**Western Atlas International**
A Litton Dresser Company
Atlas Wireline Services

# DUAL INDUCTION FOCUSED LOG
# GAMMA RAY

FILE NO.

API NO.

5" = 100'

COMPANY ARCO OIL & GAS COMPANY
WELL CC 24-9-64
FIELD MIST
COUNTY COLUMBIA STATE OR.

LOCATION:
822.64' N & 385.96' W OF THE
SE CORNER OF

SEC 9 TWP 6N RGE 4W

OTHER SERVICES
CDLC/CN/GR
BHC/AL

PERMANENT DATUM GL ELEV. 1524.3
LOGGING MEASURED FROM KB 10' FT. ABOVE P.D.
DRILLING MEASURED FROM KB

ELEVATIONS
KB 1534.35'
DF
GL 1524.35'

| | | | | | |
|---|---|---|---|---|---|
| DATE | 9/2/88 | | | | |
| RUN | 1 | | | | |
| SERVICE ORDER | 159049 | | | | |
| DEPTH-DRILLER | 2503' | | | | |
| DEPTH-LOGGER | 2498' | | | | |
| BOTTOM LOGGED INTERVAL | 2496' | | | | |
| TOP LOGGED INTERVAL | 1150' | | | | |
| CASING - DRILLER | 7 " | @ 1150' | @ | @ | @ |
| CASING - LOGGER | 1150' | | | | |
| BIT SIZE | 6 1/4" | | | | |
| TYPE FLUID IN HOLE | EZ MUD | | | | |
| DENSITY / VISCOSITY | 10.2 | 45 | | | |
| PH / FLUID LOSS | 8.0 | 6.8 | | | |
| SOURCE OF SAMPLE | FLOWLINE | | | | |
| RM AT MEAS. TEMP. | 2.93 | @ 82 F | @ | @ | @ |
| RMF AT MEAS. TEMP. | 0.94 | @ 75 F | @ | @ | @ |
| RMC AT MEAS. TEMP. | 3.62 | @ 75 F | @ | @ | @ |
| SOURCE OF RMF / RMC | MEAS | MEAS | | | |
| M AT BHT | 2.45 | @ 98 | @ | @ | @ |
| ME SINCE CIRCULATION | 2 HRS , | | | | |
| REC. TEMP. DEG. F | 98 | | | | |
| NO. / LOC. | HL 6406 | SAC | | | |
| ED BY | B. WELCH | | | | |
| D BY | MR. JACKSON | | | | |

FOLD HERE

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT, BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASURMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

REMARKS RUN ( 1)

## EQUIPMENT DATA

| RUN | TRIP | TOOL | SERIAL NO. | SERIES NO. | POSITION |
|---|---|---|---|---|---|
| 1 | 1 | DIFL | 33304 | 1503 | FREE |
| 1 | 1 | AC | 79726 | 1603 | CENT |
| 1 | 1 | GR | 60484 | 1309 | CENT |
| 1 | 1 | CAL | 79090 | 4209 | CENT |

CURVE DELAYS

| CURVE | DELAY | UNITS |
|---|---|---|
| CFOC | 0 | FT,IN |
| CILM | 6,0 | FT,IN |
| CILD | 9,3 | FT,IN |
| SP | 9,3 | FT,IN |
| GR | 42,9 | FT,IN |
| CAL | 53,3 | FT,IN |
| ACQ | 27,0 | FT,IN |
| AC | 27,0 | FT,IN |

PARAMETERS

| NAME | DEPTH INTERVAL | VALUE | UNITS |
|---|---|---|---|
| A | 2499 TO 1143 | 0.000 | |
| M | 2499 TO 1143 | 0.000 | |
| O.D. | 2499 TO 1143 | 3.500 | INCH |
| DEL-T F | 2499 TO 1143 | *********** | MICS/FT |
| DEL-T M | 2499 TO 1143 | -2.000 | MICS/FT |
| DEL-T S | 2499 TO 1143 | 0.000 | MICS/FT |

