in absorption chamber

5-8-67

Using both channels for signal to log.

Prevent the 2-pen recorder in second log.

PM-2 reading 10% on recorder vs output scope.

Check

a. Cut ?? to ??

b. Range on log (Gray sensitivity)

c. Adj. Balance to zero for 0% output.

d. Re-appling ??? - ??? is ??% of ?? range. OK.
Remove 50-00 divider from wheels recorder A control in use.

2 pm click on M-4 recorder.

\[ \frac{80}{1000} \]

\[ \frac{81}{1000} \]

\[ \frac{5600}{1000} \]

Need new Nen photo.

Some shots using a cold probe - seems to be ii records.

Need to check tubes. Perhaps after regularment went down for a while?

Re-installed tubes against cold at other power on.

Then K-L log getting as before of 1.0 to 1.5.

Very small shift in small warm-up current.

\[ \Rightarrow \text{Change power from unregulated - cuts down current.} \]

\[ \text{Still getting dump valve remained} \]

\[ \Rightarrow \text{LOG picture} \]

\[ \Rightarrow \text{Adjust damping control to give more steady warm-up trace} \]

\[ \Rightarrow \text{RKL requests placement of K-log recorder (2 pm)} \]

\[ \Rightarrow \text{in plane of wheels for further observation.} \]

\[ \Rightarrow \text{Suggested settings. There is no recorder on 8/16.} \]

(RKL has trained guy on Bravo ought to give nice clean trace)

One problem on K-log been shown

\[ \Rightarrow \text{At least a 10фт peak seen by staff} \text{when changing batteries.} \]

\[ \Rightarrow \text{When trace is < 1.0 the noise does not agree} \]
5-15-61
Conf w/ RKG.
will propose removing re location. All data in hand.

5-16-61
RKG states copied records. Send Steve & Matt copies.

3-226
RKG requests K-1 money.
swap input cable w/K1. receive response w/K1
suggests replacement of instrument.

Log 1 was < 10^-5 with linear unit on median

6-7-61
selected X-110, X-2602. This unit had been
in service in ARC equipment. Pulled unit 5/6/66

Log 2 trouble found to be the chamber not connected
to right pump at top left.

Log 2 possible trouble on KPS & CI. Seems to drop out,
without just setting. Not doing it today.

Log unit 2 58' C A Thermocouple.

6-10-67
Made up Thermocouple.
6-26-67 RKK - report K1 again missing (?) This is explained as

12

6-27 RKK - report kl missing or worn - replaced same day.

6-22-67 Y129028 to shop.

6-26-67 Y129028 in shop no K1 on train. Suspect worn in shop.

2. 3 x 11.7 ft. to 6 ft. 1 x 11.7 ft. 8 ft. 1 x 11.7 ft. 6 ft. 1 x 11.7 ft. 2 x 11.7 ft.

b. 3 x 11.7 ft. of super

C15

It is better than before seizure but

satisfactory - toma

Changes - worry on 2 pm recorder so that light is operated

of chart drive switch. This is used. Other recorders

are used.

a. Remove black & white leads to lights from

green terminals or connect black.

b. Connect leads black/red & white/grey
to terminals B & C on Rush terminal

black & red.
6-22-67  Leg Precord (
warm)

Problem:

b. lump occasionally @ 0.5 cm

Probe permits & leaves a step mark

6. Clean Infotextile

Mrs. Jones' arm & groin tissue had come loose. This

helps give a plane when greased on standard gyroscope:

Regulate

Now can standardize.

May have remaining step problem.

6-23-67  More leg Precord Troubleshooting.

This time a produe portion of the step was affected.

Regulate

Was leakage, did not drop with less load?

Are standardizing constants proper?
Electrical trouble - grid light SPX 47 - hummed 10's out

Technicians down hole CT 16 at 1st fl. in Pel.

C. Hatton upstairs hall - dammed three to break line.
Could not send out dammed conduct.

7-11-67: Electrician (Mr. Horn & Hayes) - here to come in SPX 7 lights to

check SPX 9th. Mr. Horn reports bad 9th to P. Campos

or 9th.

KKR report PM1 MVPS failure. Aborted.

- Power - panel failure during night 7-11/12

2-12-67: PM 2 - Gru. was adjusted -

a. H.V. 24

b. All X's


de. K-1 Report chegobie:

when trip at 3X10^5, takes long time to

several to drop when source is removed.

