COUNTY	COLUMBIA
FIELD	MIST
LOCATION	1757.6S AND 733E
WELL	Raven #12A-33-75
COMPANY	Nahama & Weagant Energy Co.

Schlumberger

CEMENT EVALUATION LOG
NEUTRON

COMPANY Nahama & Weagant Energy Co.

WELL "Raven" #12A-33-75

FIELD MIST

COUNTY COLUMBIA **STATE** OREGON

LOCATION 1757.6'S AND 733'E
FROM NW CORNER

Other Services:

API SERIAL NO.	SECT.	TWP.	RANGE
36-009-000299	33	7N	5W

Permanent Datum	GL	**Elev.**	888.5 F	**Elev.:** K.B.899.0 F
Log Measured From	KB	10.5 F	**above Perm. Datum**	D.F.
Drilling Measured From	KB			G.L.888.5 F

Date	11-JUN-1993		
Run No.	ONE		
Depth Driller	2346.0 F		
Depth Logger (Schl.)	2333.0 F		
Btm. Log Interval	2326.0 F		
Top Log Interval	800.0 F		
Type Fluid in Hole	WATER		
Salinity NaCl			
Density	8.30 LB/G		
Fluid Level			
Max. Rec. Temp.	95.0 DEGF		
Deviation	14 DEG		
Logger on Bottom	12:40 11-JUN-1993		
Equip. | **Location**	8504	SACRAMENTO	
Recorded By	SCOTT PILCH		
Witnessed By	ROB LUCAS		

BOREHOLE RECORD

Bit Size	7 7 8"			
Depth	2475.0 F			

CASING & TUBING RECORD

Size	4 1 2"			
Weight	10.5000 LB/F			
Casing Top-Driller				
Casing Top-Logger				
Casing Shoe-Driller	2346.0 F			
Casing-Logger	2333.0 F			

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

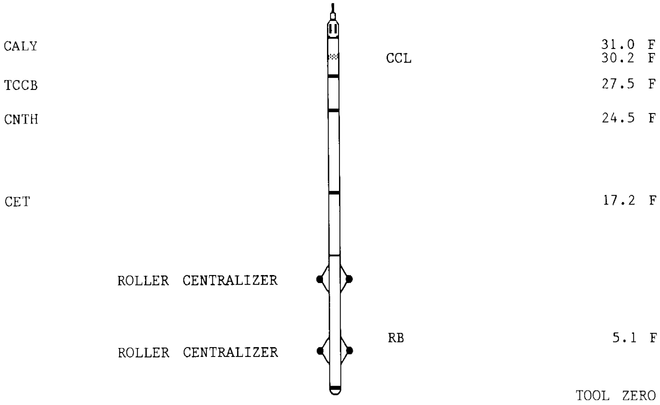
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

Run No.	ONE	
Service Order No.	454611	
Logging Speed	3000.0 F/HR	
EQUIPMENT DATA		
Tool Number 1	CESS-B 888	
Tool Number 2	CEEC-B 818	
Tool Number 3	CNC-HA 2524	
Tool Number 4	TCC-B 2886	
Tool Number 5	CAL-Y 433	
Tool Number 6	TCM-AB 1516	
Tool Number 7		
Tool Number 8		
Tool Number 9		
Tool Number 10		
Tool Number 11		
Tool Number 12		

REMARKS:

CORRELATED TO SWS CIL/BHC RUN 26-MAY-1993.

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 34.5 F.
TOTAL TOOL STRING WEIGHT IS 522. LB IN AIR.

