Schlumberger

CEMENT EVALUATION LOG

COUNTY Columbia
FIELD Mist
LOCATION 1780'S AND 290'E
WELL "Buzzard" #'2-35-65
COMPANY Nahama & Weagant Energy Company

COMPANY	Nahama & Weagant Energy Company		
WELL	LF 8 "Buzzard" #12-35-65		
FIELD	Mist		
COUNTY	Columbia	**STATE**	Oregon

LOCATION				Other Services:
1780'S AND 290'E FROM NW CORNER				CBL/CNI
API SERIAL NO.	SECT.	TWP.	RANGE	
36-009-00301	35	6N	5W	

Permanent Datum	GL	Elev.	800.0 F	Elev.: K.B. 810.0 F
Log Measured From	KB	10.0 F	above Perm. Datum	D.F.
Drilling Measured From	KB			G.L. 800.0 F

Date	18-JUN-1993		
Run No.	ONE		
Depth Driller	1675.0 F		
Depth Logger (Schl.)	1670.0 F		
Btm. Log Interval	1654.0 F		
Top Log Interval	650.0 F		
Type Fluid in Hole	LEASE WATER		
Salinity NaCl			
Density	8.30 LB/G		
Fluid Level			
Max. Rec. Temp.			
Deviation			
Logger on Bottom	09:32 18-JUN-1993		
Equip. | Location	8504	SACRAMENTO	
Recorded By	SCOTT PILCH		
Witnessed By	ROB LUCAS		

BOREHOLE RECORD

Bit Size	7 7/8"		
Depth	372.0 F		

CASING & TUBING RECORD

Size	4 1/2"		
Weight	10.5000 LB/F		
Casing Top-Driller			
Casing Top-Logger			
Casing Shoe-Driller	1675.0 F		
Casing-Logger	1676.0 F		

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

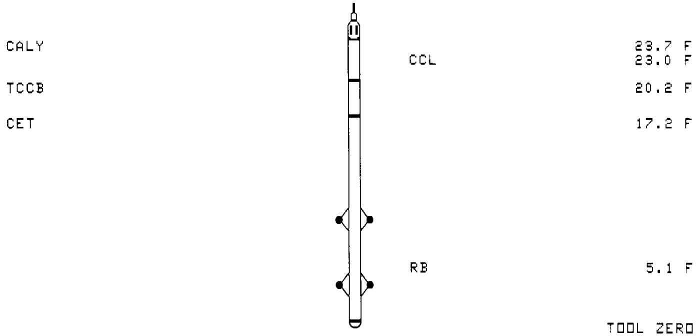
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.	454615	
Logging Speed	3600.0 F/HR	
EQUIPMENT DATA		
Tool Number 1	CEMS-B 888	
Tool Number 2	CEEC-B 883	
Tool Number 3	TCC-B 2884	
Tool Number 4	CAL-Y 433	
Tool Number 5	TCM-AB 1516	
Tool Number 6		
Tool Number 7		
Tool Number 8		
Tool Number 9		
Tool Number 10		
Tool Number 11		
Tool Number 12		

REMARKS:

CORRELATED TO SWS CBL RUN 18-JUN-1993.

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 27.2 F.
TOTAL TOOL STRING WEIGHT IS 367. LB IN AIR.

