

Schlumberger

DUAL INDUCTION-SFL
WITH LINEAR CORRELATION LOG

| | | |
|--|----------------------------|-------------------------|
| COUNT YUMA FIELD BONNY LOCATION WELL NO. 13-18 MAYNARD COMPANY LOCKRIDGE, ET AL | COMPANY LOCKRIDGE, ET AL | |
| | WELL NO. 13-18 MAYNARD | |
| | FIELD BONNY | |
| | COUNTY YUMA STATE COLORADO | |
| LOCATION NW SW No AB | | Other Services: NONE |
| 05-125-06847 | | |
| API SERIAL NO SEC TWP RANGE 18 4S 93W | | 5 |
| Permanent Datum: GL Elev. 3908 | | Elev. K.B. ~3913 |
| Log Measured From: KB 5 Ft Above Perm. Datum | | D.F. |
| Drilling Measured From: GL | | G.I. 3908 |
| Date | 11-21-82 | |
| Run No. | ONE | |
| Depth-Driller | 1827 (GL) | |
| Depth-Logger | 1825 (KB) | |
| Btm Log Interval | 1819 | |
| Top Log Interval | 150 | |
| Casing-Driller | 7" @ 147 | |
| Casing-Logger | 150 | |
| Bit Size | 6 1/4 | |
| Type Fluid in Hole | KCL | |
| Dens. Visc | | |
| pH Fluid Loss | | |
| Source of Sample | CIRCULATION | |
| Rm. Meas Temp | 171 50 F | |
| Rml. Meas Temp | 171 50 F | |
| Rmc. Meas Temp | | |
| Source Rml Rmc | LM1 | |
| Rm. BHT | 109 112 F | |
| Circulation Stopped | 0900 | |
| Logger on Bottom | 1130 | |
| Mix Rec Temp | 92 F | |
| Equip Location | 8368 J.J.M. | |
| Recorded By | J. URDIA | |
| Witnessed By | C. ANDRIWS | |

REPRODUCED BY
Petroleum Information
Corporation
MIDLAND, TEXAS 79701

REFERENCE D 54200

5 COMPLETION RECORD

SPUD DATE

COMP DATE

DST RECORD

API NO. 05-125-06847

CASING RECORD

PERFORATING RECORD

ACID FRAC SHOT

I P

GOR

GR

T P

C P

REMARKS

FIELD DATA The well name, location and borehole reference data were furnished by the customer.

| | | | |
|------------------------|-------------------------|---------------|-----------------|
| Run No. | ONE | SCALE CHANGES | |
| Service Order No. | 294182 | Type Log | Depth |
| Fluid Level | FULL | Scale Up Hole | Scale Down Hole |
| Salinity ppm cl | | | |
| Speed F.P.M. | 100 | | |
| EQUIPMENT DATA | | | |
| Panel No. | CSU | | |
| Cart No. | | | |
| Sonde No. | | | |
| Mem. Panel No. | | | |
| G.R. Panel No. | | | |
| G.R. Cart No. | | | |
| Tape Recorder - (TR) | | | |
| Depth Encoder - (DE) | | | |
| Pressure Wheel - (CPW) | | | |
| Type Centralizers | | | |
| Stand Off - inches | | | |
| CALIBRATION DATA | | REMARKS | |
| SBR | SEE CALIBRATION SUMMARY | | |
| Sonde Error - ILM | | | |
| Sonde Error - ILD | | | |
| G.R. BKG. CPS | | | |
| G.R. Source. CPS | | | |
| SE Set In Hole - Depth | | | |
| SE Corr. - Hole Size | | | |
| LOGGING DATA | | | |
| SBR | SEE PARAMETERS | | |
| SE Log - ILM | | | |
| SE Log - ILD | | | |
| G.R. Scale per 100 Div | | | |
| G.R. T.C. | | | |
| G.R. Sens. | | | |

All interpretations are opinions based on information from electric log measurements and we cannot and do not guarantee the accuracy or consistency of any interpretation, and we shall not be liable for any loss, injury, damage, or expense incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents, or employees. These interpretations are subject to our General Terms and Conditions as set out in our current Price Schedule.

