Western Atlas International®

ATLAS WIRELINE SERVICES

DUAL INDUCTION FOCUSED LOG®

GAMMA RAY

FILE NO.

API NO.

5" 100'

NORTHWEST NATURAL GAS
COMPANY OREGON NATURAL GAS DEVELOPMENT CORP.
WELL IW33AC-3
FIELD MIST
COUNTY COLUMBIA STATE OR.

LOCATION:
1469.94' N & 1706.49' W
FROM THE SW CORNER OF:

SEC3 TWP6N RGE5W

OTHER SERVICES
CDL/CN/GR
DIPLOG

PERMANENT DATUM GL ELEV. 1075.1
LOGGING MEASURED FROM KB 11.5 FT. ABOVE P.D.
DRILLING MEASURED FROM KB

ELEVATIONS
KB 1086.6'
DF -
GL 1075.1'

DATE	12-03-90				
RUN	2				
SERVICE ORDER	65505				
DEPTH-DRILLER	2891'				
DEPTH-LOGGER	2892'				
BOTTOM LOGGED INTERVAL	2890'				
TOP LOGGED INTERVAL	2603'				
CASING - DRILLER	8 5/8"	@ 2603'	@	@	@
CASING - LOGGER	2603'				
BIT SIZE	7 7/8"				
TYPE FLUID IN HOLE	POLYMER				
DENSITY / VISCOSITY	8.9	37			
PH / FLUID LOSS	9.0	11.2			
SOURCE OF SAMPLE	FLOWLINE				
RM AT MEAS. TEMP.	.50	@ 50 DEG. F	@	@	@
RMF AT MEAS. TEMP.	.40	@ 50 DEG. F	@	@	@
RMC AT MEAS. TEMP.	.70	@ 50 DEG. F	@	@	@
SOURCE OF RMF / RMC	M	M			
RM AT BHT	.24	@ 105 DEG. F	@	@	@
TIME SINCE CIRCULATION	2.5 HRS				
MAX. REC. TEMP. DEG. F	105 DEG. F				
EQUIP. NO. / LOC.	6399	BAKS.			
RECORDED BY	M. HINDS				
WITNESSED BY	MR. ROTH/THOMAS				

FINAL PRINT

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 MEASUREMENTS, 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 (2)

VOL COMPUTED FOR OPENHOLE.

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
2	2	DIFL	77837	1503XA	1.5SO
2	2	AC	79726/VENT1	1606/1603	CENT.
2	2	GR	73384	1309XA	CENT.
2	2	CAL	38088	4209XA	4/ARM

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                              FILE:   3

        CURVE  DELAY  REPORT
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                        PHYS.
               CURVE    DELAY    UNITS
               -----    -----    -----

               CFOC         0    FT,IN
               CILM       6,0    FT,IN
               CILD       9,3    FT,IN
               SP         9,3    FT,IN
               GR        48,0    FT,IN
               CAL       58,0    FT,IN
               ACQ       27,3    FT,IN
               AC        31,0    FT,IN


        PARAMETERS
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            NAME        DEPTH INTERVAL       VALUE      UNITS
          --------      --------------    ----------    -----
          A              2905 TO  2517         0.620
          DEL-T F        2905 TO  2517       185.000    MICS/FT
          DEL-T M        2905 TO  2517        54.000    MICS/FT
          DEL-T S        2905 TO  2517       110.000    MICS/FT
          M              2905 TO  2517         2.150
          O.D.           2905 TO  2517         0.000    INCH
          PORA           2905 TO  2517        WYLLIE


        DISPLAY SCALE CHANGES
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                             *** NONE ***
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COMPANY: OREGON NATURAL GAS DEVELOPMENT CORP. RUN: 2