MAIN LOG

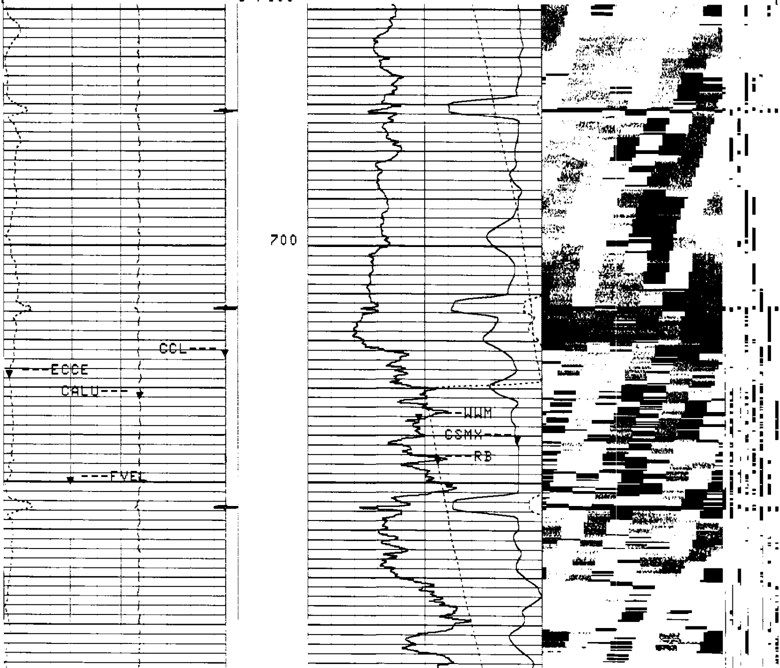
RB PRESENTATION DISALLOWED WHEN DEVI IS LESS THAN .500000 DEG

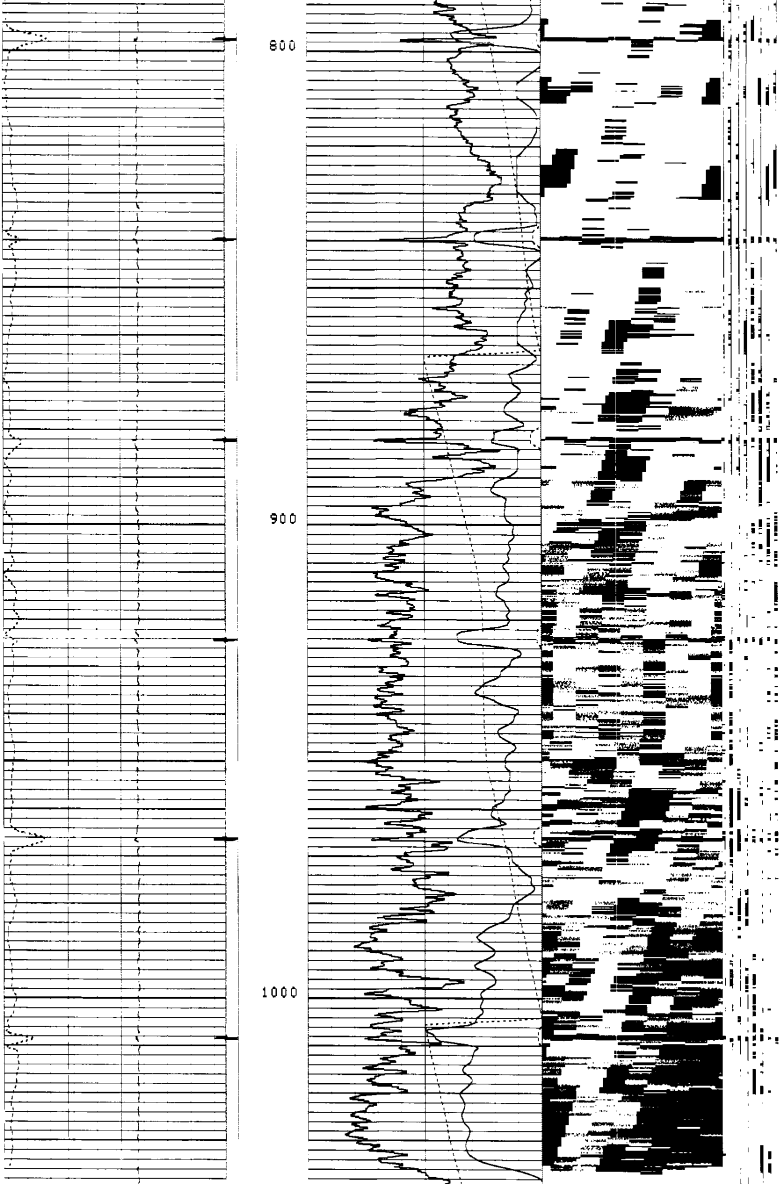
CCL -19.00 1.0000		CSMX 5000.0 0.0	
ECCE(IN) 0.0 .50000		RB(DEG) 0.0 360.00	
CALU(IN) 3.5000 4.5000		CSMN 5000.0 0.0	
FVEL(US/F) 175.00 275.00	WWM 0.0 2.0000		
		CSMN -- Z3	DJM5 -- DUM6