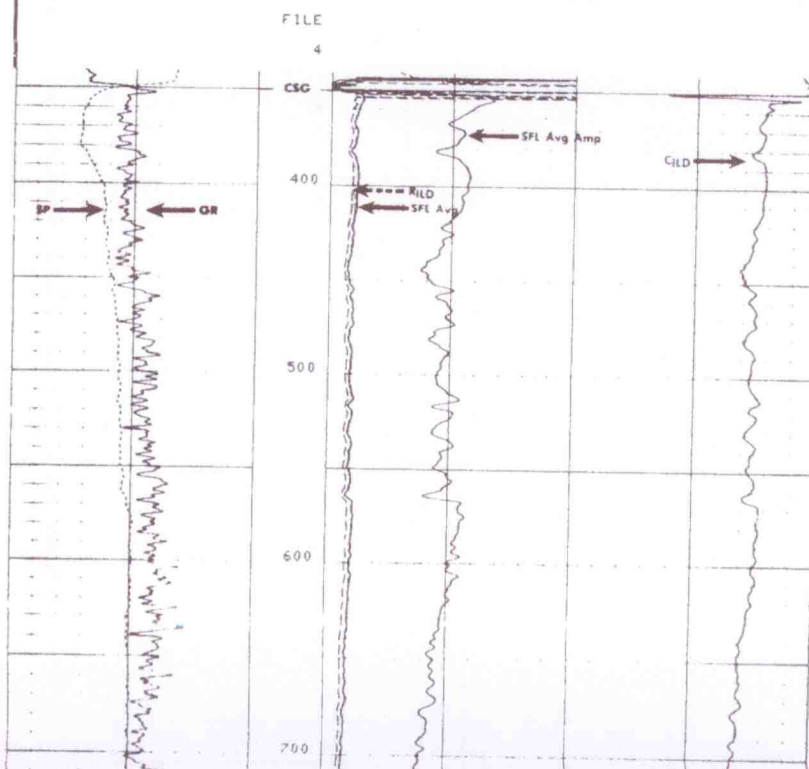
AFTER SURVEY TOOL CHECK SUMMARY

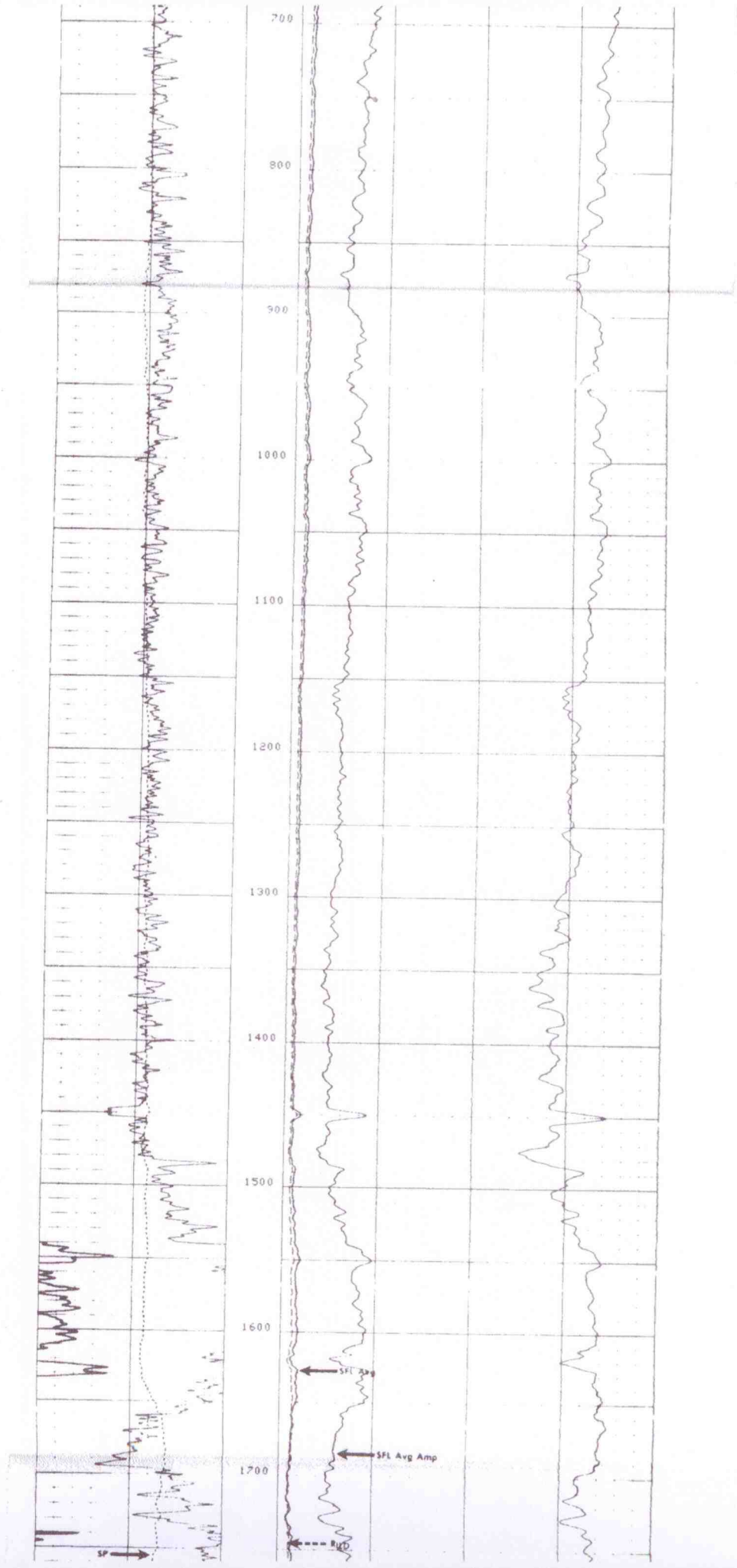
PERFORMED: 82/11/21
PROGRAM FILE: ISN (VERSION 20.22 81/ 5/29)