DISPLAY SCALE CHANGES

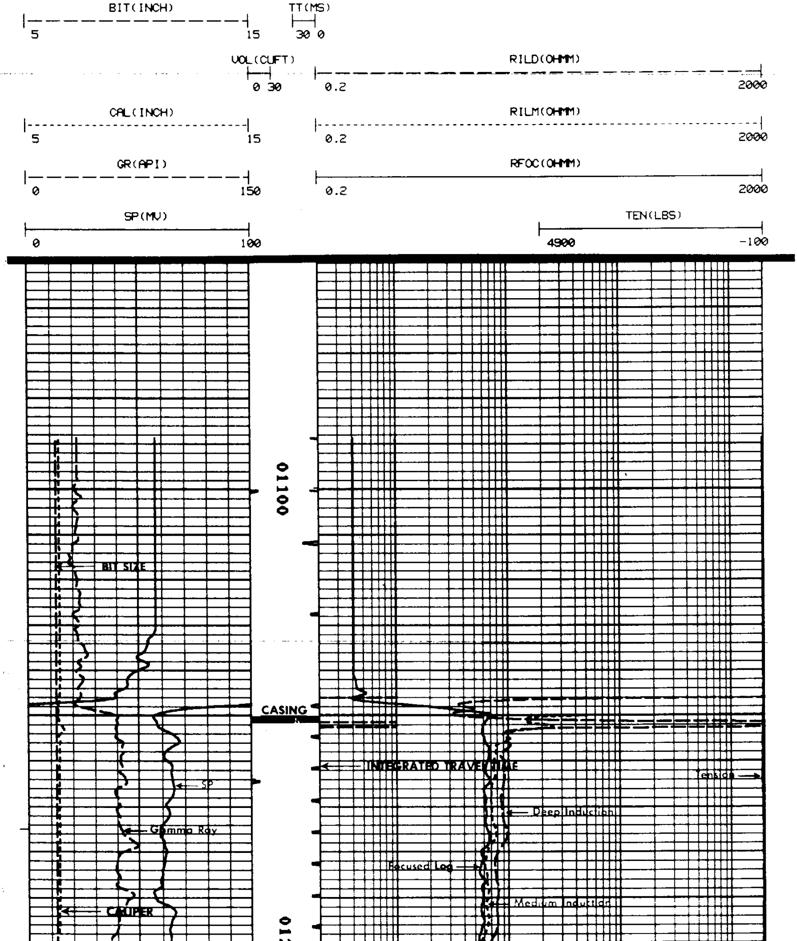
*** NONE ***

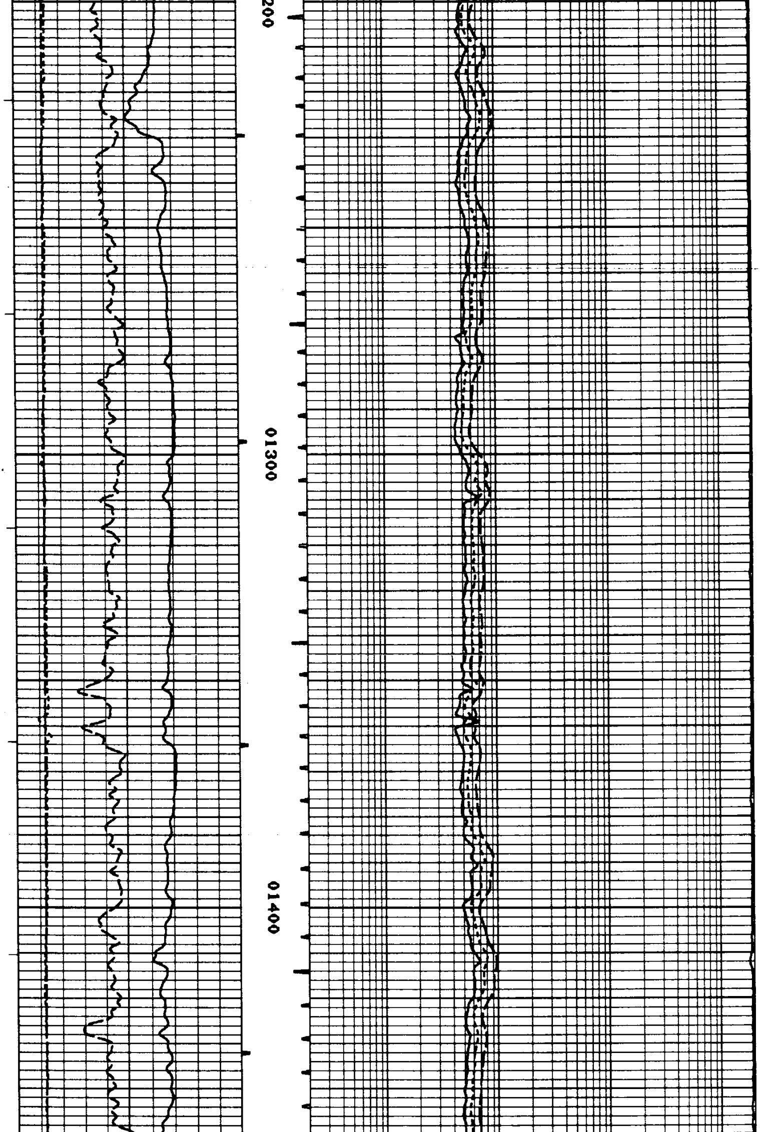