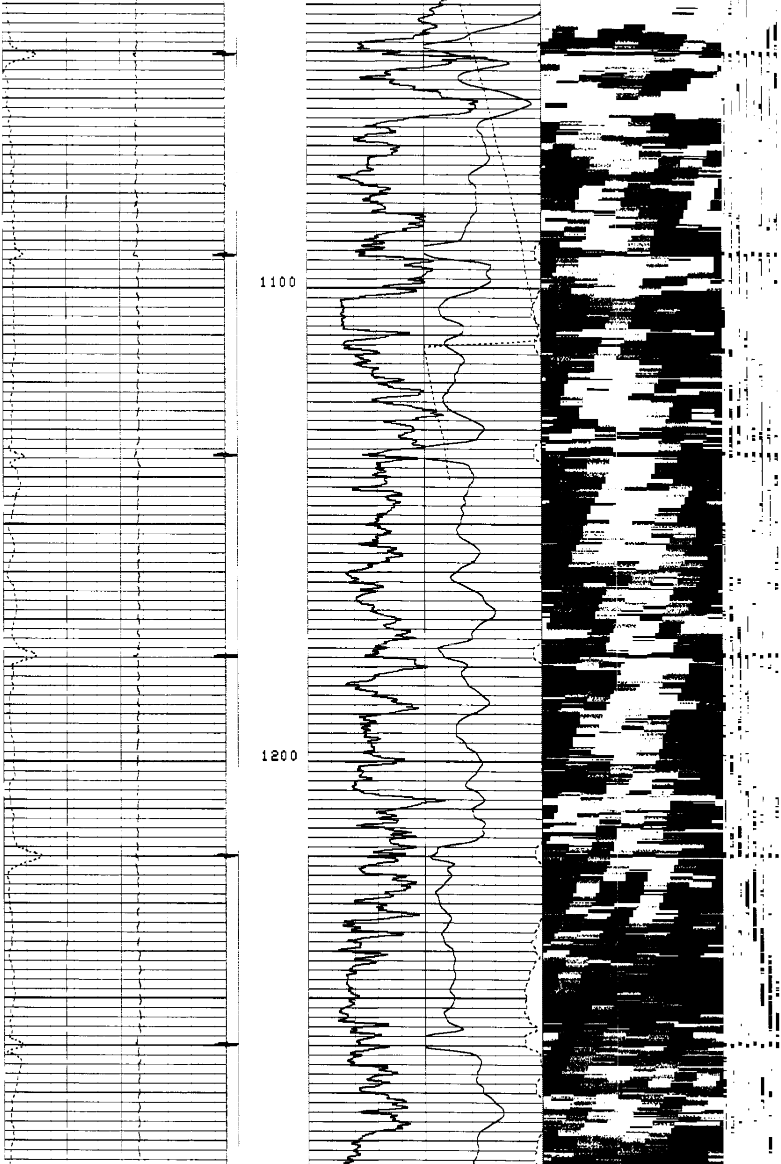
CP 38.2 FILE 7 18-JUN-1993 13:07

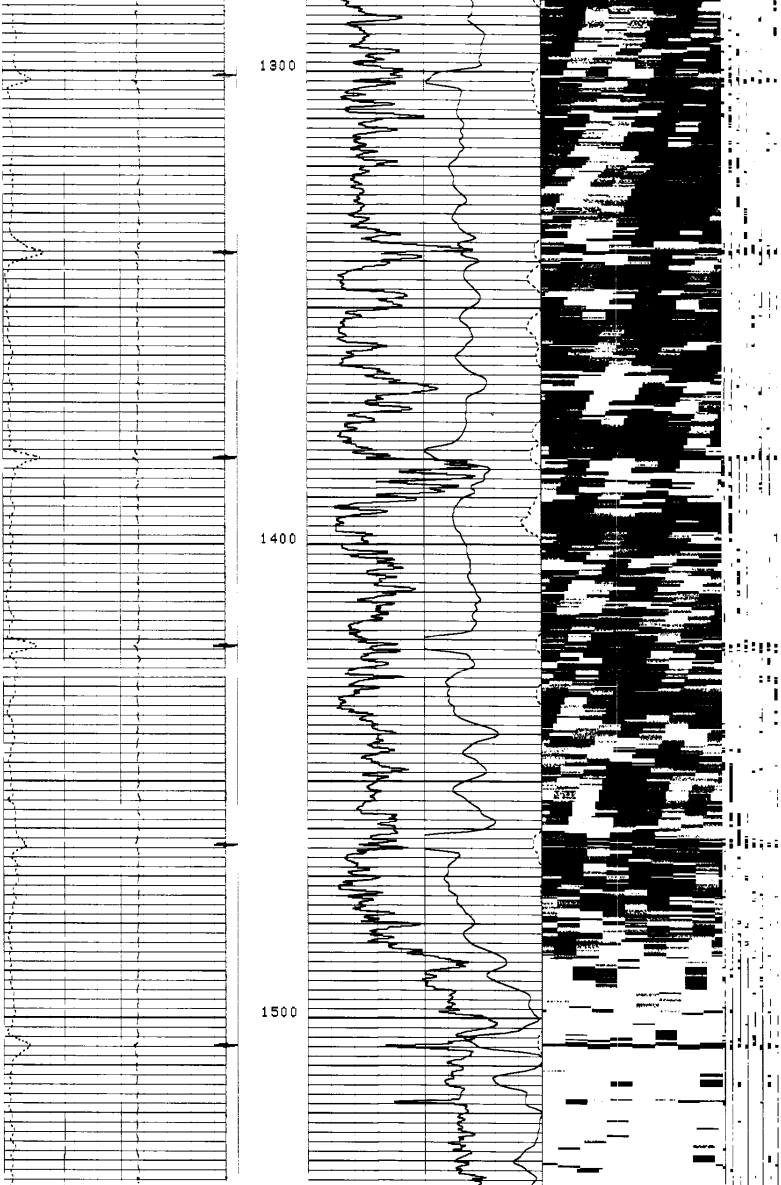