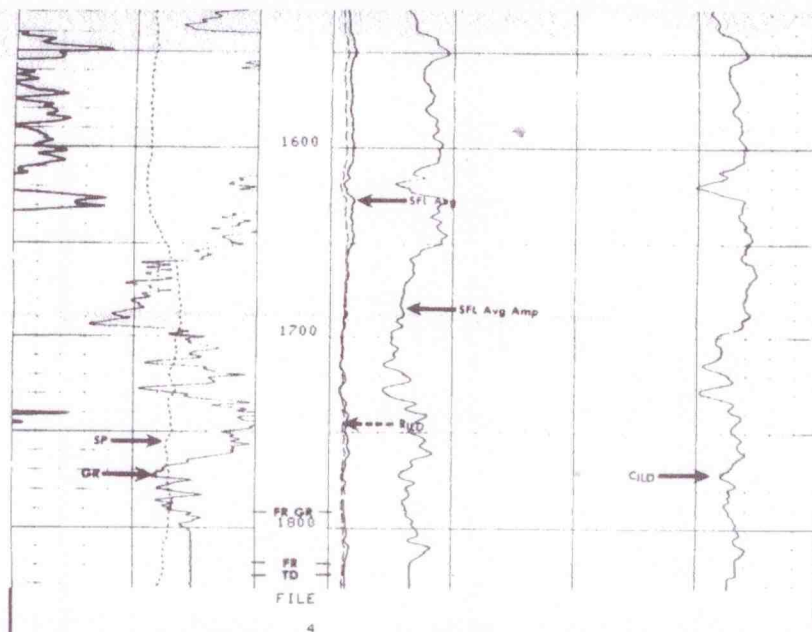
| DITD | | TOOL CHECK | | | |
|------|--------------------------|------------|-------|--------|-------|
| | | BEFORE | AFTER | BEFORE | AFTER |
| ILD | | 0.0 | 0.1 | 503.7 | 499.2 |
| ILM | | 0.0 | 0.2 | 498.0 | 492.2 |
| SFL | | 0.0 | -0.0 | 500.0 | 498.1 |
| ILD | SONDE ERROR CORRECTION : | | 6.7 | MMHO | |
| ILM | SONDE ERROR CORRECTION : | | 8.4 | MMHO | |
| | FILE | | | | |

6

| | | | |
|-----------|-------|-------------|-------|
| GR (GAPI) | | ILD (OHMM) | |
| 0.0 | 200.0 | 0.0 | 50.00 |
| SP (MV) | | SFLA (OHMM) | |
| -160.0 | 40.00 | 0.0 | 10.00 |
| | | SFLA (OHMM) | |
| | | 0.0 | 50.00 |
| | | CILD (MMHO) | |
| | | 2000. | 0.0 |







| | | | | | |
|-----------|--------|-------|-------------|-------|-------|
| GR (GAPI) | 0.0 | 200.0 | ILD (QHMM) | 0.0 | 50.00 |
| SP (MY) | -160.0 | 40.00 | SFLA (QHMM) | 0.0 | 10.00 |
| | | | SFLB (QHMM) | 0.0 | 50.00 |
| | | | CILD (MMHQ) | 2000. | 0.0 |

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

| | | | | | |
|------|-----|------|-----|------|------|
| ILD | 6.9 | FEET | GR | 30.4 | FEET |
| ILM | 3.3 | FEET | SFL | 3.9 | FEET |
| SPAR | .0 | FEET | SP | .0 | FEET |
| TENS | .0 | FEET | | | |

PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|------|-------|------|------|-------|------|
| DSEC | 6.700 | MMHQ | BS | 6.250 | IN |
| MSEC | 8.400 | MMHQ | SBR | 1.000 | QHMM |
| FEXP | 2.000 | | FPHI | DPHI | |
| CSIZ | 7.000 | IN | FNUM | 1.000 | |
| DD | 0.0 | | BHS | OPEN | |

| | | | | | |
|-----------|--------|-------|-------------|--------|-------|
| GR (GAPI) | 0.0 | 200.0 | ILD (QHMM) | 0.2000 | 2000. |
| SP (MY) | -160.0 | 40.00 | ILM (QHMM) | 0.2000 | 2000. |
| | | | SFLU (QHMM) | 0.2000 | 2000. |





| | | | |
|-----------|-------|-------------|-------|
| GR (GAPI) | | ILD (DHMM) | |
| 0.0 | 200.0 | 0.2000 | 2000. |
| SP (MV) | | ILM (DHMM) | |
| -160.0 | 40.00 | 0.2000 | 2000. |
| | | SFLU (DHMM) | |
| | | 0.2000 | 2000. |

FILE
2

REPEAT SECTION

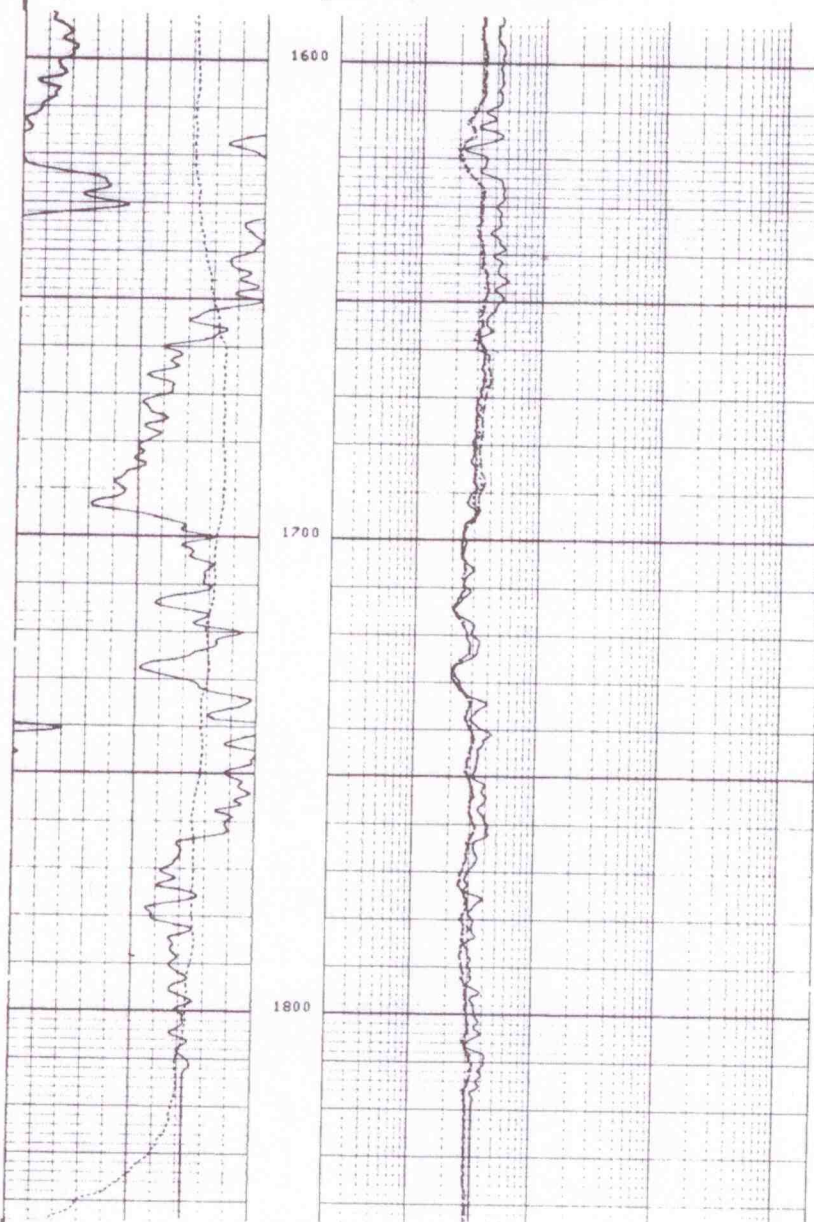


| | | | | |
|-----------|-------|--------|-------------|-------|
| GR (GAPI) | | 0.2000 | ILD (QHMM) | 2000. |
| 0.0 | 200.0 | 0.2000 | ILM (QHMM) | 2000. |
| SP (MV) | | 0.2000 | SFLU (QHMM) | 2000. |
| -160.0 | 40.00 | | | |