COMPANY: ARCO OIL & GAS COMPANY RUN: 1

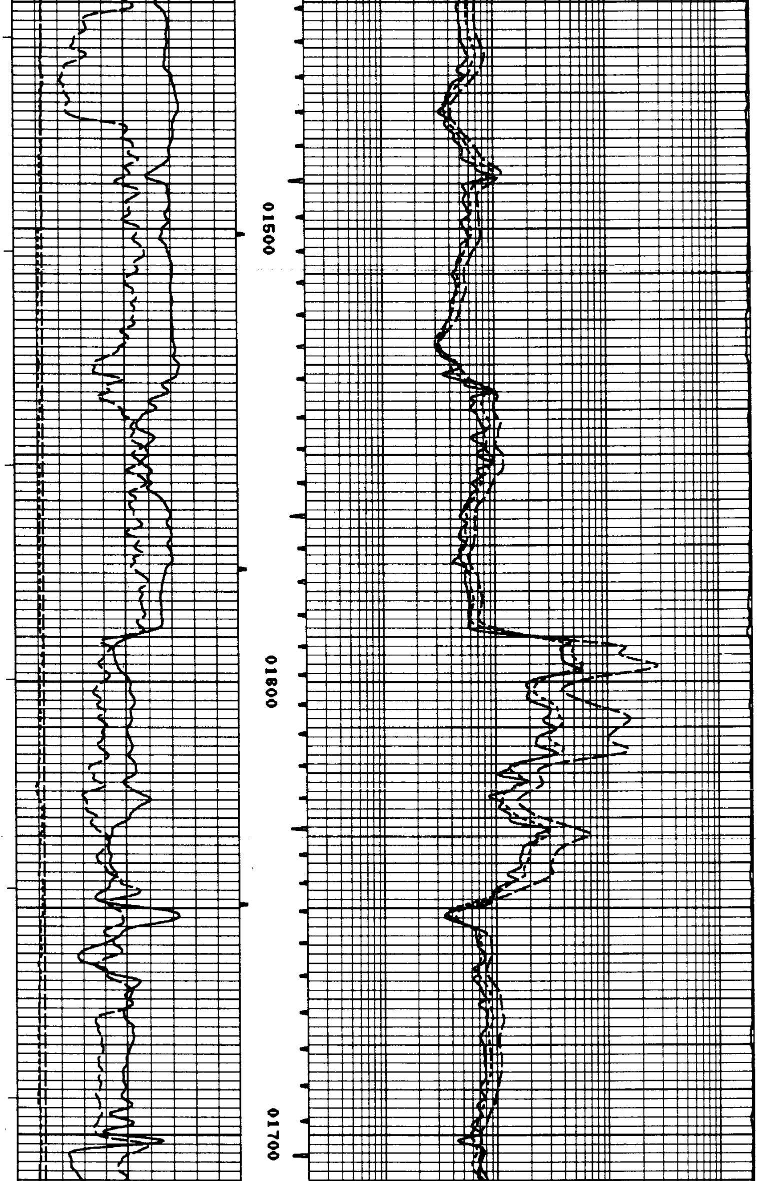
WELL NAME: CC 24-9-64 TRIP: 1

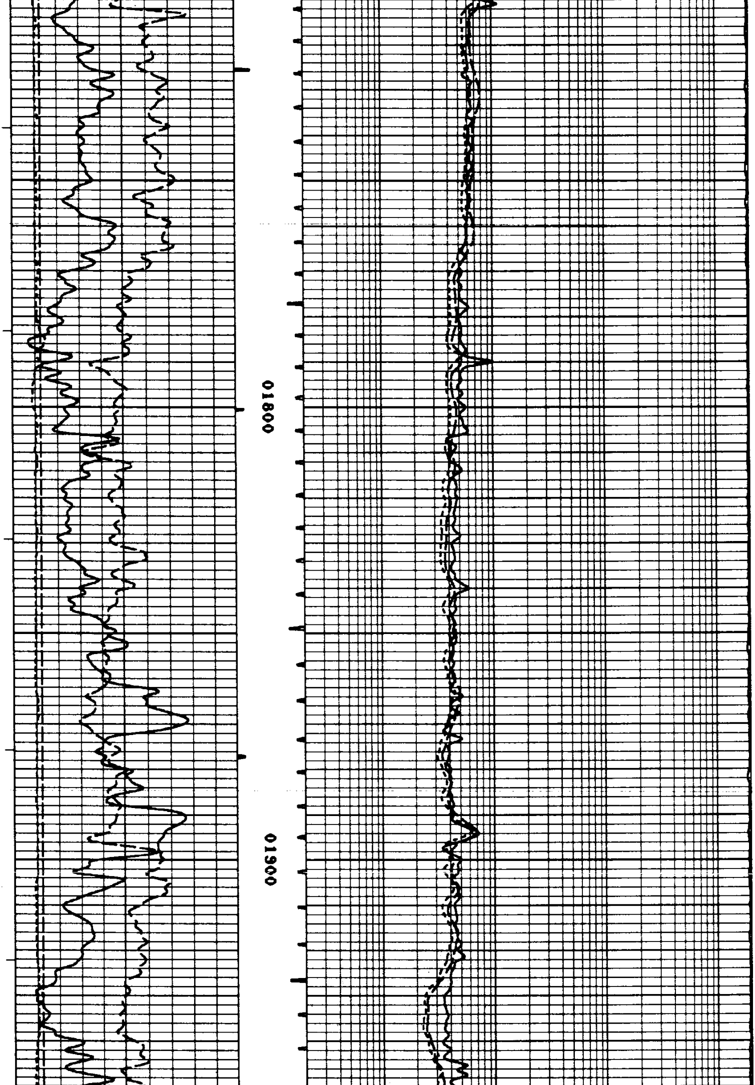