INPUT FILE(S) CREATION DATE
5 18-JUN-1993 12:26

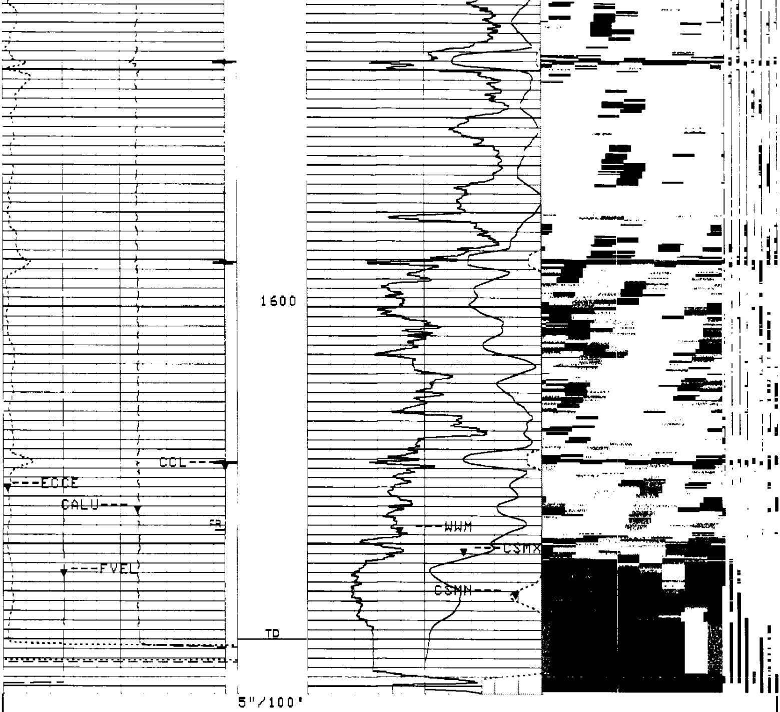
5"/100'