(K-2 for speed faster recovery)

how much constant problem here?

Adj: K-1 trip fusion were made to delay Shingale break.

7-26-67: K-1 Extreme upkeep K source & fuse may fault. Pulled
8-6-7 5/11 (5) in 51 angle . V (1200 x 1) shunt up.

8-6-7 Check out "M-5" lead and connection.

8-7-67 RKR regulator. Look @ PM 2.

Some question on whether debuter supplying from shunt from recent problem in 510.

Check operation - recorder is going over alarm range from here to operate? Dues switch cleaned, etc.

8-8-67 Installed probe to check final third of 21" brake in experiments.

8-10-67 Recorder on K-Log (444 rpm, run only one rpm).

No response to signal again.

Swap signal to alternate recorder.

8-15-67 K-1 trip. Alarmed trip at 70-80% M. Min. deflection. Should be 500% to prevent just this happening at system trip.

Adjust trip curve. Checked trip from 90% above.

25-4/40 % meter full scale.

3rd Rec recorder - replace all of values on amplifier.

Power on after >24 hours off. Recorder is not in gradual to test for shock. This recorder adj. consistently.
K=2 Trip Level Check:

<table>
<thead>
<tr>
<th>Snr</th>
<th>mTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>162.2</td>
</tr>
<tr>
<td>- 1.0V</td>
<td>158.4</td>
</tr>
<tr>
<td>- 2.0V</td>
<td>154.6</td>
</tr>
<tr>
<td>- 3.0V</td>
<td>149.8</td>
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<tr>
<td>- 4.0V</td>
<td>145.0</td>
</tr>
<tr>
<td>- 5.0V</td>
<td>140.2</td>
</tr>
<tr>
<td>- 6.0V</td>
<td>137.3</td>
</tr>
<tr>
<td>- 6.25</td>
<td>136.0</td>
</tr>
</tbody>
</table>

Trip to 6.1 V.

K=3 Trip Level:

<table>
<thead>
<tr>
<th>Snr</th>
<th>mTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 V</td>
<td>1.3 mA</td>
</tr>
<tr>
<td>-1 V</td>
<td>1.24</td>
</tr>
<tr>
<td>-2 V</td>
<td>0.97</td>
</tr>
<tr>
<td>-3 V</td>
<td>0.55</td>
</tr>
</tbody>
</table>

Set zero SS1 @ 548 V 0.9 V 0.55 |

Adjust trip point so that load and trip @ 548 V 0.55 mTE and load.
8-23-67: E.B.J. requested check of level probe circuit. This probe used to indicate full 20" cylinder in series experiments. One of two probes on connector mounted on top of cylinder had fallen from mount. A check revealed this to be probe in use at the time. To put level indicator in operation, swapped extra pair of leads. OK.

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8-18-67: RKR pointed out bad switch on K-2 recorder. Whenever simply touch Chart Drive switch, throw transient on log N channel—in same rack.

a) Replace switch. Still transient persists when switch operated.
b) Add three units in this rack—2 recorders (K2 & U2) & Log Ampl.
   are on one circuit—Controller Line.
   Pair two recorders in unregulated power, leaving
   Log Ampl. in regulated power. OK.

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8-23-67  2:55P  F.B.J.  More trouble with liquid level Manometer
Observation: Drive cable all off drum except at
anchor point.  Had pulled loose at screw tie point.
F.B.J.  Comment: After exp. found sensor stuck up.
Touched sensor body & it dropped to bottom-free
of drive cable.

Unattended, cable drum started to drive.
up & did so until cable snapped off.

Reset drive cable.  Close check showed no
knots in cable so decided to re-use it.

8-24-67  Trim liquid level Manometer gain - has been hanging up
on drys.
K-2 - Channel tripped - Ogden vs. 902, 95 - Sudden spike (peak) channel 3

(Chambers: K-1, K-2 in 1st cycle vs. 902, 95 vs. 80, 81) following a K-2 trip.

Fill tank with water K1, K2, K3 (water in tank) at 267 cm filling got sharp transient - principally negative - in both K2 & 4 Cp Chambers.

Degas - Drying drain got K2 drop.

notice any slight transient in chart.