SERVICE: KC214N FILE: 3 DATE: 09/02/88 TIME: 20:11:45

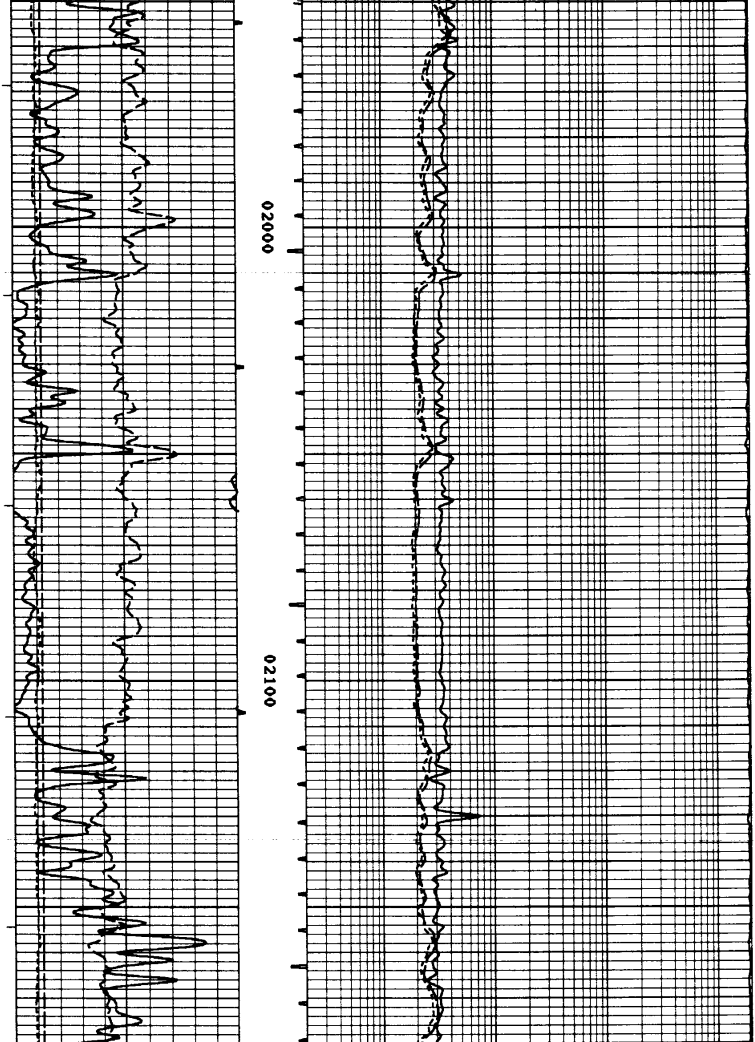
REVISION: FSYSAL REV GS08 VER 2 MODE: RECORD