MAIN LOG

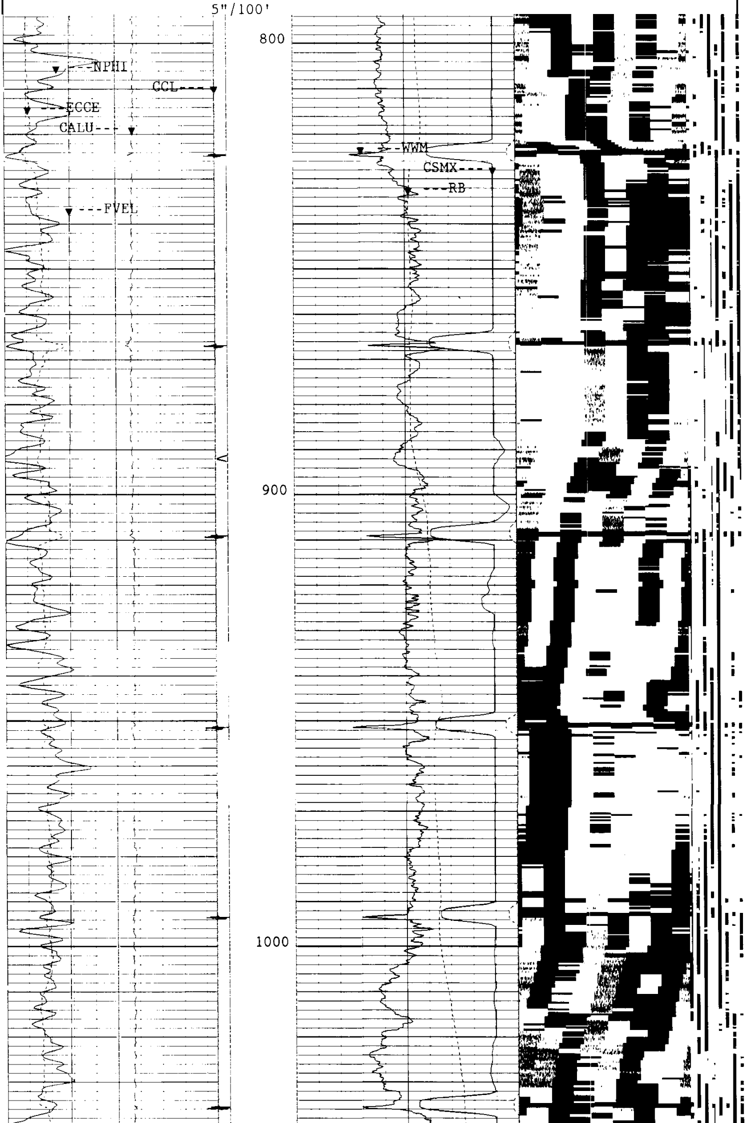
NPHI(V/V)
.60000 0.0
CCL
-19.00 1.0000
ECCE(IN)
0.0 .50000
CALU(IN)
3.5000 4.5000
FVEL(US/F)
175.00 275.00

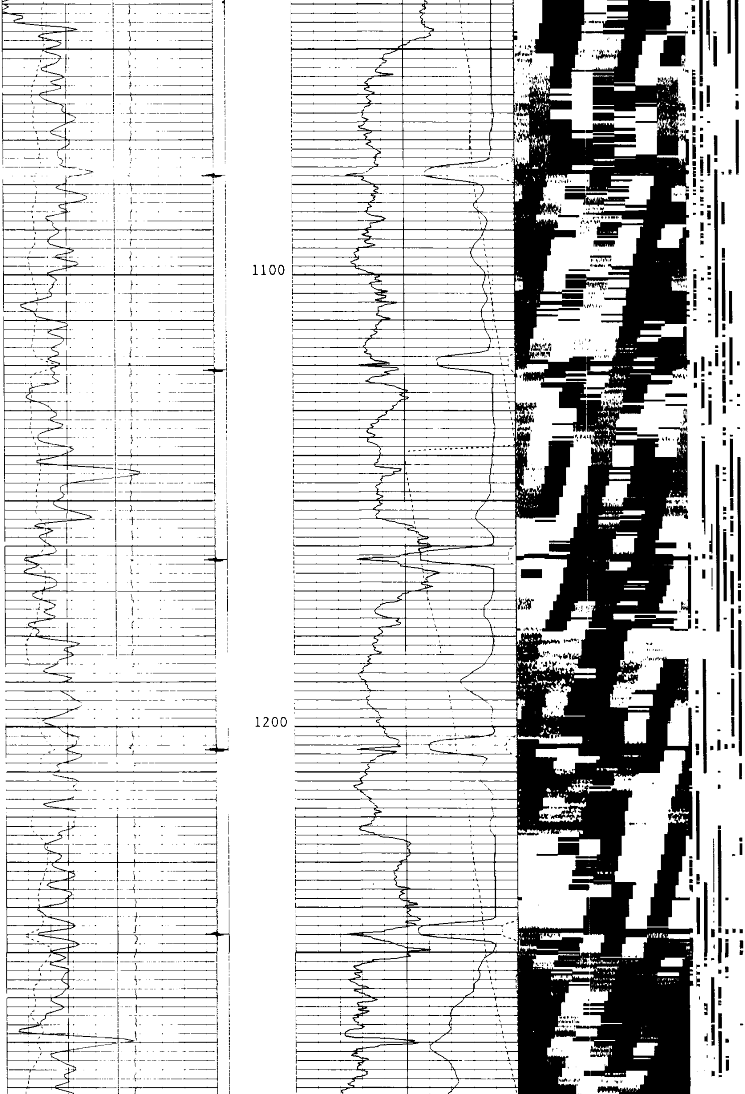
CSMX
5000.0 0.0
RB(DEG)
0.0 360.00
CSMN
5000.0 0.0
WWM
0.0 2.0000