WELL NAME: IW33AC-3 TRIP: 2

SERVICE: KC214M FILE: 3 DATE: 12/03/90 TIME: 14:08:21

REVISION: FSYS256 REV:G002 VER:2.0 MODE: RECORD

BIT(INCH) 6 16

VOL(CUFT) 0 30

RWAA(OHMM) 0 20

RILD(OHMM) 0.2 2000

CAL(INCH) 6 16

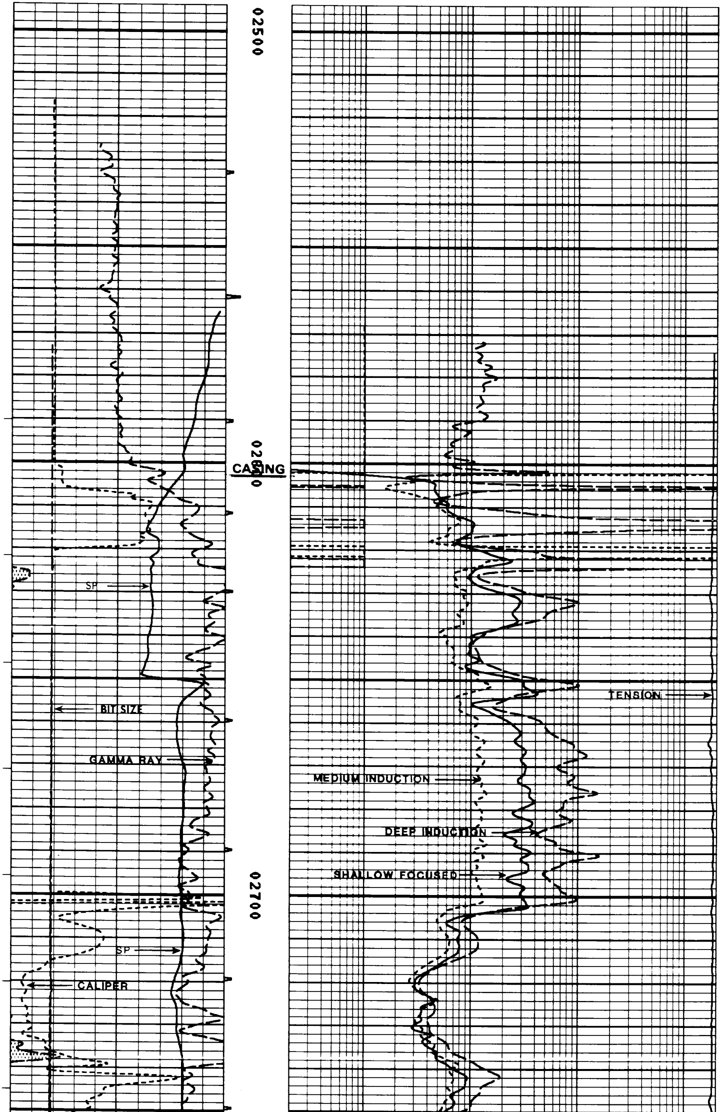
RILM(OHMM) 0.2 2000

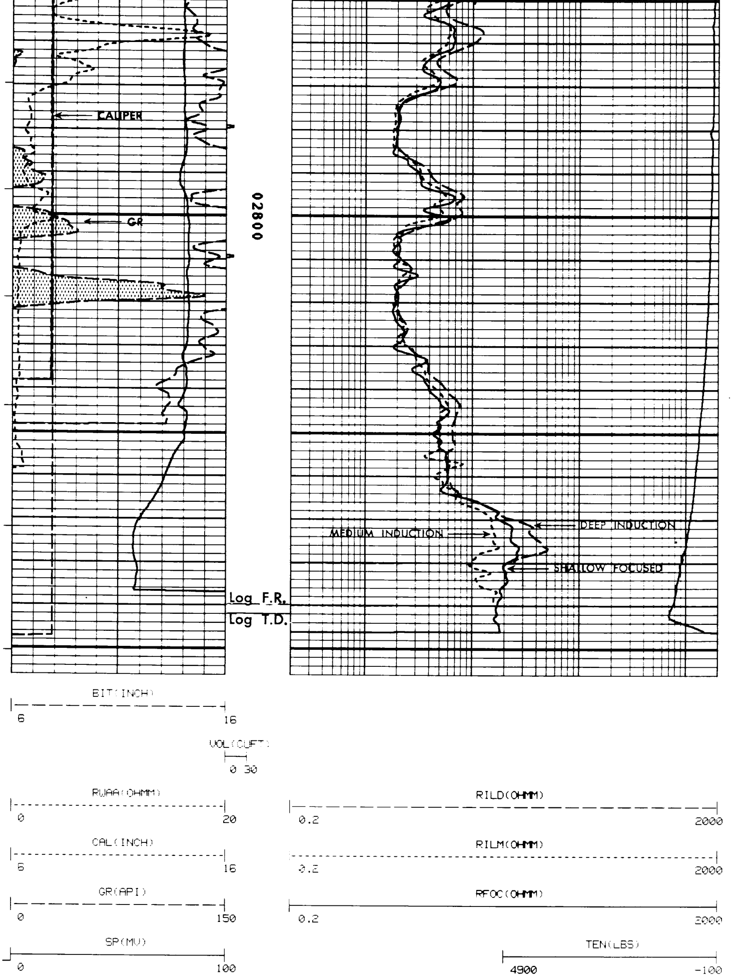
GR(API) 0 150

RFOC(OHMM) 0.2 2000

SP(MV) 0 100

TEN(LBS) 4900 -100





FILE: 3

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REPEAT SECTION

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FILE: 2

PARAMETERS

NAME	DEPTH INTERVAL	VALUE	UNITS
A	2904 TO 2532	0.620	
DEL-T F	2904 TO 2532	185.000	MICS/FT
DEL-T M	2904 TO 2532	54.000	MICS/FT
DEL-T S	2904 TO 2532	110.000	MICS/FT
M	2904 TO 2532	2.150	
O.D.	2904 TO 2532	0.000	INCH
PORA	2904 TO 2532	WYLLIE	