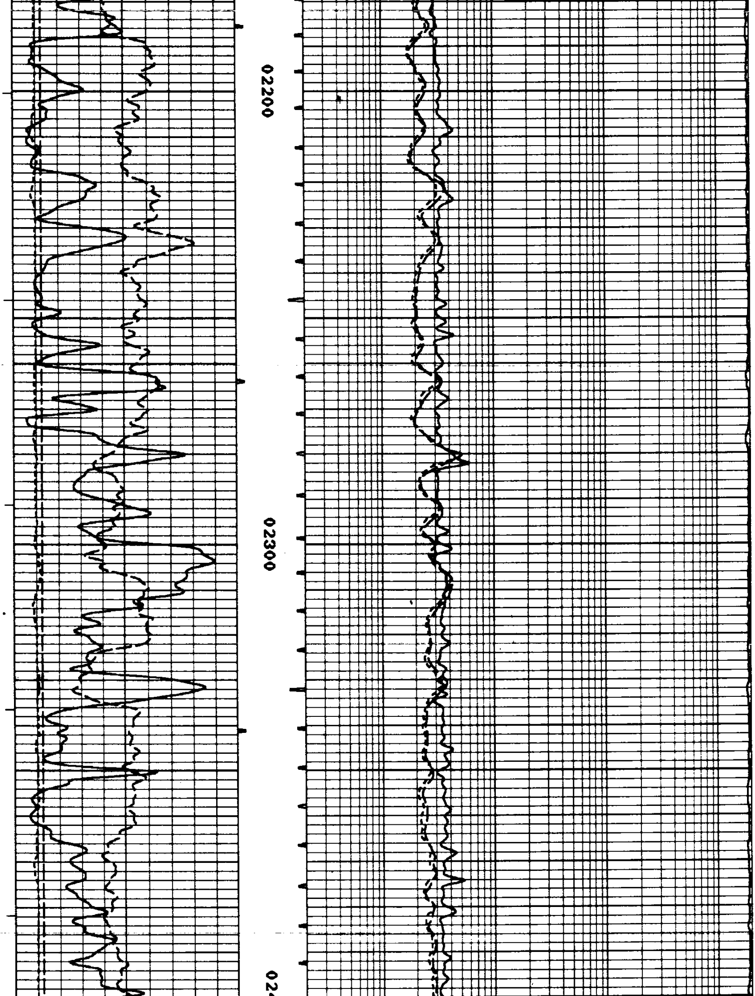


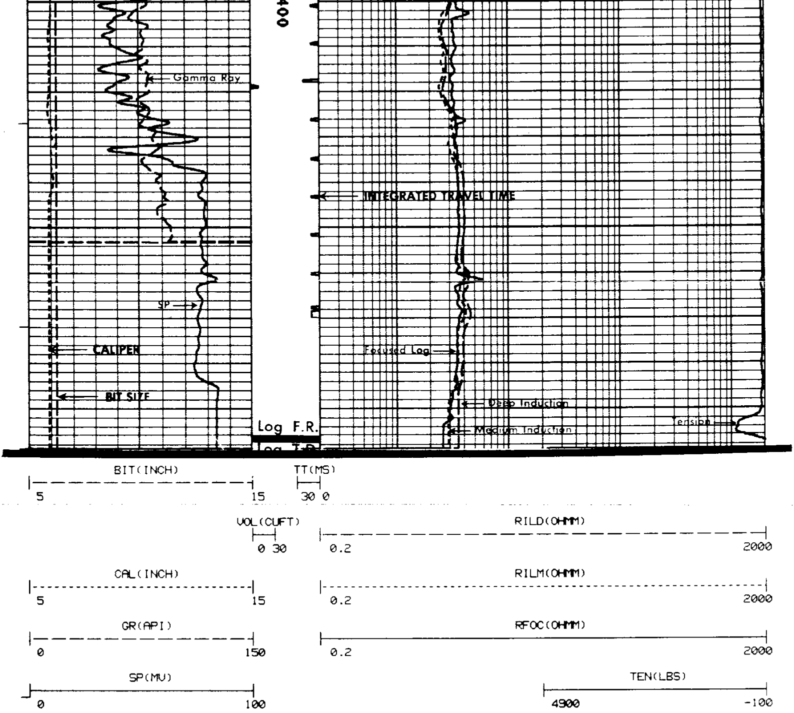












CURVE DELAYS

| CURVE | DELAY | UNITS |
|---|---|---|
| CFOC | 0 | FT,IN |
| CILM | 6.0 | FT,IN |
| CILD | 9.3 | FT,IN |
| SP | 9.3 | FT,IN |
| GR | 42.9 | FT,IN |
| CAL | 53.3 | FT,IN |
| ACQ | 27.0 | FT,IN |
| AC | 27.0 | FT,IN |