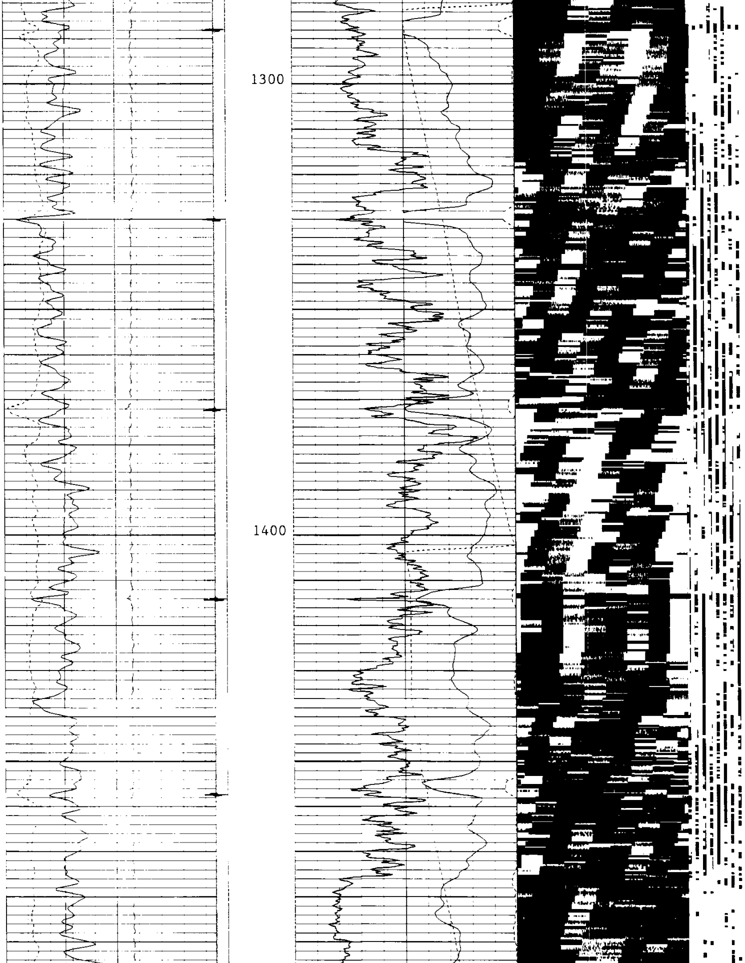
CSMN -- Z3

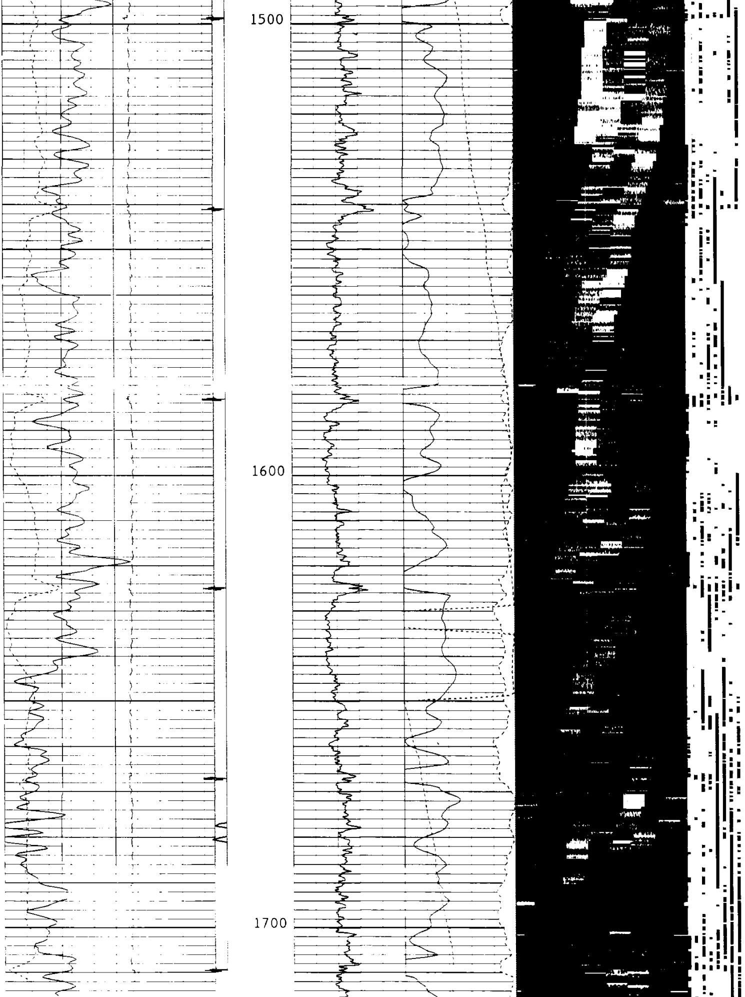
