COMPANY	CONLEY P. SMITH OPERATING CO. (APOLLO PROGRAM)
WELL	CAVE VALLEY FEDERAL 13-10
FIELD	WILDCAT
COUNTY	LINCOLN
STATE:	NEVADA

COUNTY: LINCOLN
Field: WILDCAT
Location: NW SE
Well: CAVE VALLEY FEDERAL 13-10
Company: CONLEY P. SMITH OPERATING

Schlumberger

ARRAY SONIC LOG
MECHANICAL CALIPER LOG
GAMMA RAY

LOCATION
NW SE
1800' FSL, 1950' FEL

Elev.	K.B.	6019 F
	G.L.	6009 F
	D.F.	6018 F

Permanent Datum:	GROUND LEVEL	Elev.:	6009 F
Log Measured From:	KELLY BUSHING	10.0 F	above Perm. Datum
Drilling Measured From:	KELLY BUSHING		

API Serial No	SECTION	TOWNSHIP	RANGE
N/A	13	7N	63E

Logging Date		5-FEB-1996		
Run Number		1		
Depth Driller		4285 F		
Schlumberger Depth		4247 F		
Bottom Log Interval		4244 F		
Top Log Interval		620 F		
Casing Driller Size @ Depth		9.625 IN	@	626 F
Casing Schlumberger		620 F		
Bit Size		8.750 IN		
Type Fluid In Hole		LIQUID GEL/POLYMER		
MUD Density	Viscosity	9.2 LB/G	78 S	
Fluid Loss	PH	4.4 C3	9	
Source Of Sample		MUD TANK		
RM @ Measured Temperature		3.850 OHMM	@	50 DEGF
RMF @ Measured Temperature		2.370 OHMM	@	50 DEGF
RMC @ Measured Temperature		3.810 OHMM	@	50 DEGF
Source RMF	RMC	MEASURED	CALCULATED	
RM @ MRT	RMF @ MRT	1.573 @ 125	1.021 @ 125	
Maximum Recorded Temperature		125 DEGF		
Circulation Stopped	Time	4-FEB-1996	0:00	
Logger On Bottom	Time	5-FEB-1996	3:10	
Unit Number	Location	2018	VERNAL, UTAH	
Recorded By		K. OWEN / T. BECKER		
Witnessed By		LARRY BOUCHER		

RECEIVED
[illegible] Information Office

Logging Date		
Run Number		
Depth Driller		
Schlumberger Depth		
Bottom Log Interval		
Top Log Interval		
Casing Driller Size @ Depth		@
Casing Schlumberger		
Bit Size		
Type Fluid In Hole		
MUD Density	Viscosity	
Fluid Loss	PH	
Source Of Sample		
RM @ Measured Temperature		@
RMF @ Measured Temperature		@
RMC @ Measured Temperature		@
Source RMF	RMC	
RM @ MRT	RMF @ MRT	@
Maximum Recorded Temperature		
Circulation Stopped	Time	
Logger On Bottom	Time	
Unit Number	Location	
Recorded By		
Witnessed By		

Run 1	Run 2	Run 3	Run 4

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 INTERPRETATION 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

OTHER SERVICES1	OTHER SERVICES2
OS1:	OS1
OS2:	OS2
OS3:	OS3
OS4:	OS4
OS5:	OS5
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
2 STANDOFFS AND 2 CMEZS RUN ON SONIC WITH MCDG BELOW	
STC COMPUTATIONS WERE PERFORMED FOR DELTA T COMPRESSIONAL AND SHEAR	
THANK YOU FOR USING SCHLUMBERGER	
CREW: RIXLY AND HALL	

RUN 1			RUN 2		
SERVICE ORDER #		670129	SERVICE ORDER #		
PROGRAM VERSION		7C0-427	PROGRAM VERSION		
FLUID LEVEL			FLUID LEVEL		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

RUN 2

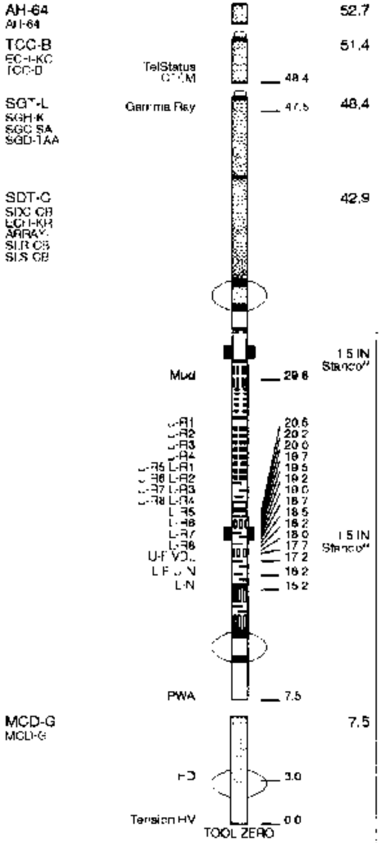
SURFACE EQUIPMENT

SIM-C
GSR U/Y
TCM AB

DOWNHOLE EQUIPMENT

PEH-A
PEH-A

54.5



MAXIMUM STRING DIAMETER 6.38 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Input DLIS Files

DEFAULT MCDG .025 FIELD 5-FEB-1996 04:28 4280.5 FT 516.2 FT

Output DLIS Files

DEFAULT MCDG .027 FN:25 FIELD 5-FEB-1996 04:43 4280.5 FT 516.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 3207.04 F3

Cement Volume = 2607.34 F3 (assuming 5.50 IN casing O.D.)

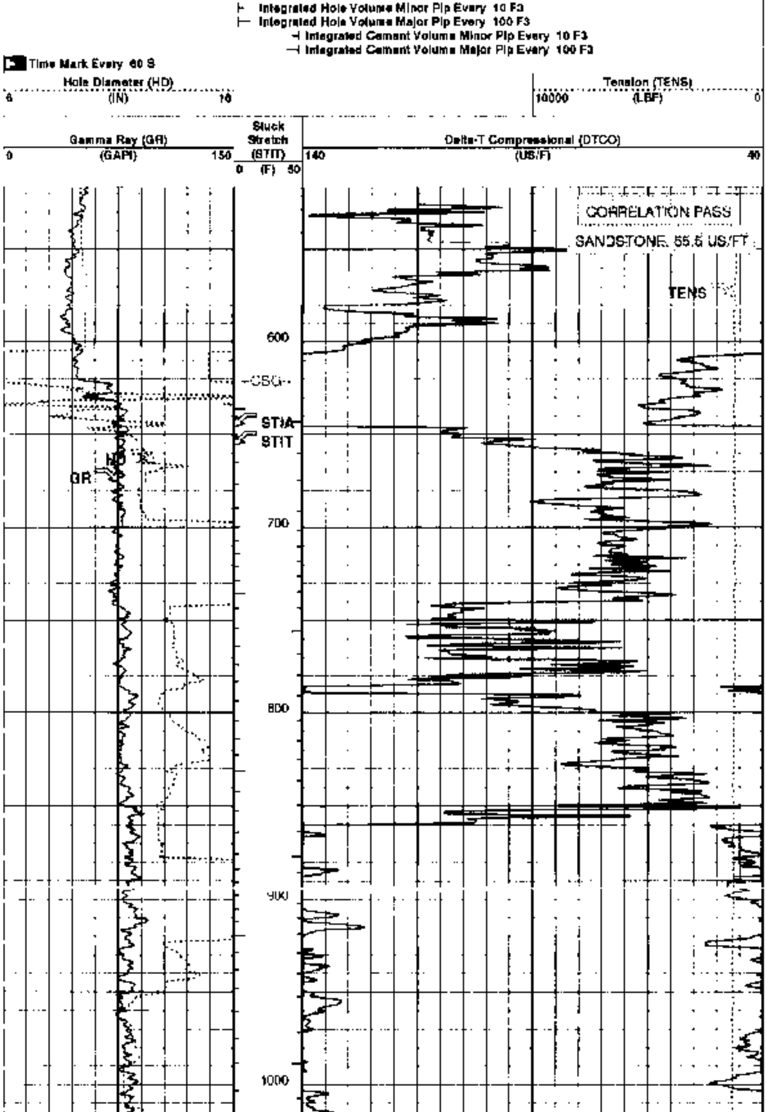
Computed from 4280.5 FT to 826.0 FT using data channel(s) HD