Fill & degas - At 267 cm.

got spikes. RKIR noted "ok-cycling" in tank.

Drain & observe - Transient in drain cycle occurs when tank bottom warms back. This time K2 again tripped.

K-1 - Warms - Pressure remains, after swapping, signal levels had no effect. Lifts 550 to 500 now K-2.

After warmup - trace or jitter < 1% drift < 2%.

9-5-77 - Swap control from Kell to HFR single element tank.

RKIR requests enable to generate Dump Valve.

Note: when reset knob slight comma in immediately without setting value.

Trouble: Switch in 201 was in HOLD.

Neutralized, switched in 201.

OK.
9/7-67 941 to magnetic - no errors 2x2x.

9/24-7 RKR - reports feed switch hanging in "up" position.
    Adjusted contact spring for better return of baked rollers with Gordon. OK.

9/25-7 RKR reports K1 has unusual sags in level
    during first week of the gotten sluggish in
    response. Summer check shows reduced sensitivity.
    Noted sluggish performance on recorder trace.
    Reported to be revised later in afternoon.
RKR. report: K1 is doing fine now. She said:

- Need another bimini. Screw five lead weight
  has got screws threaded in such way.

RKR. report: K2 same. Same trouble as report at 1

above (4-22) which cured by moving channel?

Under observation.

11-1-22: RKR. K2 now improved. Response to level change is back to

normal, no longer sluggish, noise gone.

Still has channels in a few high ranges.

began - noon

After pushing sensor pb, moku & recorder began chattering

slightly, gradually dropped at

then called in to observe message ten minutes.

between 4 & 10,100% period tends to flip, alternating 4 & 10

in 1 sec intervals.

Check calibration: no.

In a few minutes noise had disappeared.

K1 developed noise while running from 8:30 to

at 12:00 RKR. say K1 better but recorder not giving

response. Adjust pb with receiver.

11:15 K1 noisy & channel in suspected frequency.
11.4.67 Don chomp in hold at (un)
11.5.67 K1 in channel 4, channel 5, motor running in (un)
11.7.67 Log as - great deal fore &
Sensory (un)
11.4.67 10:45 Call to come to work but to obtain K2
K2 will initially pluggage to same trouble
set out for while then suddenly xsing m 10 x 10^-12
Punchout from 20 x 10^-8
Tried to T sensor from 55-1 to K1/K2 amps. No go. Interchange.
K2 gets Signal
4. K2 signal at K1 & amplifier x 10^-9. Initial reading 1.3 x 10^-12
No noise present. K2 is very responsive to switching
signal off from K1 no signal from straight line
11.6.67 K1 signal from 55-1 (ca. 10^-12)
Reads 1.2 x 10^-6
K2 - no input. 
Tens @ 200 essentially straight but with
slight jitter
11.26.67 K2 signal from 55-1 (ca. 10^-12)
Reads - 1.0 x 10^-6
K1 - no input. 
Tens @ 200 - straight line.
11.30.67
Punchout signal leads to K1/K2.
Wired sensor @ K2 & K-1 in that order.
No response @ K2 @ K-1 normal.

SG-7 to top hat in rear of 201.

Signal on sensor signal lead to K2 @ top hat lift under pin
in Auguste?
K2 channel with &A-1 @ top left & 10^-2 rey. deflection

2.1 "a good signal response

on 3 x 10^-2 far range

Comment &A-1 @ top left do K-1 line

load out good

With least signal on input, match down scale. No offset.

Repair &K-2 signal connets

K2 channel now ok.

K1 still noisy when matched through. No apparent open in

load or circuit.

11/16/63 8:30 To pursue matter of noisy K1 further:

swap original leads @ top left.

Now slight sensitivity of matching on each channel.

Far less noise than when K1 was connected so before.

Will leave connected this way to see how channels work.
11/12/71 Note big celebrate shift during run

To drop in volume

11/13/71 Reinsulate K-2. Exit of the tunnel

11/16/71 Denier generator in cylindrical tank for week &

(as chamber suspended in air from top tank) was

reventilates. In operation in K-2 channel, this

was to be expected since rigid walls were swapped

11/18.

Set up for experiment in Nell. Return signal does

at top butt as before. /0 so as to leave inductors as

as previous Nell runs. All instruments performed

well during experiment. No transient evidence.