DUM5 -- DUM6

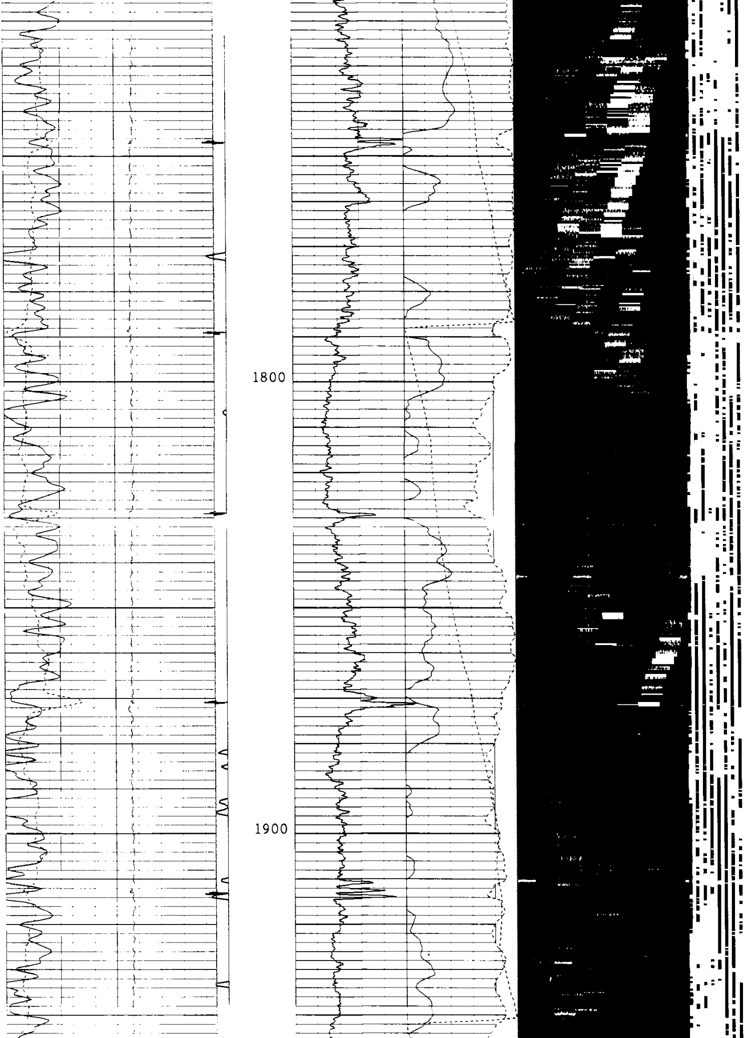
CP 38.2 FILE 4 11-JUN-1993 13:12 (UP)