DISPLAY SCALE CHANGES

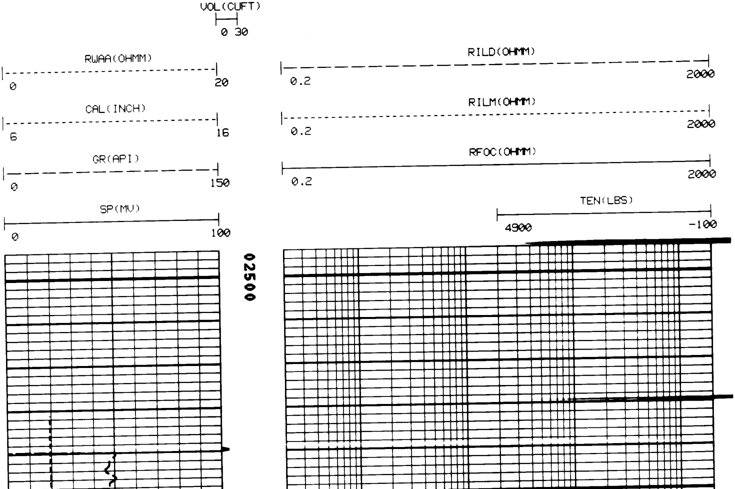
*** NONE ***

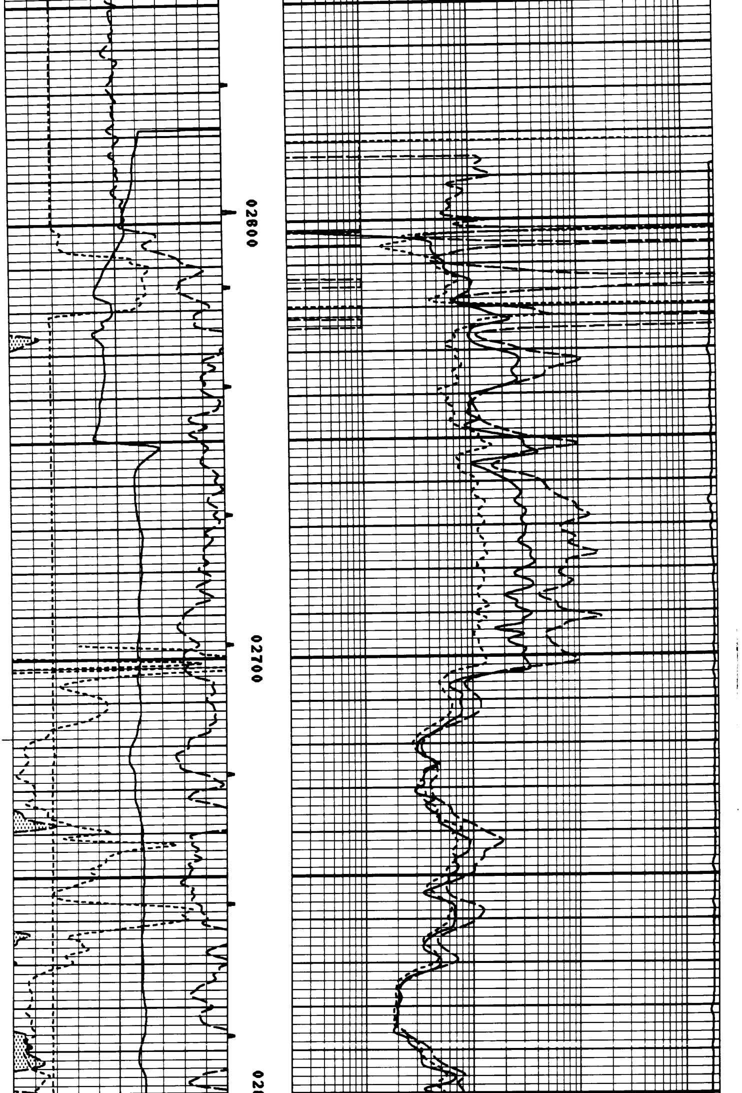
COMPANY: OREGON NATURAL GAS DEVELOPMENT CORP. RUN: 2