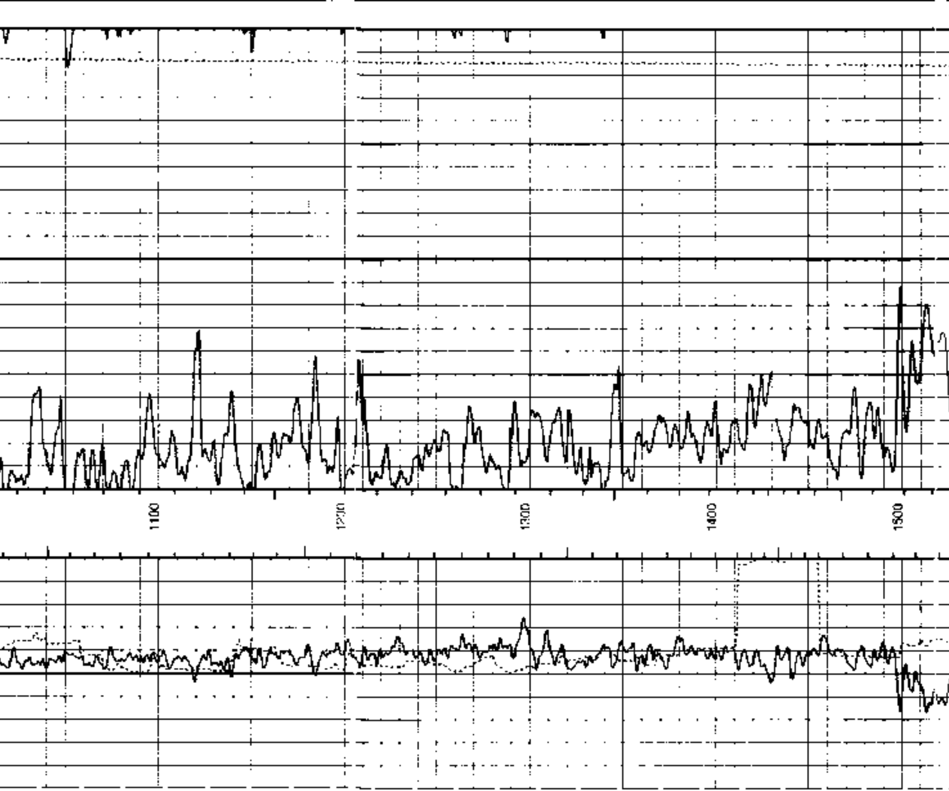
OP System Version: 7C0-427

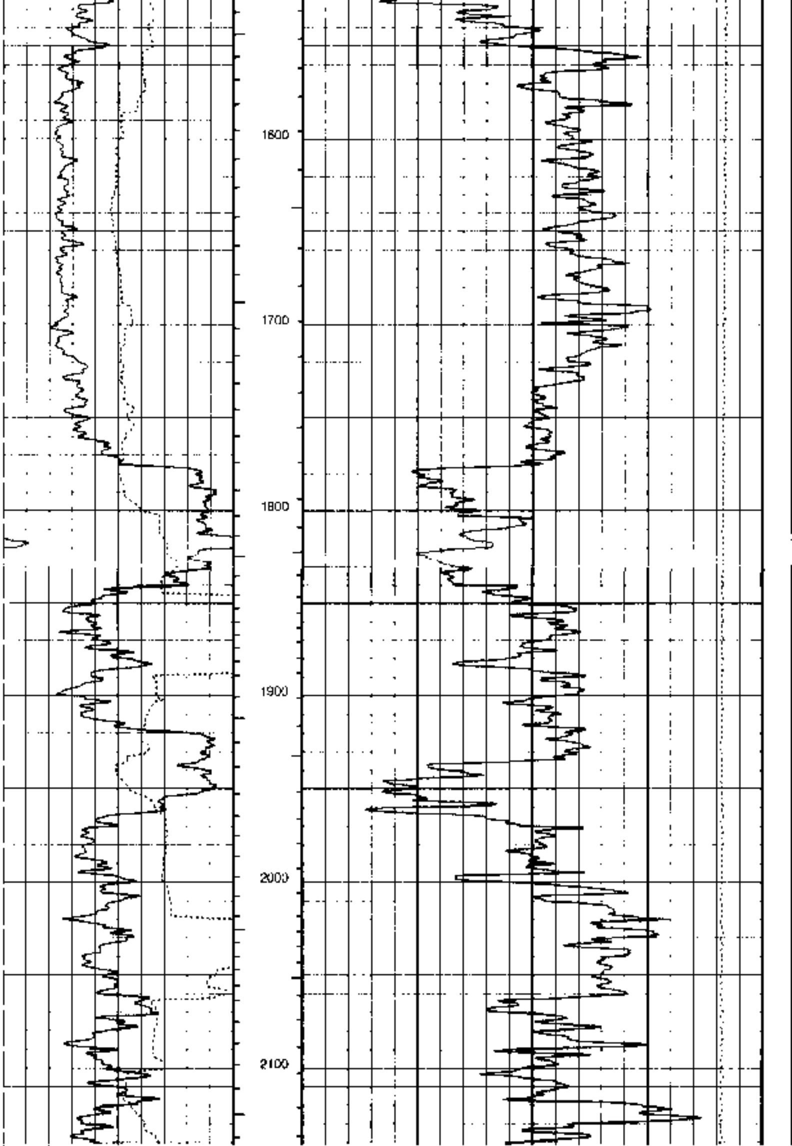
DBM

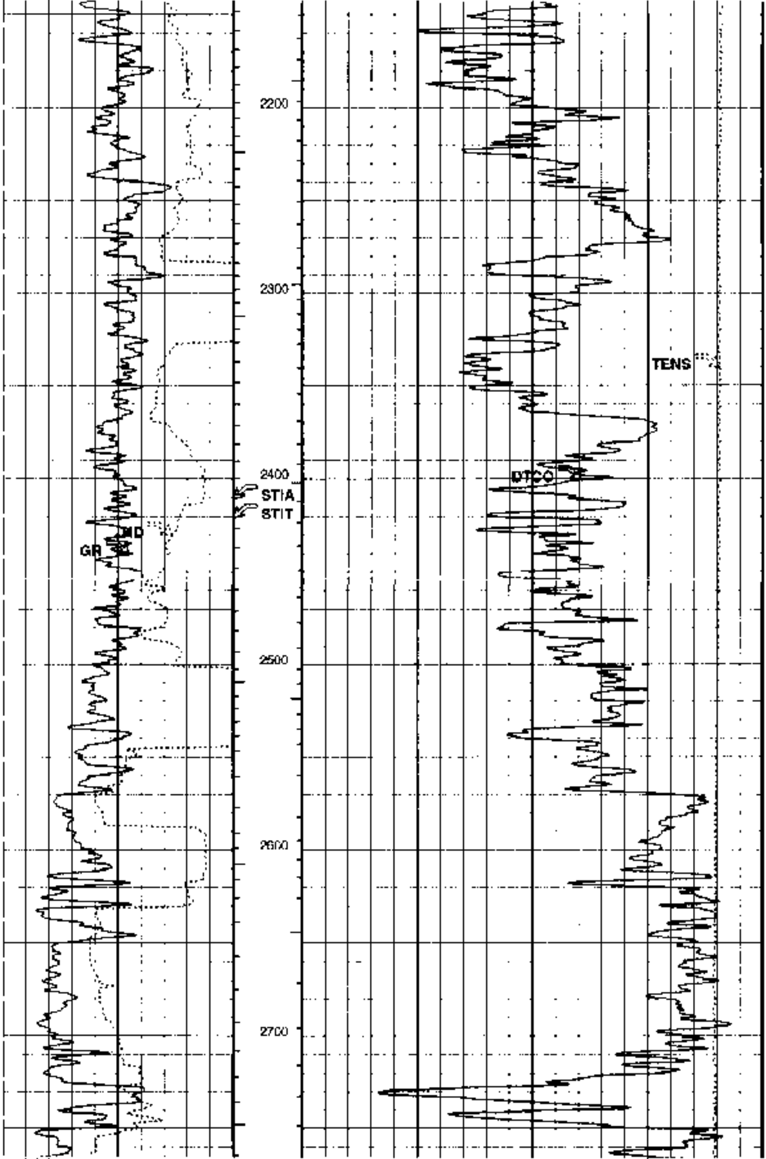
STCL 7S427KV-537 STCC 7S427KV-537

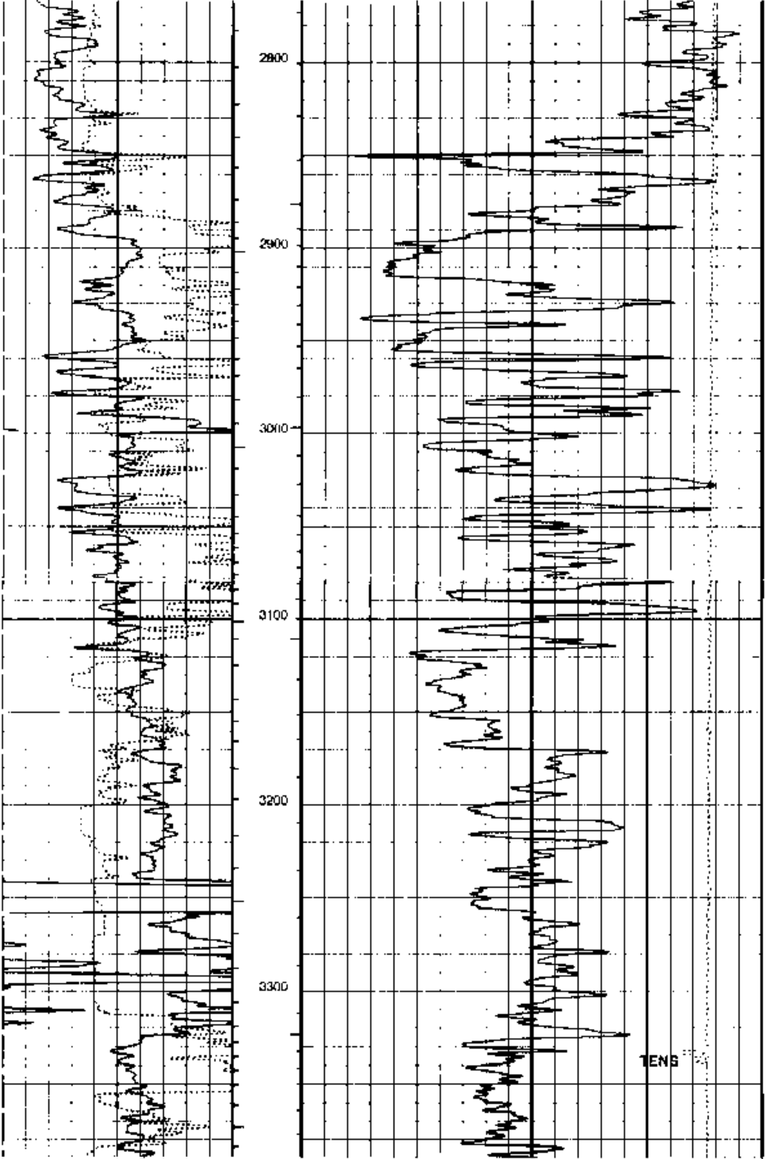
PIP SUMMARY

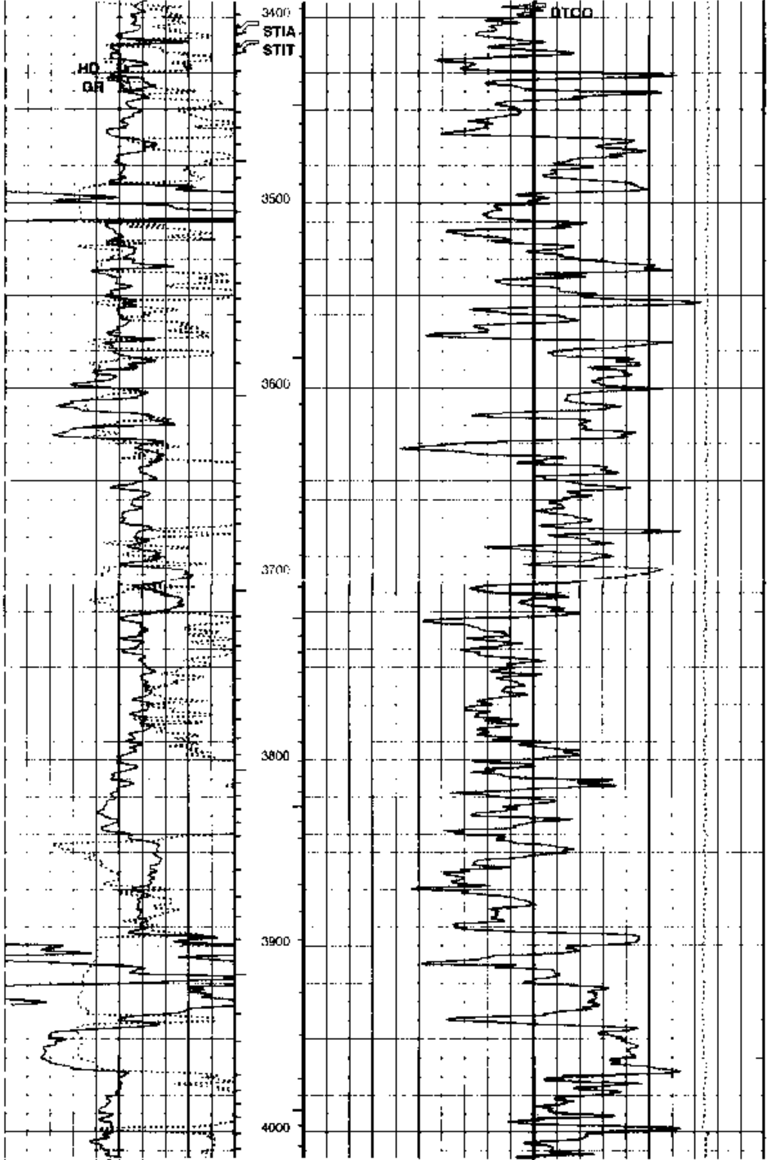


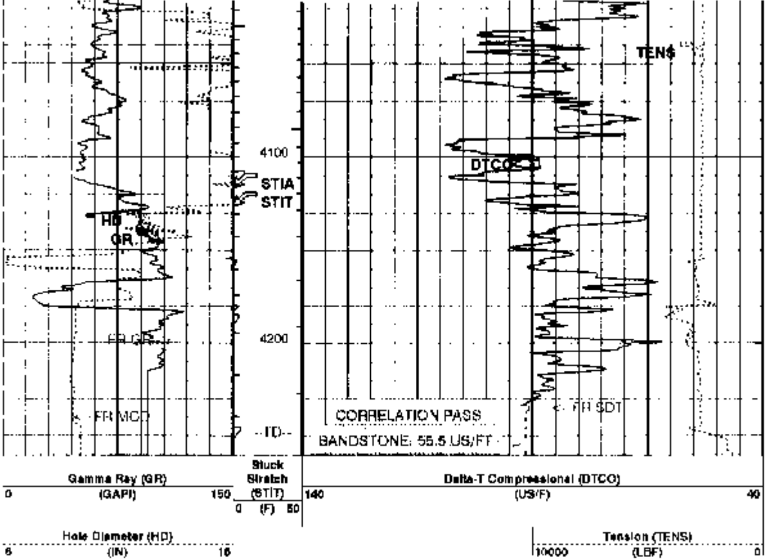












PIP SUMMARY

- ⊢ Integrated Hole Volume Minor Pip Every 10 F3
- ⊢ Integrated Hole Volume Major Pip Every 100 F3
- ⊣ Integrated Cement Volume Minor Pip Every 10 F3
- ⊣ Integrated Cement Volume Major Pip Every 100 F3

■ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
DO	Depth Offset	0.0	FT
PP	Playback Processing	NORMAL	
STKT	STI Stuck Threshold	2.5	FT

Format: STCPOR_2IN Vertical Scale: 2" per 100' Graphics File Created: 5-FEB-1998 04:43