PARAMETERS

| NAME | DEPTH INTERVAL | VALUE | UNITS |
|---|---|---|---|
| A | 1840 TO 1401 | 0.000 | |

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M           1840  TO  1401          0.000
O.D.        1840  TO  1401          3.500  INCH
DEL-T F     1840  TO  1401     **********  MICS/FT
DEL-T M     1840  TO  1401         -2.000  MICS/FT
DEL-T S     1840  TO  1401          0.000  MICS/FT
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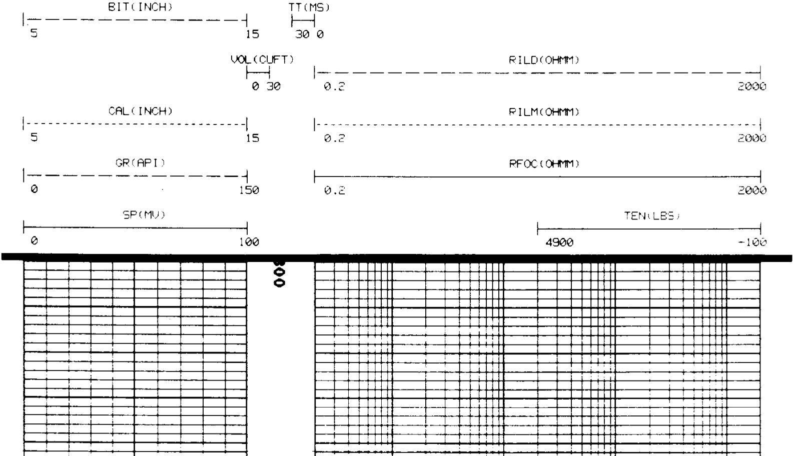
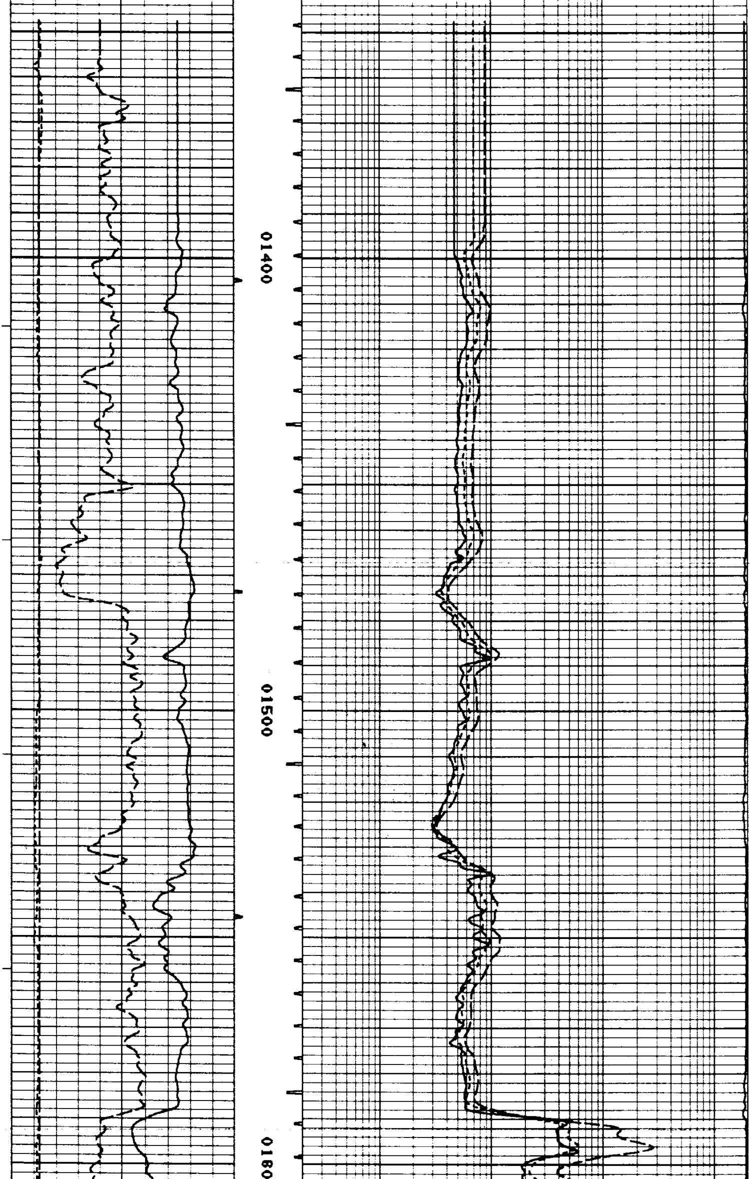
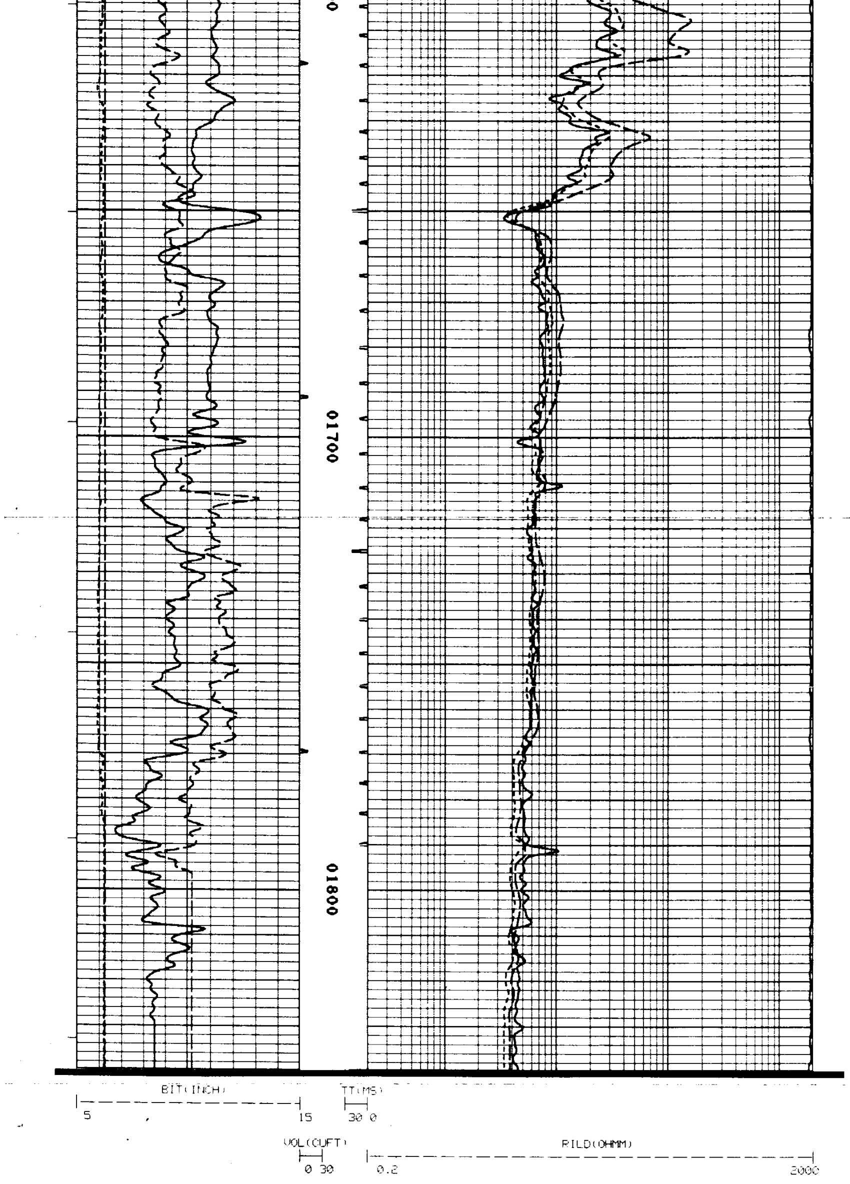
DISPLAY SCALE CHANGES

*** NONE ***

COMPANY: ARCO OIL & GAS COMPANY RUN: 1
WELL NAME: CC 24-9-64 TRIP: 1
SERVICE: KC214N FILE: 2 DATE: 09/02/88 TIME: 19:30:28
REVISION: FSYSAL REV GS08 VER 2 **REPEAT SECTION** MODE: RECORD