CP 38.2 FILE 7 18-JUN-1993 12:51

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5 18-JUN-1993 12:26

CSMN -- Z3
DUM5 -- DUM6

CCL
-19.00 .CCCC
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 23.0 FEET
CET 6.0 FEET
DTT 1.9 FEET

PARAMETERS

PARAMETER	VALUE	UNIT

```
PADT - Presentation Allow Disallow Threshold          .500000        DEG
PP   - Playback Processing                            RECO
DO   - Depth Offset for Logical Unit LI1              0.0            F
WMUD - Weight of Mud                                  8.30000        LB/G
AGMX - Automatic Gain Maximum of Cartridge            40.0000        DB
WEGA - Waveform Extra Gain                            0.0            DB
W3FP - Window 3 in Free Pipe                          1.06000
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                          .690000
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 R1000.00
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
FCD  - Future Casing Diameter                         0.0            IN
BS   - Bit Size                                       7.87500        IN
BHS  - BoreHole Status (Open or Cased)                CASE
```

REPEAT SECTION

RB PRESENTATION DISALLOWED WHEN DEVI IS LESS THAN .500000 DEG

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

DUM6 -- DUM6

CP 38.2 FILE 9 18-JUN-1993 13:37

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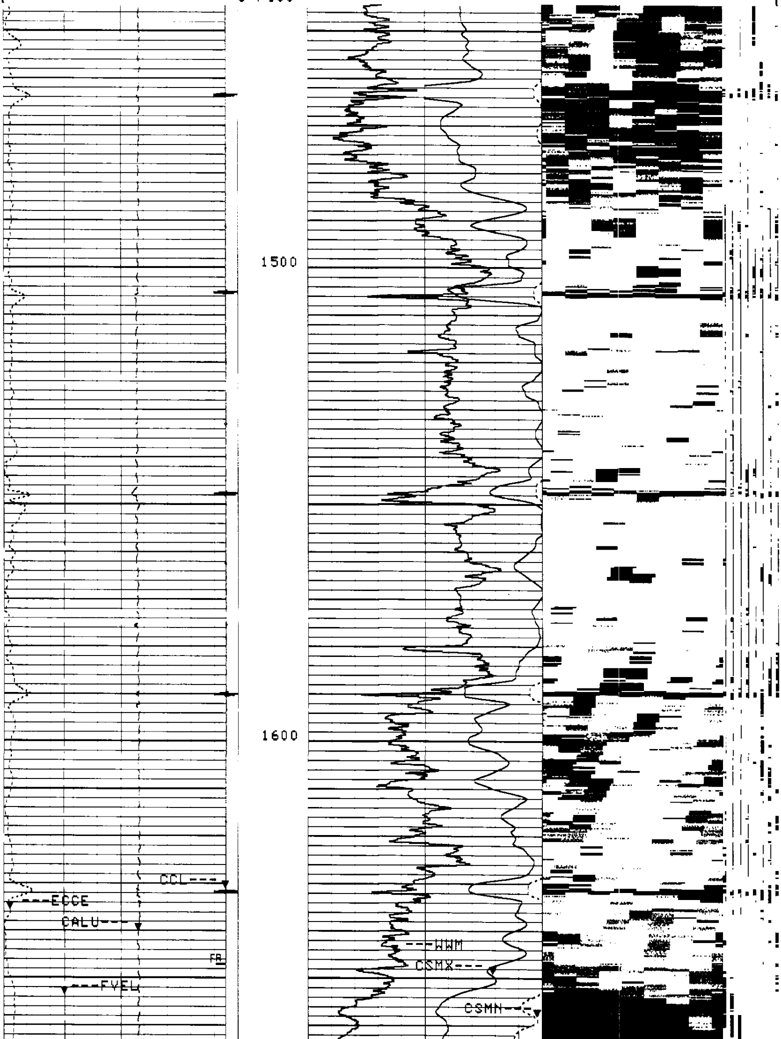
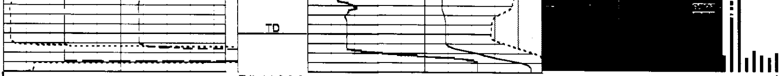
4 18-JUN-1993 11:54

5"/100'





5"/100'