OP System Version: 7C0-427

DBM

STCL 78427KV-537 STCC 78427KV-537

Input DLIS Files

DEFAULT	MCDG .026		FIELD	5-FEB-1998 04:28	4280.5 FT	516.2 FT

Output DLIS Files

DEFAULT	MCDG .027	FN:25	FIELD	5-FEB-1998 04:43		

Input DLIS Files

DEFAULT	MCDG .025		FIELD	5-FEB-1996 04:28	4260.5 FT	516.2 FT

Output DLIS Files

DEFAULT	MCDG .027	FN:26	FIELD	5-FEB-1996 04:40	4260.5 FT	516.6 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 3207.04 F3

Cement Volume = 2607.34 F3 (assuming 5.50 IN casing O.D.)

Computed from 4260.5 FT to 626.0 FT using data channel(s) HD

OP System Version: 7C0-427

DBM

STCL	79427KV-537	STCC	79427KV-537

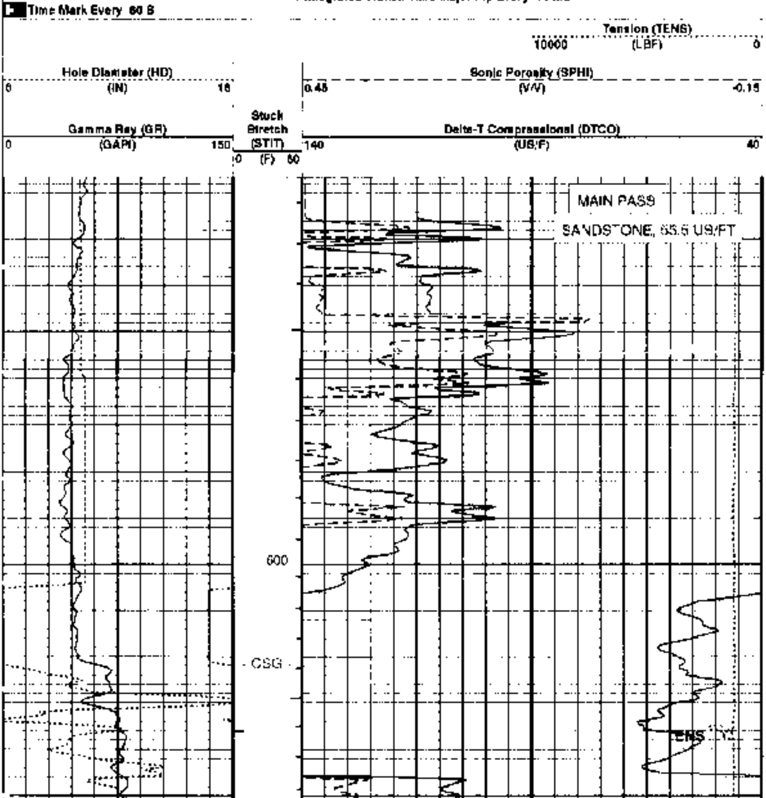
PIP SUMMARY

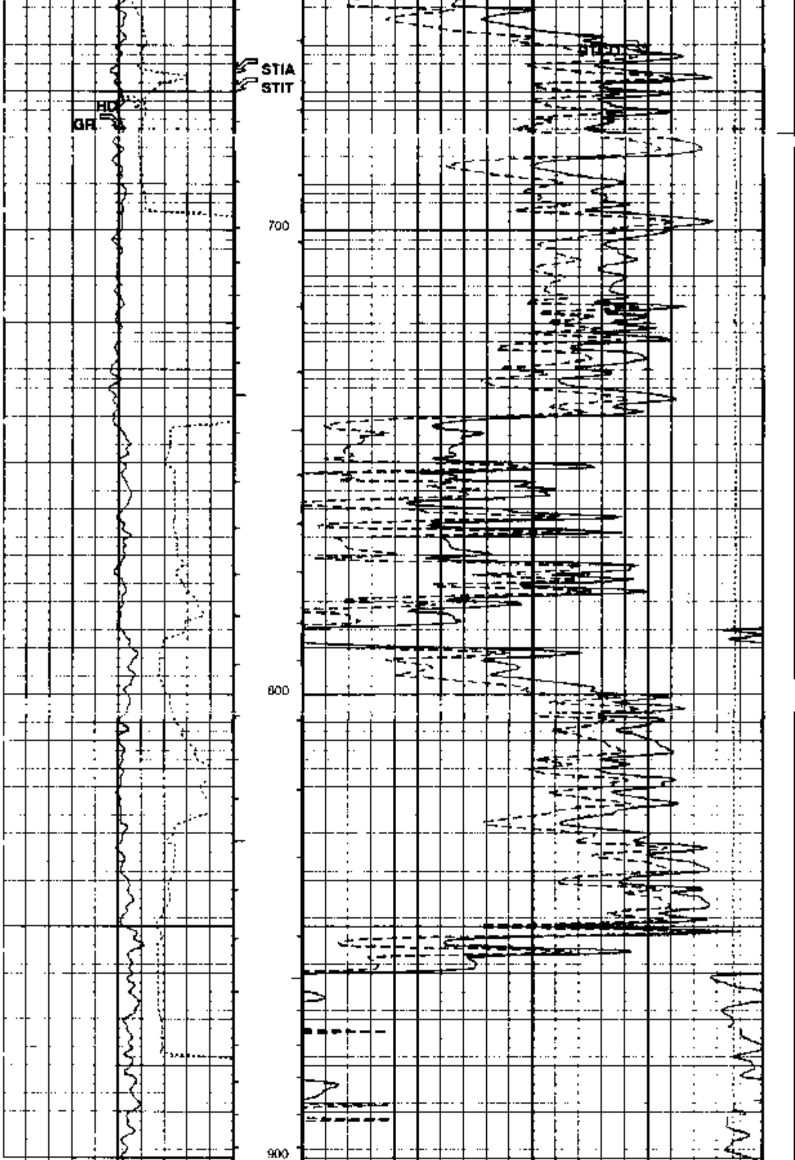
⊢ Integrated Hole Volume Minor Pip Every 10 F3