This has been case in recent weeks;

- when chamber are // are in small tank, K-1 is

sensitive to switch transient;

- when chamber are as well, all sigilant! √

After completing runs in Nell, investigated further

was problem,

Recap 11/1-15 Noise in K-2 conduit, monitoring small tank

\[ \text{noise source} \rightarrow K_1 \rightarrow K_2 \text{ channel} \]

\[ K_1 \rightarrow K_2 \text{ channel} \]

\[ \text{also no noise, all chambers in Nell off for a while.} \]

\[ K_1 \rightarrow \text{K1} \]

\[ K_2 \rightarrow \text{K2} \]
Noise Study, K1

Condition:

1. All chambers on Nell, near side wall    slight disturbance    OK

2. Same as above, but swap battery boxes    no change    OK

K1 & K1

3. All three chambers on SS, power near    no change    OK

small tank

d. K1 chamber hung at side of tank    very little noise    OK

The above done with control power on Nell valves open.

Switch power over to small tank components.

f. Swap back battery boxes    operation all look good.

g. All cables bundled as well    very slight    OK

experiments continues

want to see what response with experiments to come
May have improved contact in changing contacts about
this date.
K1 may not due to search current?
3:16 K1 after >, surge signal back @ amplv input.
next remant at 4125th. This is very close.
3:23 Signal back to normal.
3:25 K1 changed for EP to CV power.
may be slight impairment.

3:25 All chambers air flow behind well.
Signal K1 appears too strong only 20% depletion
when source near (3 x 10⁻¹² A/m²) 0.6
K1 cryogenic signal beyond source.
so surge signal back at amplv. K1 needed to neutralize
the source, but pass.
So source severely pulled in cable in 201.

Re-check Monday.

6:07 K1 check source
K1 (3 x 10⁻¹²) trip
K2 (3 x 10⁻¹⁵) 150% still problem on K2.

Switch signal loads at 7:00 PM.
K2 with (3 x 10⁻¹⁴) trip.
K1 (3 x 10⁻¹³) 1258 then off scale, trip. When source
withdrawn, level still off scale.

Remove K2 chamber from housing.
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With K2 chamber removed, note that the connections appear to be good. (Also no evidence of contamination)
Still getting only 25% deflection a 3 x 10^-12 with source.

Check center pins - Get 600V HV - pins look OK.

Try replacement chamber, No new response.
Replaced in #6 340. Unit removed G 342.

Install #3140 in housing. OK.

K1 seems to be ok at 3 x 10^-12. With a base only 2% Rms.
in 100 usec 4%.
November 15, 1962: Outside gate failed - seems that slates hang occasionally.

4:00 PM - Liquid iodine. RKR kept gaining.

11:28 PM: RKR requests K1 recheck again - operation on one side.

Small cylindrical tank.

11/28/62: Cheerful arc and pole to and from the wall containing 2 chambers & small cylindrical reservoir of wire receptacle.

(246x780 had marked receptacle on contacts box 11/24)

11/30/61: After cleanup & decontamination.

12/5/62: RKR agent that both K channels were noisy when utilizing longer in air by small tank. K2 very loud & unable to listen.

2x10^-3 amperes & noisy.

12/6/62: K2 generates a sound? K1 appears to sense switching.

K2 equal to 2.00 x 10^-5 (3x10^-5) an 10" for points at page.

This channel (G#4) essentially now. Check system with different arrangements of components.

Sine: 0.10071, Hertz: 0.001, Amplitude: 1.000, Recorder: 
K1: 100 K1: 100 K1: 100 Switch S1.
K2: 100 K2: 1 K2: 100 Source: response
K1: 10 K1: 10 K2: 1 K2: 1 Switch S2.
K2: 100 K1: 100 K1: 100 K1: 100 Do source agreement.

Transient noise of poor response go with sensor/dual combinator.
12-6-67. Took 6342 wire and with K2 at 0K2, observed the response with

- at 201 input 20 the set if in line.

Sens Top hat Drop / Gain

6342 at K2 --> K2

Kaz close to source normal.

Wt. with source in place there is no evidence of transient

response.

(6342, 400 V cable to speaker)

12-7-67. Sensor during time, took note

Sensor / Aud Top hat Drop / Resistor

K1 K1 K1

K2 K2

Kaz equal mV now.