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            CAL(INCH)                                            RILM(OHMM)
|-------------------------------|        |-------------------------------------------------------|
 5                              15         0.2                                                  2000

            GR(API)                                              RFOC(OHMM)
|- - - - - - - - - - - - - - - -|        |_______________________________________________________
 0                             150         0.2                                                  2000

            SP(MV)                                                         TEN(LBS)
_|______________________________|                                 |________________________________
 0                             100                                 4900                          -100

       CURVE DELAYS
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                  ****************************************
                  *                                      *
                  *  CALIBRATION/VERIFICATION SUMMARIES  *
                  *  DATE 09/02/88        TIME 21:27:00  *
                  *  RUN  1               TRIP 1         *
                  *                                      *
                  ****************************************


           LOG NAME DIFL    ASSET NO. 33304    UNIT NO. HL6405
      CALIBRATION ENTERED ON  09/02/88 AT 17:55:05

      CURVE   MILLIVOLTS      SCALING FACTORS    ENGINEERING VALUES   UNITS
               LOW    HIGH    ADD.     MULT.        LOW       HIGH
      ----  --------------  ----------------  -------------------  ----

           DATE 08/16/88          CALIBRATION          TIME 14:02:34

      CILD     -0.3   492.7    1.250    1.9747      1.000    500.000 MMHO
      CILM     -2.3   509.0    3.079    2.2026      1.000    500.000 MMHO
      CFOC      2.5   497.0   -1.559    2.4625      1.000    500.000 MMHO

           DATE 08/16/88    PRIMARY VERIFICATION       TIME 14:03:57

      CILD     -0.1   491.7    1.250    1.9747      1.181    488.230 MMHO
      CILM     -0.0   506.4    3.079    2.2026      3.133    497.327 MMHO
      CFOC      4.7   503.8   -1.559    2.4625      3.136    506.395 MMHO

           DATE 09/02/88   BEFORE LOG VERIFICATION    TIME 19:29:08

      CILD      0.2   497.6    0.975    1.9519      1.122    498.004 MMHO
      CILM     -0.1   507.3    3.089    2.1973      3.115    497.145 MMHO
      CFOC      4.5   485.1   -1.508    2.5545      3.233    506.384 MMHO

           DATE 09/02/88    AFTER LOG VERIFICATION    TIME 20:43:59

      CILD      0.2   496.9    0.975    1.9519      1.141    497.216 MMHO
      CILM     -0.0   507.3    3.089    2.1973      3.150    497.630 MMHO
      CFOC      4.5   484.5   -1.508    2.5545      3.221    505.746 MMHO


          LOG NAME GR      ASSET NO. 60434P   UNIT NO. HL6406
     CALIBRATION ENTERED ON  09/02/88 AT 17:18:30

     CURVE   COUNTS SEC.     SCALING FACTORS    ENGINEERING VALUES   UNITS
              LOW    HIGH    ADD.     MULT.        LOW       HIGH
     ----  --------------  ----------------  -------------------  ----

          DATE 09/02/88          CALIBRATION          TIME 17:18:30

     GR        73.3   295.5    0.000    0.6766      0.000    150.000 API

          DATE 09/01/88    PRIMARY VERIFICATION      TIME 12:57:32

     GR        65.7   276.3    0.000    0.7041     46.239    194.532 API

                      BEFORE LOG VERIFICATION      NOT DONE

          DATE 09/02/88    AFTER LOG VERIFICATION    TIME 20:59:21

     GR       112.8   349.4    0.000    0.6766     76.319    236.434 API


          LOG NAME CAL     ASSET NO. 79090    UNIT NO. HL6409
     CALIBRATION ENTERED ON  09/02/88 AT 17:17:12
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CURVE  MILLIVOLTS      SCALING FACTORS    ENGINEERING VALUES   UNITS
        LOW    HIGH    ADD.     MULT.         LOW        HIGH
----  -------------- ----------------- ------------------- ----

     DATE 09/02/88            CALIBRATION            TIME 17:17:18

CAL    3442.5  3350.9    1.782    0.0090       6.000      12.000 INCH

                        PRIMARY VERIFICATION              NOT DONE

     DATE 09/02/88   BEFORE LOG VERIFICATION    TIME 20:47:13

CAL       E      3738.7    1.782    0.0090       E            6.351 INCH

     DATE 09/02/88    AFTER LOG VERIFICATION    TIME 20:47:47

CAL       E      3740.7    1.782    0.0090       E            6.364 INCH
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