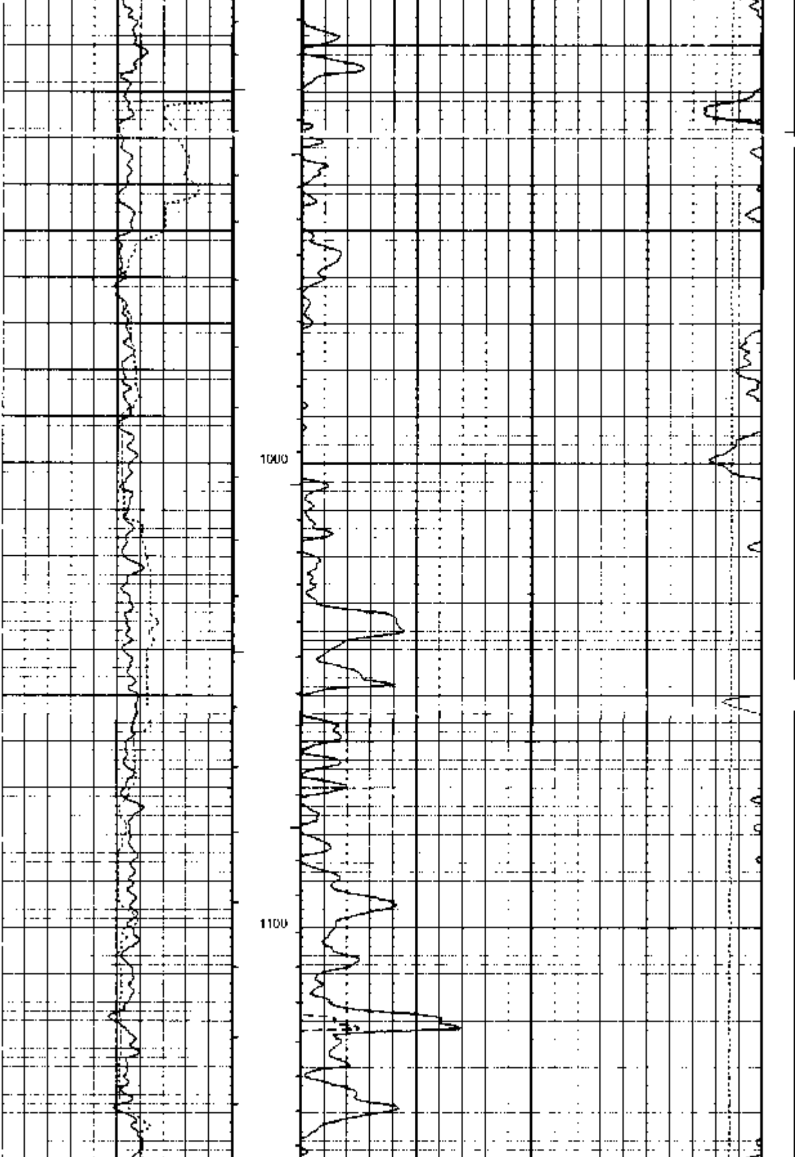
⊢ Integrated Hole Volume Major Pip Every 100 F3

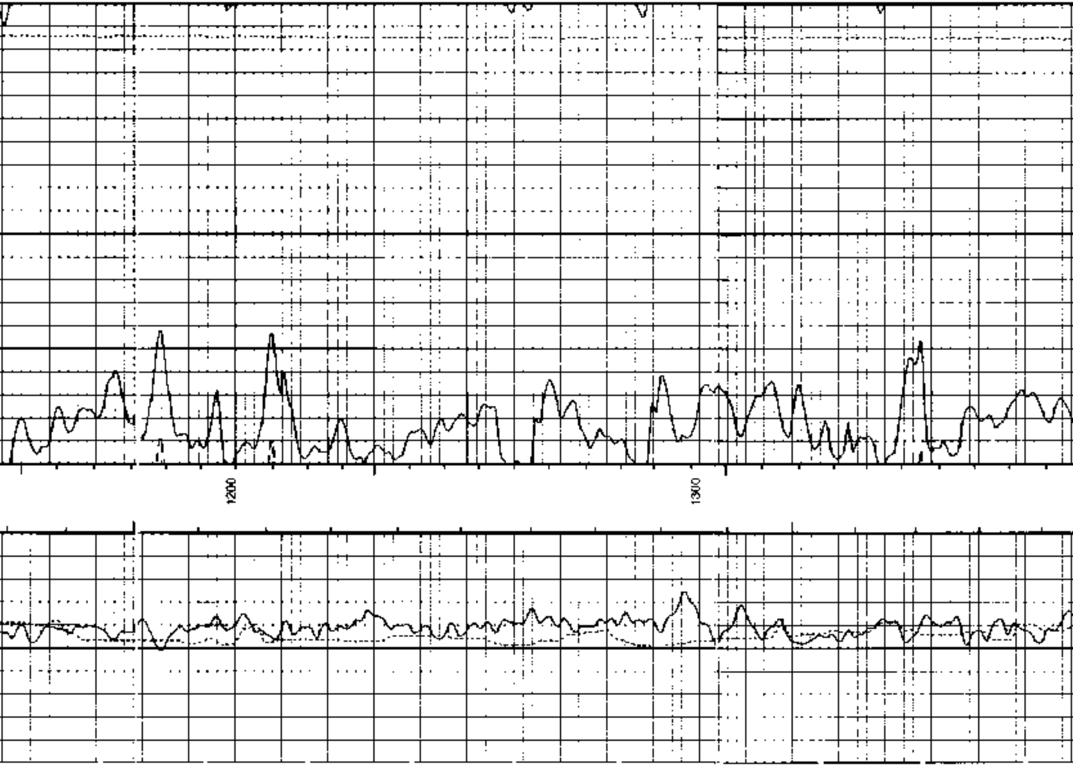
⊣ Integrated Transit Time Minor Pip Every 1 MS

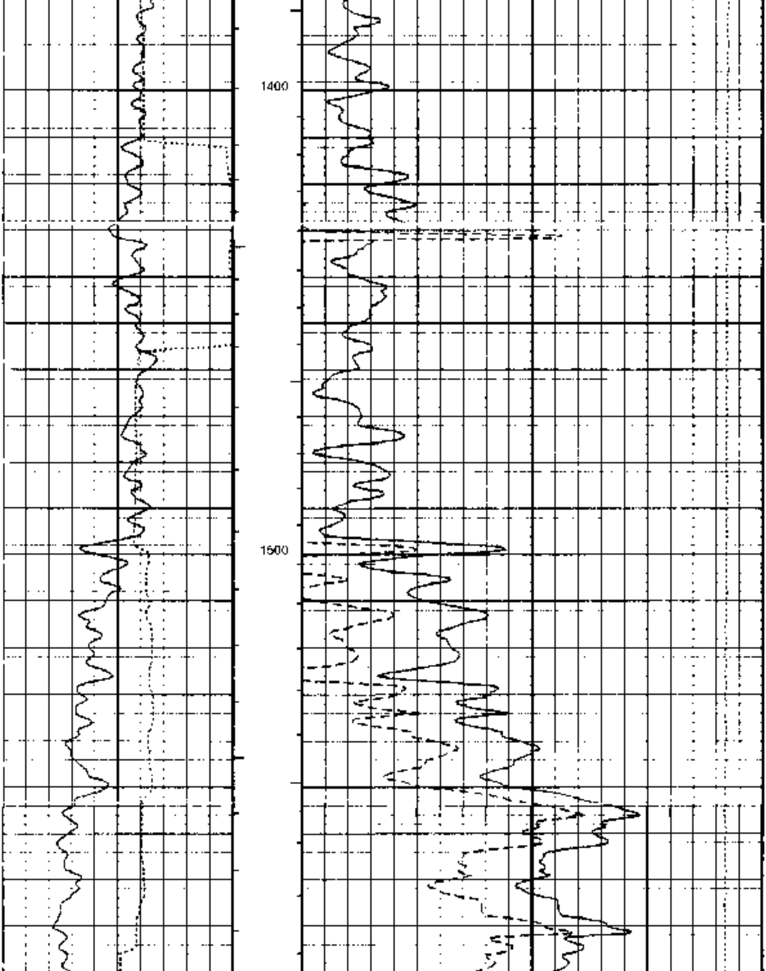
⊣ Integrated Transit Time Major Pip Every 10 MS