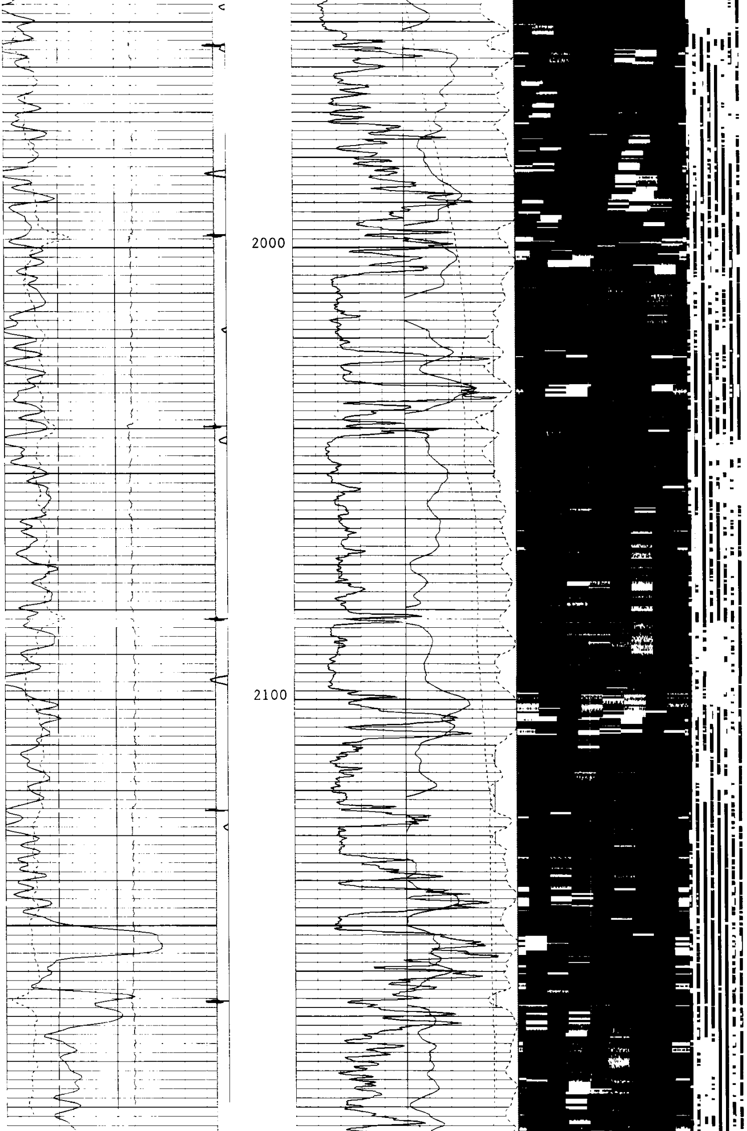


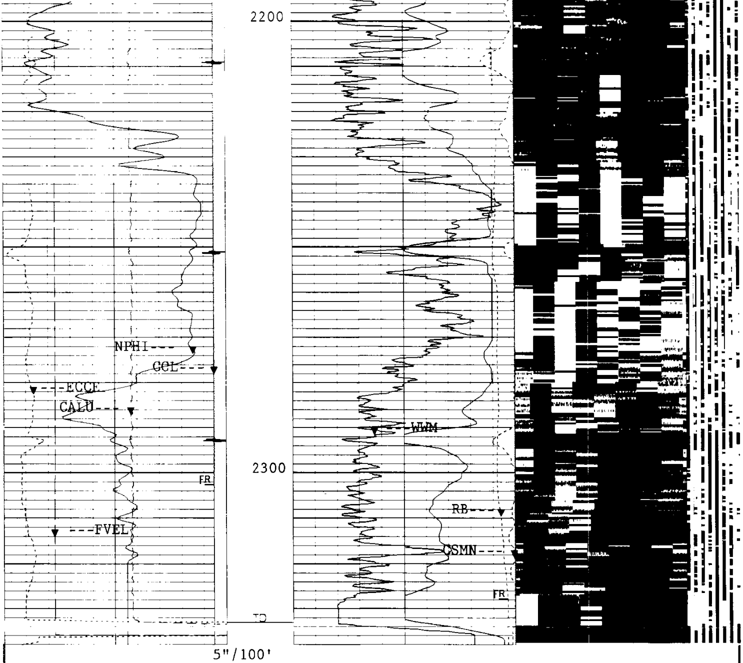












CP 38.2   FILE   4   11-JUN-1993 12:40   (UP)