CP 38.2 FILE 9 18-JUN-1993 13:34

INPUT FILE(S) CREATION DATE
4 18-JUN-1993 11:54

CSMN -- Z3
DUM5 -- DUM6

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 23.0 FEET
CET 6.0 FEET
DTT 1.9 FEET

PARAMETERS

PARAMETER	VALUE	UNIT
PADT - Presentation Allow Disallow Threshold	.500000	DEG
PP - Playback Processing	NORM	
DO - Depth Offset for Logical Unit LI1	0.0	F
WMUD - Weight of Mud	8.30000	LB/G
AGMX - Automatic Gain Maximum of Cartridge	40.0000	DB
WEGA - Waveform Extra Gain	0.0	DB
W3FP - Window 3 in Free Pipe	1.06000	
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	.690000	
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	R1000.00	
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	

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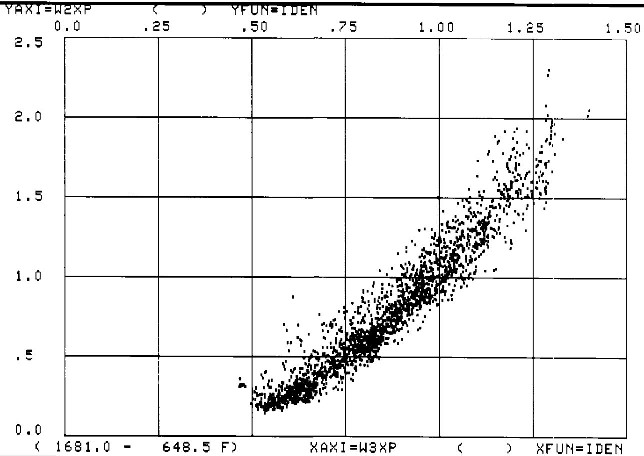
ROT1  - Offset for Radius 1                      0.0          IN
ROT2  - Offset for Radius 2                      0.0          IN
ROT3  - Offset for Radius 3                      0.0          IN
ROT4  - Offset for Radius 4                      0.0          IN
ROT5  - Offset for Radius 5                      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
FCD   - Future Casing Diameter                   0.0          IN
BS    - Bit Size                                 7.87500      IN
BHS   - BoreHole Status (Open or Cased)          CASE
```

W2/W3 CROSSPLOT

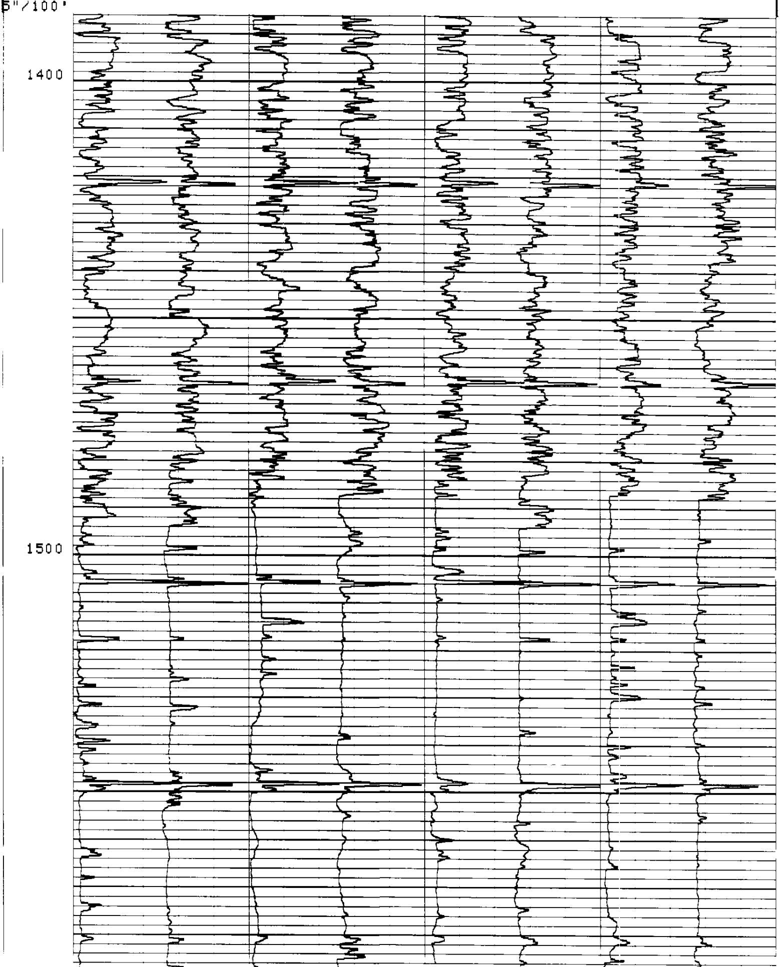


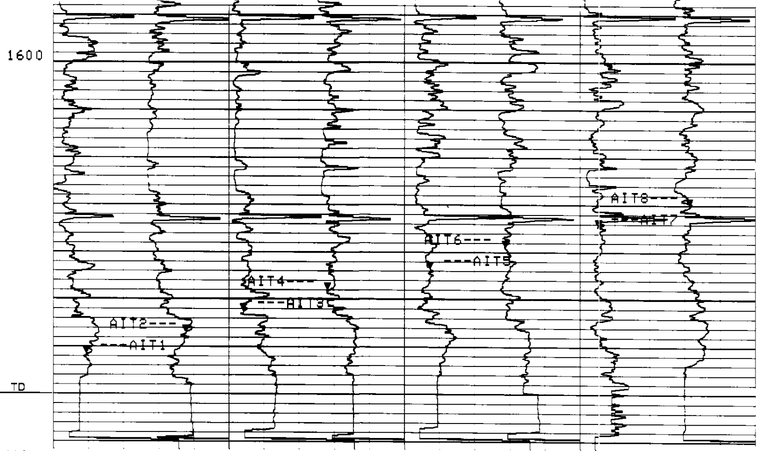
RAW TRANSDUCERS

AIT2		AIT4		AIT6		AIT8	
-10.00	10.000	-10.00	10.000	-10.00	10.000	-10.00	10.000
AIT1		AIT3		AIT5		AIT7	