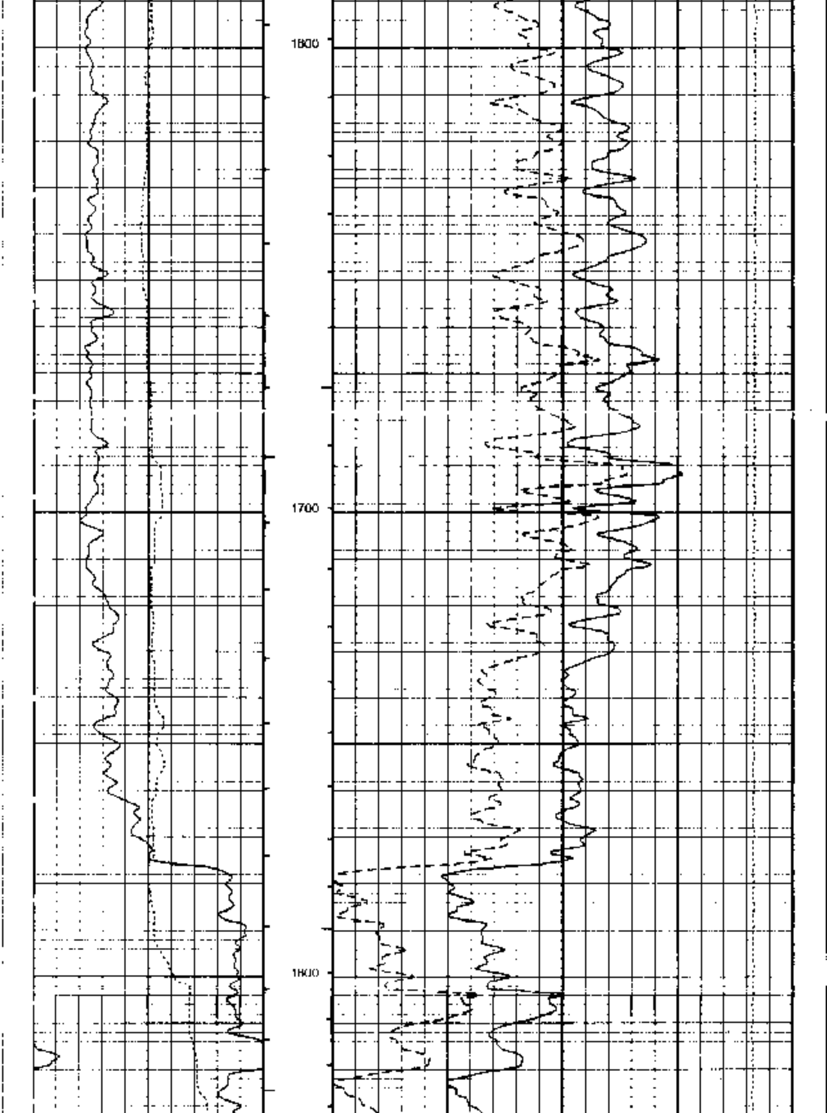


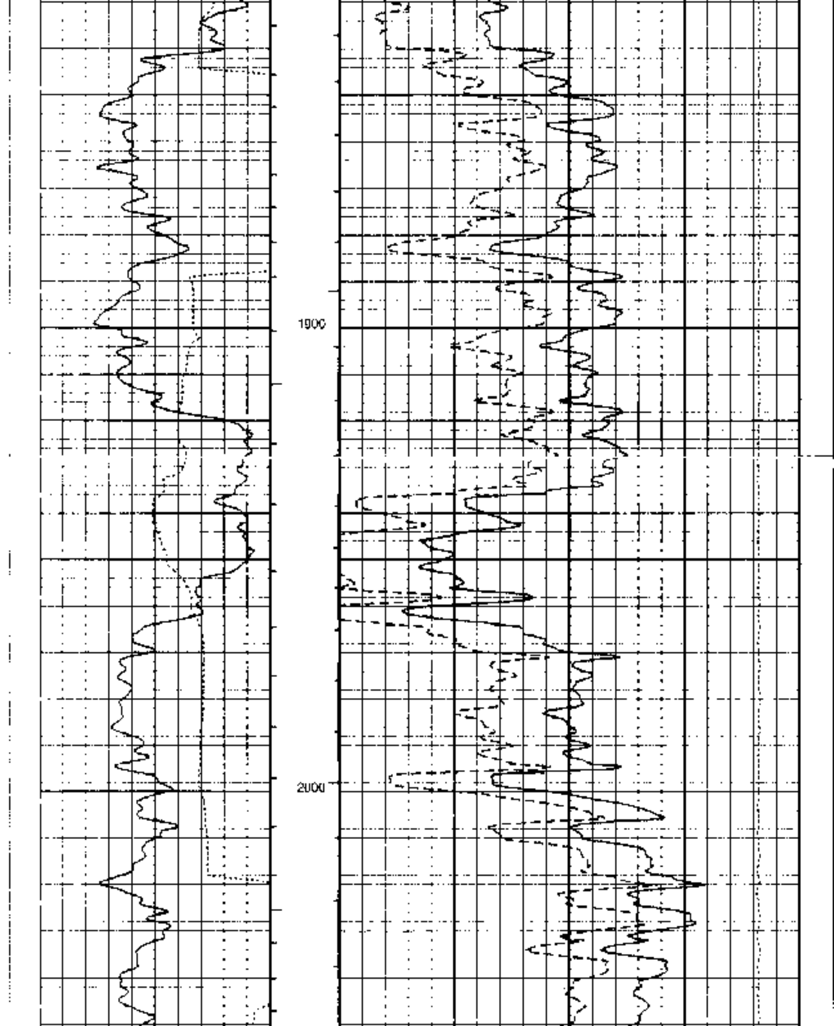


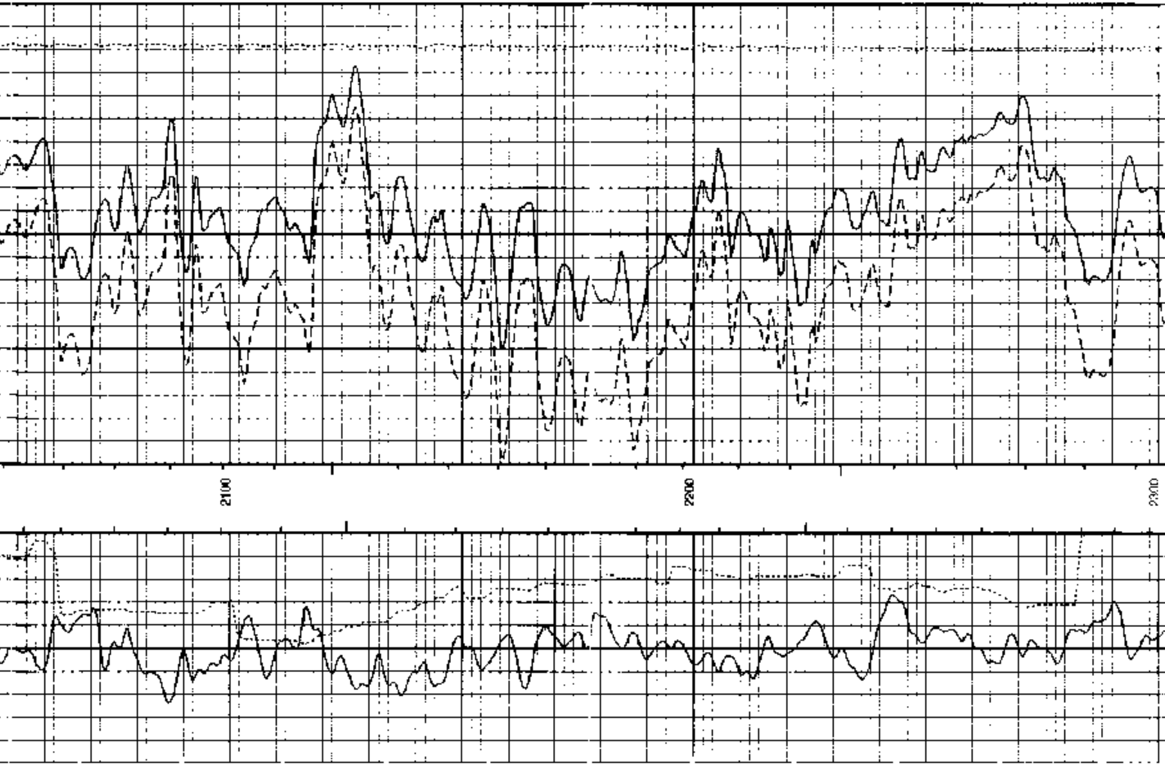


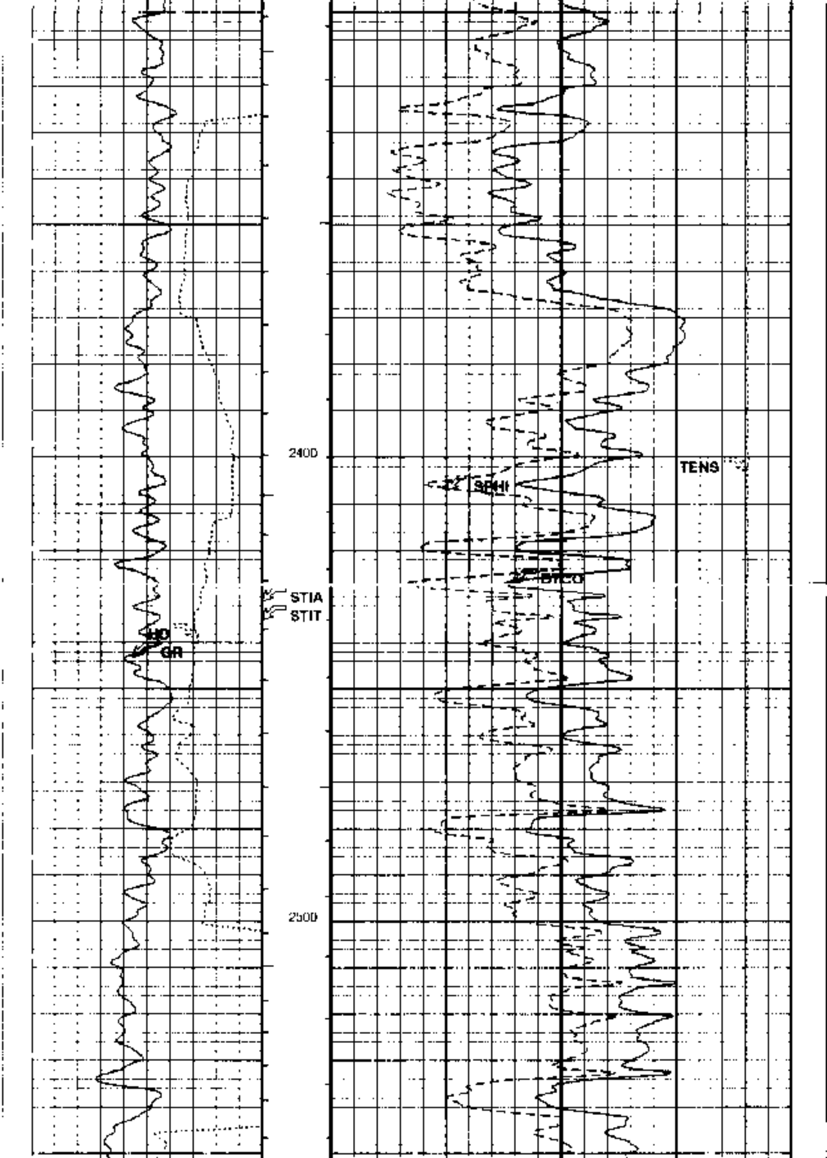


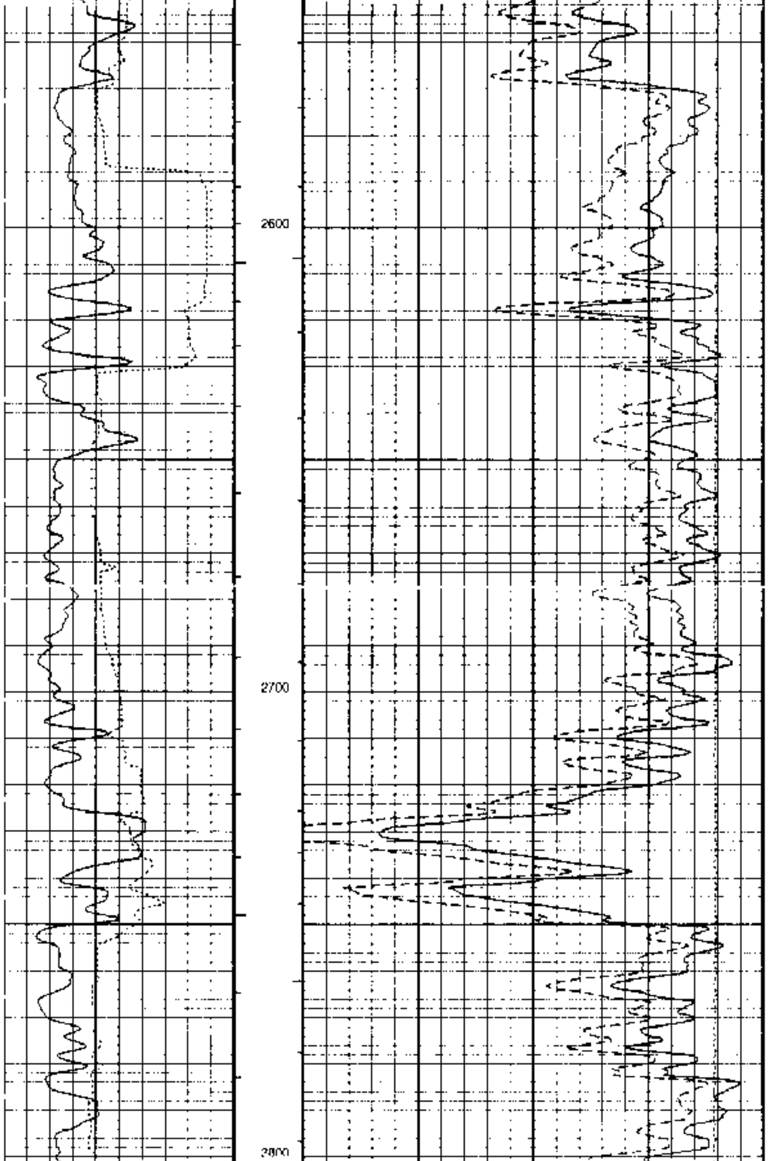


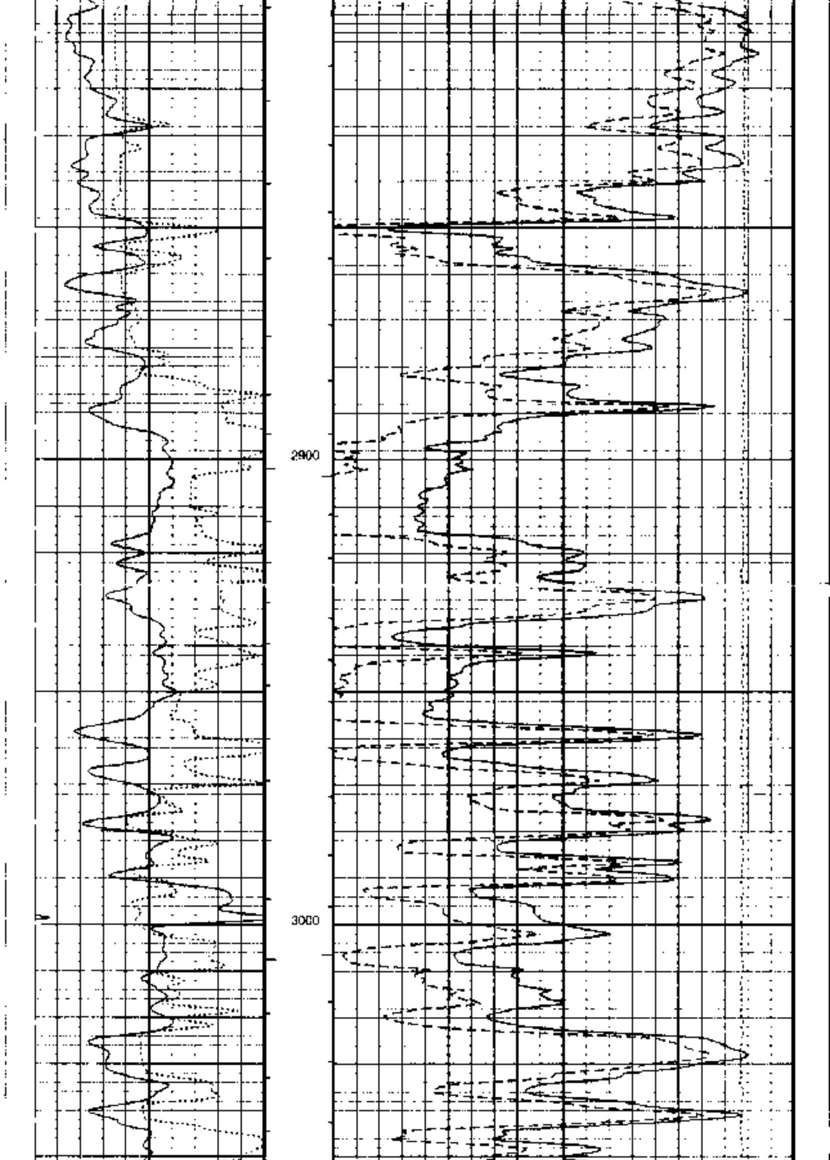


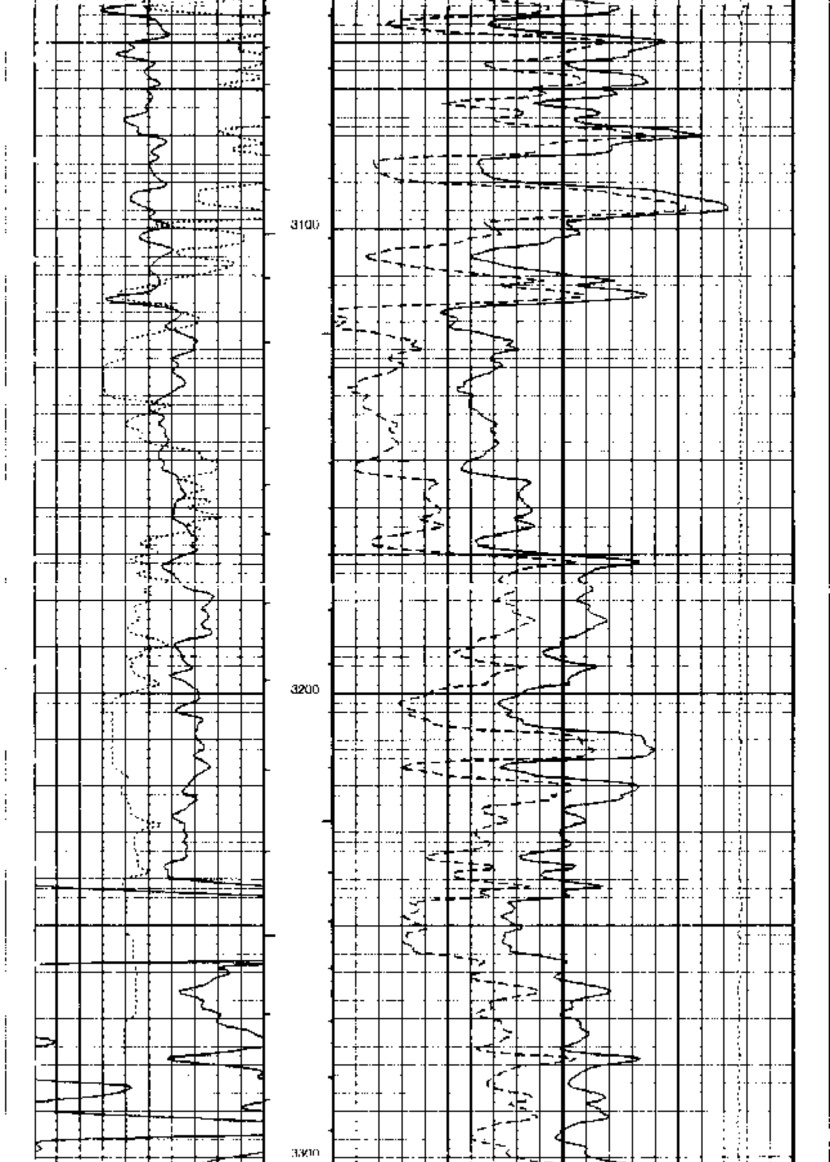


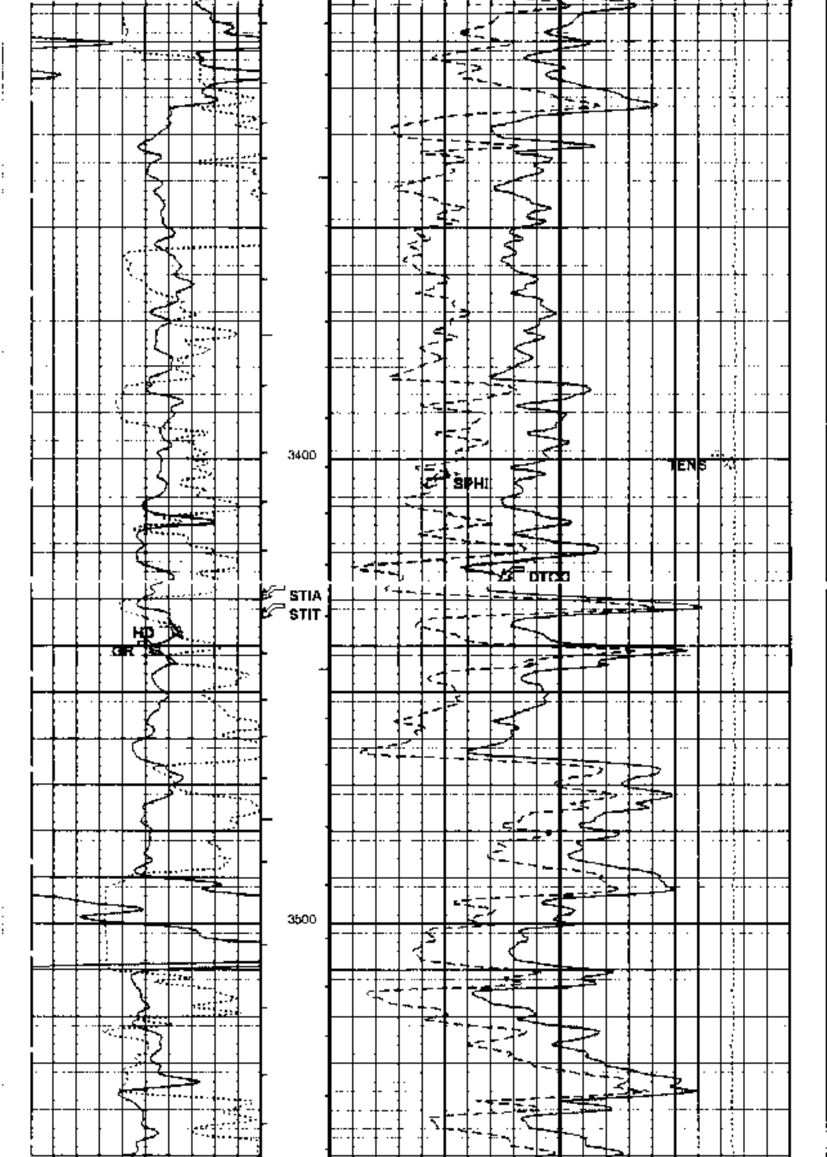


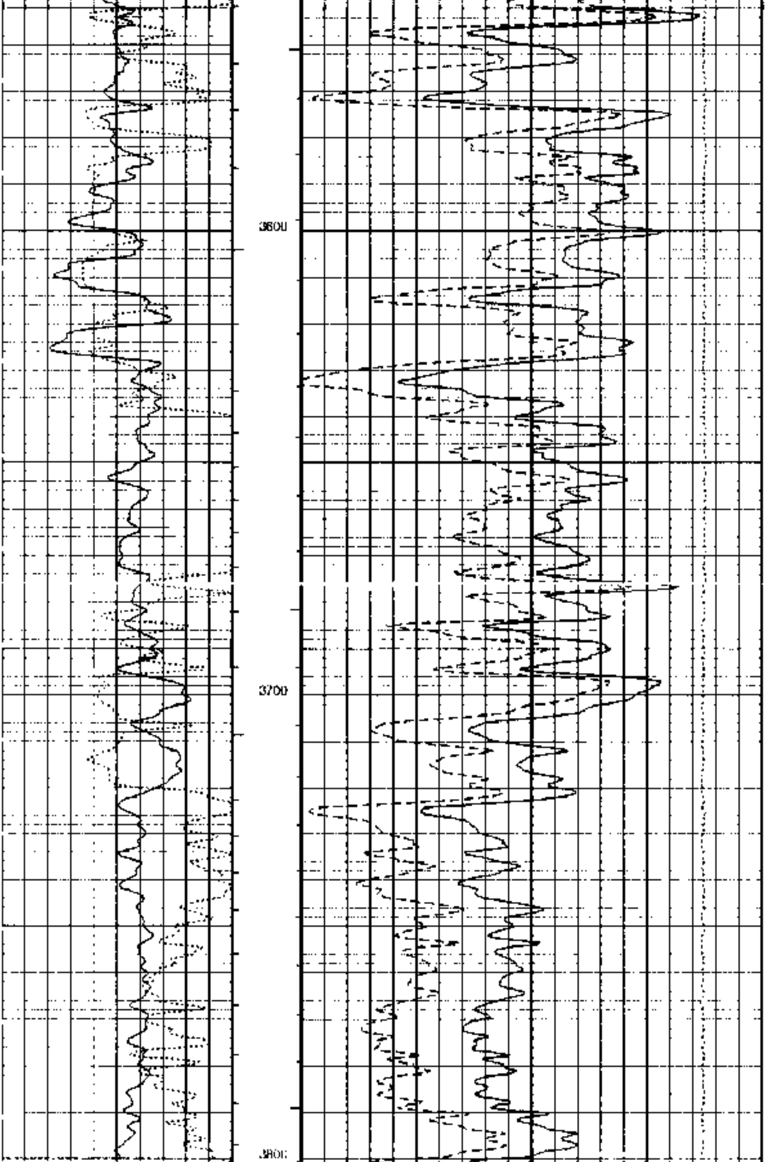


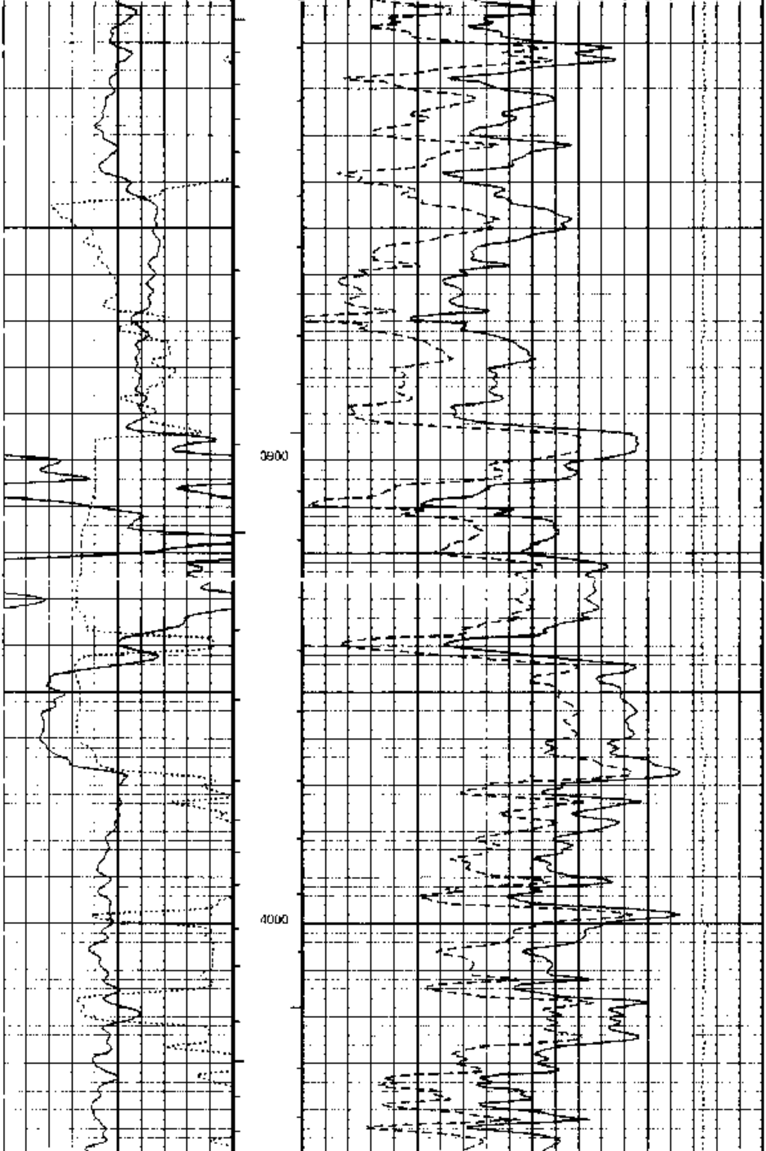


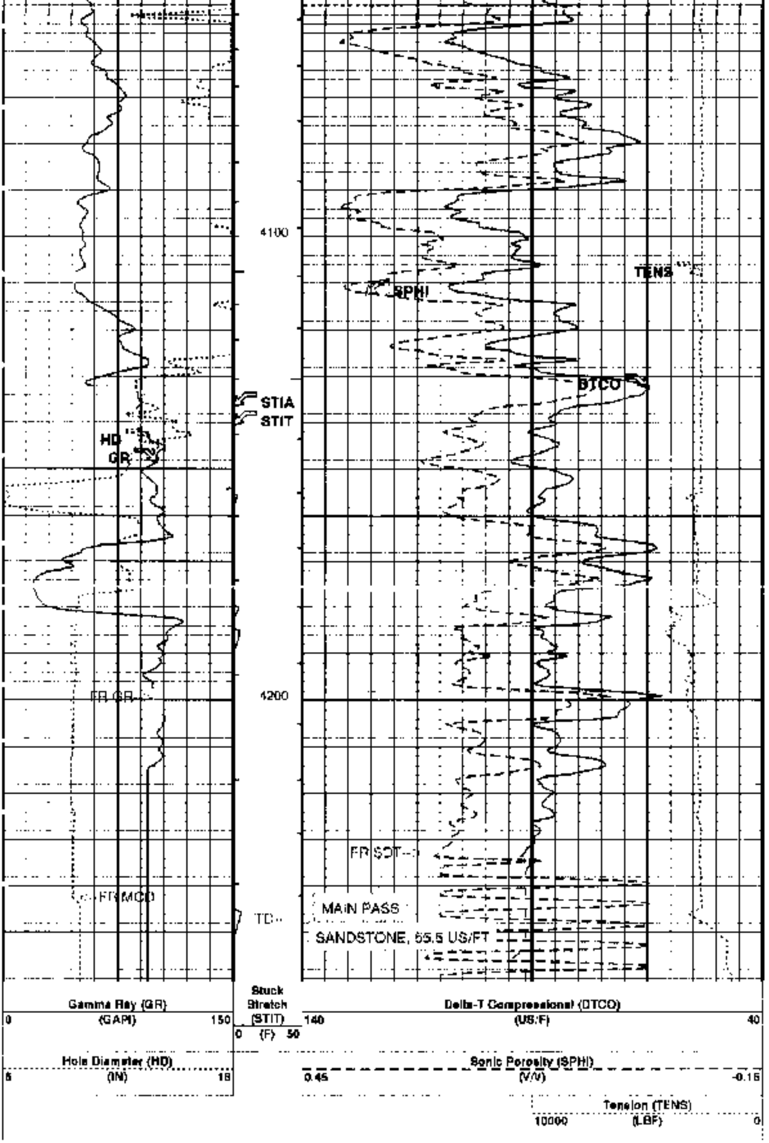












PIP SUMMARY

⊦ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Transit Time Minor Pip Every 1 MS
⊣ Integrated Transit Time Major Pip Every 10 MS