CSMN -- Z3

DUM5 -- DUM6

NPHI(V/V)
.60000   0.0
CCL
-19.00   1.0000
ECCE(IN)
0.0   .50000
CALU(IN)
3.5000   4.5000
FVEL(US/F)
175.00   275.00

WWM
0.0   2.0000

CSMX
5000.0   0.0
RB(DEG)
0.0   360.00
CSMN
5000.0   0.0

SENSOR MEASURE POINT TO TOOL ZERO

CALY	30.3 FEET	DTT	1.9 FEET
CET	6.0 FEET	CNTH	20.6 FEET

PARAMETERS

PARAMETER	VALUE	UNIT
PADT - Presentation Allow Disallow Threshold	.500000	DEG
WMUD - Weight of Mud	8.30000	LB/G
AGMX - Automatic Gain Maximum of Cartridge	49.0000	DB
WEGA - Waveform Extra Gain	0.0	DB
W3FP - Window 3 in Free Pipe	1.08000	
IS2 - Integration Start for W2	14.4000	US
IL2 - Integration Length for W2	14.4000	US
TR9R - Distance from Transducer 9 to Reflector	1.70400	IN
DOT - Distance between Opposite Transducers	.925000	IN
W2FP - Window 2 in Free Pipe	.610000	
CDIA - Casing Diameter	41/2	IN
CSID - Casing Size Inner Diameter	4.05200	IN
CSW - Casing Weight	10.5	LB/F
CETS - Cement Evaluation Tool Sonde	SA	
CEEC - Cement Evaluation Electronic Cartridge	B	
MCSF - Minimum Compression Strength If Formation R	1000.00	
IMAR - Image Rotation	ALLO	
IMAL - Image Lower Limit	2.50000	
IMAU - Image Upper Limit	3.50000	
ECCF - Eccentricity Filtering	.100000	IN
CSAV - Compressive Strength Averaging	N	
IMAO - Image Output	I	
IMAF - Image Filtering	N	
W2GS - Window 2 in Gas	1.30000	
WFVS - Waveform Vertical Sampling	6	
CMUD - Mud for CET	8.60000	LB/G
TR9O - Transducer 9 Offset	0.0	IN
CSCO - Compressive Strength Conversion Offset	3800.00	
CSCG - Compressive Strength Conversion Gain	1520.00	
CMTY - Cement Type	N	
ROT1 - Offset for Radius 1	0.0	IN
ROT2 - Offset for Radius 2	0.0	IN
ROT3 - Offset for Radius 3	0.0	IN
ROT4 - Offset for Radius 4	0.0	IN
ROT5 - Offset for Radius 5	0.0	IN
ROT6 - Offset for Radius 6	0.0	IN
ROT7 - Offset for Radius 7	0.0	IN
ROT8 - Offset for Radius 8	0.0	IN
LAO9 - Log Amplitude Offset for Transducer 9	-65.0000	DB
W2C9 - W2 Correction for Transducer 9	1.00000	
W3C9 - W3 Correction for Transducer 9	1.00000	
IDSL - Defn not found	CSID	
DPPM - Density/Porosity Processing Mode	STAN	
MATR - Matrix	SAND	
HC - Hole Correction Origin	BS	
NPDC - Neutron Alpha Process Depth Constant	0	
HSCO - Hole Size Correction Option	YES	
SOCO - Stand Off Correction Option	NO	
MCCO - Mud Cake Correction Option	NO	
BSCO - Borehole Salinity Correction Option	NO	
FSCO - Formation Salinity Correction Option	NO	
MWCO - Mud Weight Correction Option	NO	
PTCO - Pressure Temperature Correction Option	NO	
CCCO - Casing & Cement Correction Option for Thick	NO	
SDAT - Standoff Data Source	SOCN	
MCOR - Mud Correction	NATU	
SOCN - Stand Off for Compensated Neutron	.500000	IN
FSAL - Formation Salinity	-50000.0	PPM
ANGL - Angle of Well	0.0	DEG
GGRD - Geothermal Gradient	.0100000	DF/F
BHFL - BoreHole Fluid Type	WATE	
FCD - Future Casing Diameter	0.0	IN
CW1 - Casing Weight 1	-50000.0	LB/F
STEM - Surface Temperature	-50000.0	DEGF
DFD - Drilling Fluid Density	-50000.0	LB/G
RMFS - Resistivity of Mud Filtrate Sample	-50000.0	OHMM
RMS - Resistivity of Mud Sample	-50000.0	OHMM
MST - Mud Sample Temperature	-50000.0	DEGF
MFST - Mud Filtrate Sample Temperature	-50000.0	DEGF
BS - Bit Size	7.87500	IN
BHS - BoreHole Status (Open or Cased)	CASE	