To check source if 400 constant lag (sluggish recovery),

Now setting 6K-1 @ Top hat. Signal 1 x 10^4.

6K-1 --> K1

K1 show rise to level 2% jitter then level

-- K2 K2 straight fire @ zero.

Chgy 6K-1 on decade 10^-3 to 10^-2 to use driven amplifier. Held

high level for 2 minutes. Took > 100 second de-ionizer.

6K-1 signal source Top hat Drop / Resistor

K1 K1 jitter present 2-3%

6K-1 K2 rise 50% to level > 1% jitter

- overdrive to 10^-2 amplifier gain 5 seconds

K2 amplifier finally recovered in 40 seconds.

So Sluggish characteristics apparently in K1 amplifier.
After SG-1 line at top hat, K-attached Sine 1 -> K1 -> K2

RKR reports different background pattern on receiver.

K1 -> K1 -> K1 (3x10^-3) jitter 3-5%. Seems the receiver

A. seems normal.

K1 -> K1 -> K1 (3x10^-5) jitter 10-20%, much higher than earlier.

Swap receiver @ 26h.

B. K1 -> K1 -> K2 jitter < 1%

K1 -> K1 -> K2 jitter 2%

When combined, both get degradation. Jitter < 1% after that.

10:59 K1 -> K1 -> K2 jitter < 1%

B. reject. K1 -> K1 -> K1 jitter 2%.

Try swap SG180 or K1 with K2 suspect -> 91485 -> 28%

Even many of K1 susm. Still not fit replacement.

K1 (YR6028) measured do chip. X see if can find comparable

alongside receiver.

B. SG100-100-40.

K1 -> K1 -> K2 with man. Seem normal.

log -> log -> log without man. ok

Hand K1 sensor in same position. But will CO2 be enough not wait which is convenient of packing thing while there may be vibration.

No transient or K3 channel seen. Transient seen is mechanical.
Edge K2 down Scans @ 500ft

New both indicate chamber 1 sensitivity

K2 decided to leave these thus far

8:50 Log & Time in slow my pere + from 40 38.864 / seconds of rime.

Increased gap & log in Section.

10:05-10: 411400 in breach 110, along w/ 884 110

Signed to no large show slight characteristic?

ref to K2 latter.

2-15-13

Keithly unit $8/10 from shop to zero to try on K1 channel.

Saw some attached K1 lead - this had been connected to K2 chamber.

On 3 x 10^-16, range signal level @ 15% with spread of only 1%.

This is very good. Source response good. Recovery good.

Note high level on K2 channel. This chamber has had lead uncontaminated for week.

At start vert, 35% or 10 x 10^-10 or 6 3.5 x 10^-10.

Source now climb up to 5 x 10^-10 or 1.5 x 10^-10 different.

After 8 minutes - 2.3 x 10^-10 level found 4.8 1.4 x 10^-10.

Chamber had been switched at top last.

9:15 Connect K1 -> K1 -> K1

K2 -> K2 -> K2

Log -> Log -> Log

9:30 K2 down detected high @ 2 x 10^-10.

K2 in rework housing - was a mismatch.
4/2/77 K+ level was 6 x 10^-12.  Need repeated FN reading & T:20.
Still rising - 10 x 10^-12 - kept out of sight.

5/1/77 89º K+ - Hack response was unusual:
- Reading 13º 2 x 10^-12
- It was a square less than 1º.

5/1/77 10º K+ - TKR reports that instrument channel was very
again. Date: in response of 10º.
Check now. Still noisy. Swapped inputs
at amplifier & see if problem can still present
Noise transformer. This is in input - not elsewhere.
Checked battery box. Measured snow'd same ok.
- Tried another good box. -
- New noise issues. -

12/4/77 K+ TKR - reading negative on 3 x 10^-12 range.
- Does respond to one of 5th授予 (with same coaxial).
- 10º K+ - slight leak around sensor leads.
- Note must not damage on 10º in package.

Replace IC & Cable of K+.
- 3.62 x 10^-12 + 3.6 x 10^-11. This fits to cable
- Replaced new cable. Sense removed on 12/6/7.
Only 50% from someone in control (3x12 = 36) 7.

Task started at 1:20.

-> No response better.

Learn G34-02 code in current W/S kerenig.

Kerneig outside tomb.