▮ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
CDTS	C-Delta-T Shale	100	US/F
DO	Depth Offset	0.0	FT
DTF	Delta-T Fluid	189	US/F
DTM	Delta-T Matrix	55.5	US/F
PP	Playback Processing	NORMAL	
SPFB	Sonic Porosity Formula	WYLLIE	
SPSO	Sonic Porosity Source	DTCO	
STKT	STI Stuck Threshold	2.5	FT

Format: STCPOR   Vertical Scale: 5" per 100'   Graphics File Created: 5-FEB-1996 04:43

OP System Version: 7C0-427

DBM

STCL	7S427KV-537	STCC	7S427KV-537

Input DLIS Files

DEFAULT	MCDG .025		FIELD	5-FEB-1996 04:28	4260.6 FT	516.2 FT

Output DLIS Files

DEFAULT	MCDG .027	FN:25	FIELD	5-FEB-1996 04:43

Input DLIS Files

DEFAULT	MCDG .003	FN:2	FIELD	4-FEB-1996 04:23	4178.5 FT	3884.0 FT

Output DLIS Files

DEFAULT	MCDG .019	FN:17	FIELD	4-FEB-1996 10:31

Integrated Hole/Cement Volume Summary

Hole Volume = 257.56 F3

Cement Volume = 208.89 F3 (assuming 5.50 IN casing O.D.)

Computed from 4178.5 FT to 3884.0 FT using data channel(s) HD

OP System Version: 7C0-427

DBM

STCL	7S427KV-537	STCC	7S427KV-537

PIP SUMMARY

⊦ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Transit Time Minor Pip Every 1 MS
⊣ Integrated Transit Time Major Pip Every 10 MS

▮ Time Mark Every 60 S

Tension (TENS)
10000 (LBF) 0