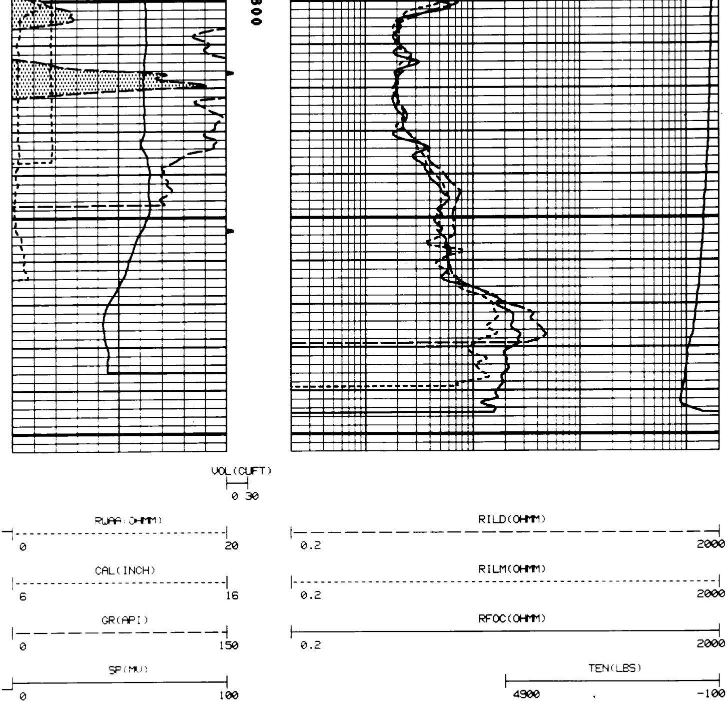
WELL NAME: IW33AC-3 TRIP: 2

SERVICE: KC214M FILE: 2 DATE: 12/03/90 TIME: 13:51:38

REVISION: FSYS256 REV:G002 VER:2.0 MODE: PLAYBACK







FILE: 2

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                    *                                      *
                    *  CALIBRATION/VERIFICATION SUMMARIES  *
                    *  DATE 12/03/90         TIME 14:43:11  *
                    *  RUN  2                TRIP 2         *
                    *                                      *
                    ****************************************


        LOG NAME DIFL    ASSET NO. 77837    UNIT NO. B⊠B0A=B△@□
     CALIBRATION ENTERED ON  12/03/90 AT 09:14:07

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

     DATE 11/21/90          CALIBRATION          TIME 18:45:20

CILD       1.1   524.4   -0.376    1.8629      0.500     500.000 MMHO
CILM      -4.3   435.4    4.470    2.2562      0.500     500.000 MMHO
CFOC       4.1   498.4   -3.130    2.4633      1.000     500.000 MMHO

     DATE 11/21/90    PRIMARY VERIFICATION     TIME 18:54:07

CILD       0.3   517.4   -0.376    1.8629     -0.143     492.126 MMHO
CILM      -0.2   498.6    4.470    2.2562      4.385     503.342 MMHO
CFOC       6.7   503.3   -3.130    2.4633      3.683     504.988 MMHO

     DATE 12/03/90   BEFORE LOG VERIFICATION   TIME 13:38:00
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CILD       0.8   507.0   -0.753    1.9030      -0.143     492.126 MMHO
CILM      -0.1   484.0    4.367    2.3247       4.385     503.343 MMHO
CFOC       6.1   507.0   -2.468    2.4420       3.683     504.988 MMHO

     DATE 12/03/90    AFTER LOG VERIFICATION    TIME 14:22:24

CILD       0.2   519.7   -0.753    1.9030      -0.560     506.148 MMHO
CILM      -0.1   500.7    4.367    2.3247       4.400     521.842 MMHO
CFOC       6.1   507.0   -2.468    2.4420       3.687     504.988 MMHO


      LOG NAME GR      ASSET NO. 72384     UNIT NO. XP$ΓCDXXDD
  CALIBRATION ENTERED ON  12/03/90 AT 09:06:46

CURVE   COUNTS/SEC.    SCALING FACTORS     ENGINEERING VALUES    UNITS
         LOW    HIGH   ADD.     MULT.        LOW        HIGH
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     DATE 11/21/90           CALIBRATION            TIME 10:21:14

GR         62.6   256.9    0.000    0.7720       0.000      150.000 API

                          PRIMARY VERIFICATION             NOT DONE

     DATE 12/03/90   BEFORE LOG VERIFICATION    TIME 09:10:33

GR         98.6   296.1    0.000    0.7720      76.119      228.551 API

     DATE 12/03/90    AFTER LOG VERIFICATION    TIME 14:40:45

GR         77.7   277.7    0.000    0.7720      59.985      214.385 API


      LOG NAME CAL     ASSET NO. 38088     UNIT NO. XP$ΓCDXXDD
  CALIBRATION ENTERED ON  12/03/90 AT 09:09:44

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

     DATE 11/21/90           CALIBRATION            TIME 10:58:36

CAL     4750.9 10054.9    0.626    0.0083       6.000       12.000 INCH

                          PRIMARY VERIFICATION             NOT DONE

     DATE 12/03/90   BEFORE LOG VERIFICATION    TIME 13:32:39

CAL        E      6404.4   0.626    0.0083       E            7.870 INCH

     DATE 12/03/90    AFTER LOG VERIFICATION    TIME 14:24:27

CAL        E      6318.7   0.626    0.0083       E            7.773 INCH
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