FILE

2

REPEAT SECTION



FILE

2

| | | | | |
|-----------|-------|--------|-------------|-------|
| GR (GAPI) | | 0.2000 | ILD (QHMM) | 2000. |
| 0.0 | 200.0 | 0.2000 | ILM (QHMM) | 2000. |
| SP (MV) | | 0.2000 | SFLU (QHMM) | 2000. |
| -160.0 | 40.00 | | | |

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

| | | | | | |
|------|-----|------|-----|------|------|
| ILD | 6.9 | FEET | GR | 30.4 | FEET |
| ILM | 3.3 | FEET | SFL | 3.9 | FEET |
| SPAR | .0 | FEET | SP | .0 | FEET |
| TENS | .0 | FEET | | | |

PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|------|-------|------|------|-------|------|
| DSEC | 6.700 | MMHO | BS | 6.250 | IN |
| MSEC | 8.400 | MMHO | SBR | 1.000 | QHMM |
| FEXP | 2.000 | | FPHI | DPHI | |
| CSIZ | 7.000 | IN | FNUM | 1.000 | |
| DO | 0.0 | | BHS | OPEN | |

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 82/11/21

FILE

2

| | | | |
|-----------|-------|-------------|-------|
| GR (GAPI) | | ILD (QHMM) | |
| 0.0 | 200.0 | 0.2000 | 2000. |
| SP (MY) | | ILM (QHMM) | |
| -160.0 | 40.00 | 0.2000 | 2000. |
| | | SFLU (QHMM) | |
| | | 0.2000 | 2000. |

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

| | | | | | |
|------|-----|------|-----|------|------|
| ILD | 6.9 | FEET | GR | 30.4 | FEET |
| ILM | 3.3 | FEET | SFL | 3.9 | FEET |
| SPAR | .0 | FEET | SP | .0 | FEET |
| TENS | .0 | FEET | | | |

PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|------|-------|------|------|-------|------|
| DSEC | 6.700 | MMHO | BS | 6.250 | IN |
| MSEC | 8.400 | MMHO | SBR | 1.000 | QHMM |
| FEXP | 2.000 | | FPHI | DPHI | |
| CSIZ | 7.000 | IN | FNUM | 1.000 | |
| DO | 0.0 | | BHS | OPEN | |

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 82/11/21
PROGRAM FILE: ISM (VERSION 20.22 81/ 5/29)

DITD ELECTRONICS CALIBRATION SUMMARY

| | MEASURED | | CALIBRATED | | UNITS |
|------------------------------|----------|-------|------------|-------|-------|
| | ZERO | PLUS | ZERO | PLUS | |
| ILD | -1.5 | 561.3 | 0.0 | 503.7 | MMHO |
| ILM | -0.3 | 531.4 | 0.0 | 498.0 | MMHO |
| SFL | -2.9 | 528.0 | 0.0 | 500.0 | MMHO |
| ILD SONDE ERROR CORRECTION : | | | 6.7 | MMHO | |
| ILM SONDE ERROR CORRECTION : | | | 8.4 | MMHO | |

SGTE DETECTOR CALIBRATION SUMMARY

| | MEASURED | | CALIBRATED | UNITS |
|----|----------|-----|------------|-------|
| | BKGD | JIG | | |
| GR | 84 | 233 | 148 | GAPI |

FILE
1

SHOP SUMMARY

PERFORMED: 82/11/06
PROGRAM FILE: SHOP (VERSION 20.2 81/ 1/30)

DITD ELECTRONICS CALIBRATION SUMMARY

| | TEST LOOP CALIBRATION | | TOOL CHECK | | UNITS |
|------------------------------|-----------------------|------------|------------|------------|-------|
| | MEASURED | CALIBRATED | MEASURED | CALIBRATED | |
| ILD | -9.3 | 542.8 | 0.0 | 500.0 | MMHO |
| ILM | -10.0 | 525.2 | 0.0 | 500.0 | MMHO |
| ILD SONDE ERROR CORRECTION : | | | 6.7 | MMHO | |
| ILM SONDE ERROR CORRECTION : | | | 8.4 | MMHO | |

<IS:405 , IC:462 >

CALIBRATION RECORD

COMPANY LOCKRIDGE, ET AL
WELL NO. 1118 MAYNARD
FIELD BONNY
COUNTY YUMA STATE COLORADO

SCHL FR 1819
SCHL TD 1825
DRLR TD 1827
Elev: KB 1911
DF
GL 1908