REPEAT SECTION

NPHI(V/V)
60000 0.0
CCL
-19.00 1.0000
ECCE(IN)
0.0 50000
CALU(IN)
3.5000 4.5000
FVEL(US/F)
175.00 275.00

WWM
0.0 2.0000

CSVX
5000.0 0.0
RB(DEG)
0.0 360.00
CSMN
5000.0 0.0

CSMN -- Z3

DUM5 -- DUM6

```
CP 38.2             FILE     1       11-JUN-1993 13:03

                    INPUT FILE(S)    CREATION DATE
                         2           11-JUN-1993 12:49
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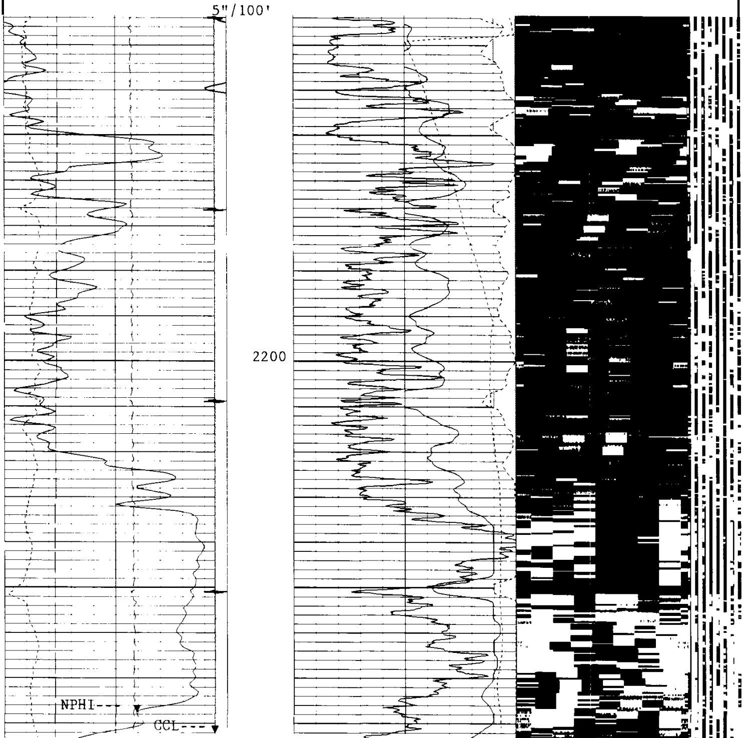
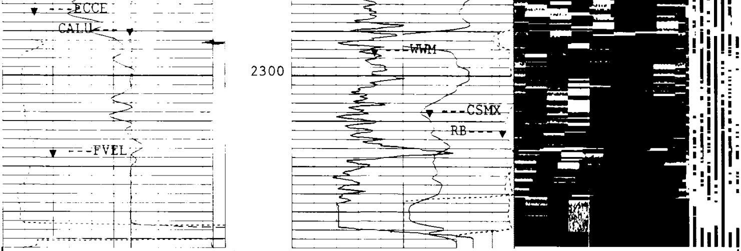




5"/100'

CP 38.2 FILE 1 11-JUN-1993 13:01

INPUT FILE(S) 2
CREATION DATE 11-JUN-1993 12:49

CSMN -- Z3
DUM5 -- DUM6

NPHI(V/V)
.60000 0.0
CCL
-19.00 1.0000
ECCE(IN)
0.0 .50000
CALU(IN)
3.5000 4.5000
FVEL(US/F)
175.00 275.00

CSMX
5000.0 0.0
RB(DEG)
0.0 360.00
CSMN
5000.0 0.0
WWM
0.0 2.0000

SENSOR MEASURE POINT TO TOOL ZERO

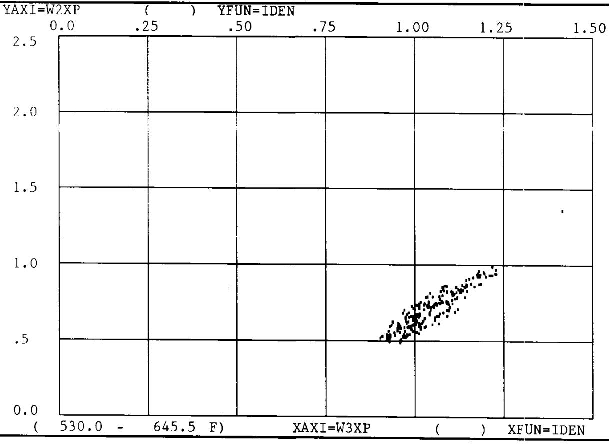
CNTC	19.6	FEET	CFTC	20.1	FEET
DEVI	5.1	FEET	RB	5.1	FEET
CCL	30.3	FEET	TENS	1.9	FEET
WTT9	3.9	FEET	TNRA	20.6	FEET
WTT8	5.8	FEET	WAG9	3.9	FEET
WTT7	4.7	FEET	WAG8	5.8	FEET
WTT6	5.3	FEET	WAG7	4.7	FEET
WTT5	6.0	FEET	WAG6	5.3	FEET
WTT4	4.8	FEET	WAG5	6.0	FEET
WTT3	5.6	FEET	WAG4	4.8	FEET
WTT2	4.4	FEET	WAG3	5.6	FEET
WTT1	5.1	FEET	WAG2	4.4	FEET
WFT9	3.9	FEET	WAG1	5.1	FEET
WFT7	4.7	FEET	WFT8	5.8	FEET
WFT5	6.0	FEET	WFT6	5.3	FEET
WFT3	5.6	FEET	WFT4	4.8	FEET
WFT1	5.1	FEET	WFT2	4.4	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT

```
PADT .500000      DEG                 PP   NORM
DO   1.00000      F                   WMUD 8.30000     LB/G
AGMX 49.0000      DB                  WEGA 0.0         DB
W3FP 1.08000                          IS2  14.4000     US
IL2  14.4000      US                  TR9R 1.70400     IN
DOT  .925000      IN                  W2FP .610000
CDIA 41/2         IN                  CSID 4.05200     IN
CSW  10.5         LB/F                CETS SA
CEEC B                                MCSF 1000.00
IMAR ALLO                             IMAL 2.50000
IMAU 3.50000                          ECCF .100000     IN
CSAV N                                IMAO I
IMAF N                                W2GS 1.30000
WFVS 6                                CMUD 8.60000     LB/G
TR9O 0.0          IN                  CSCO 3800.00
CSCG 1520.00                          CMTY N
ROT1 0.0          IN                  ROT2 0.0         IN
ROT3 0.0          IN                  ROT4 0.0         IN
ROT5 0.0          IN                  ROT6 0.0         IN
ROT7 0.0          IN                  ROT8 0.0         IN
LAO9 -65.0000     DB                  W2C9 1.00000
W3C9 1.00000                          IDSL CSID
DPPM STAN                             MATR SAND
HC   BS                               NPDC 0
HSCO YES                              SOCO NO
MCCO NO                               BSCO NO
FSCO NO                               MWCO NO
PTCO NO                               CCCO NO
SDAT SOCN                             MCOR NATU
SOCN .500000      IN                  FSAL -50000.0    PPM
ANGL 0.0          DEG                 GGRD .0100000    DF/F
BHFL WATE                             FCD  0.0         IN
CW1  -50000.0     LB/F                STEM -50000.0    DEGF
DFD  -50000.0     LB/G                RMFS -50000.0    OHMM
RMS  -50000.0     OHMM                MST  -50000.0    DEGF
MFST -50000.0     DEGF                BS   7.87500     IN
BHS  CASE
```

W2/W3 CROSS PLOT



COMPANY	Nahama & Weagant Energy Co.	SCHL.	FR	2326.0 F
		SCHL.	TD	2333.0 F

WELL	"Raven" #12A-33-75			DRLR.	TD	2346.0 F
FIELD	MIST			Elev:	KB	899.0 F
					DF	
COUNTY	COLUMBIA	**STATE**	OREGON		GL	888.5 F

Schlumberger

CEMENT EVALUATION LOG
NEUTRON