0.0	20.000	0.0	20.000	0.0	20.000	0.0	20.000

CP 38.2 FILE 8 18-JUN-1993 13:28

INPUT FILE(S) CREATION DATE
7 18-JUN-1993 12:50





5"/100'

CP 38.2 FILE 8 18-JUN-1993 13:26

INPUT FILE(S) 7 CREATION DATE 18-JUN-1993 12:50

AIT2	AIT4	AIT6	AIT8
-10.00 10.000	-10.00 10.000	-10.00 10.000	-10.00 10.000
AIT1	AIT3	AIT5	AIT7
0.0 20.000	0.0 20.000	0.0 20.000	0.0 20.000

SENSOR MEASURE POINT TO TOOL ZERO

CALY 23.0 FEET
CET 6.0 FEET
DTT 1.9 FEET

PARAMETERS

PARAMETER	VALUE	UNIT
PADT - Presentation Allow Disallow Threshold	.500000	DEG
PP - Playback Processing	NORM	
DO - Depth Offset for Logical Unit LI1	0.0	F
WMUD - Weight of Mud	8.30000	LB/G
AGMX - Automatic Gain Maximum of Cartridge	40.0000	DB
WEGA - Waveform Extra Gain	0.0	DB
W3FP - Window 3 in Free Pipe	1.06000	
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	.690000	
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	

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CEEC - Cement Evaluation Electronic Cartridge       B
MCSF - Minimum Compression Strength If Formation R1000.00
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
FCD  - Future Casing Diameter                        0.0            IN
BS   - Bit Size                                      7.87500        IN
BHS  - BoreHole Status (Open or Cased)               CASE
```

COMPANY	Nahama & Weagant Energy Company			SCHL.	FR	1654.0 F
				SCHL.	TD	1670.0 F
WELL	"Buzzard" #12-35-65			DRLR.	TD	1675.0 F
FIELD	Mist			Elev:	KB	810.0 F
					DF	
COUNTY	Columbia	**STATE**	Oregon		GL	800.0 F

CEMENT EVALUATION LOG

Schlumberger