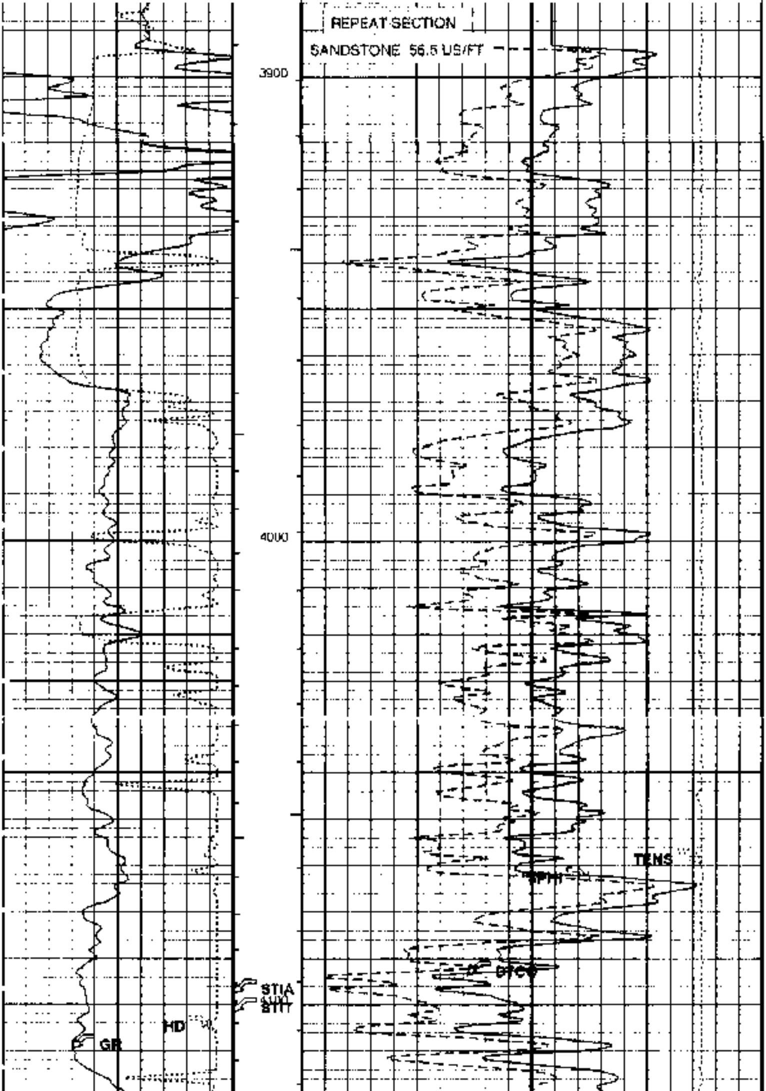
Hole Diameter (HD)
6 (IN) 16

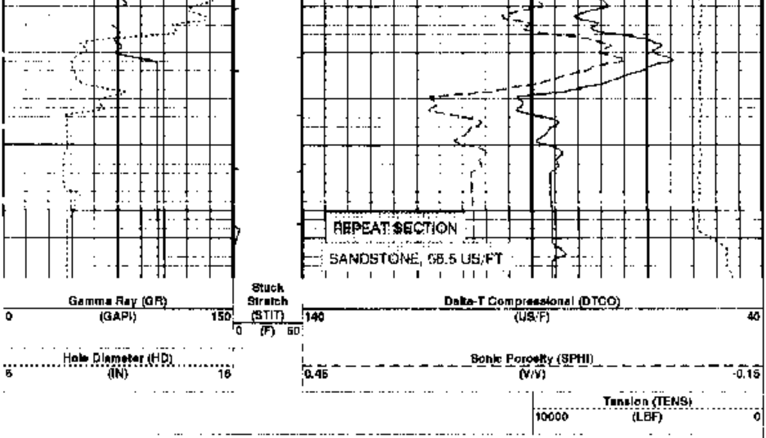
Sonic Porosity (SPHI)
0.45 (V/V) -0.15

Gamma Ray (GR)
0 (GAPI) 150

Stuck Stretch (BTIT)
0 (F) 50

Delta-T Compressional (DTCO)
140 (US/F) 40





PIP SUMMARY

⊢ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Transit Time Minor Pip Every 1 MS
⊣ Integrated Transit Time Major Pip Every 10 MS

▶ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
CDTS	C-Delta-T Shale	100	US/F
DO	Depth Offset	0.0	FT
DTF	Delta-T Fluid	189	US/F
DTM	Delta-T Matrix	55.5	US/F
PP	Playback Processing	NORMAL	
SPFS	Sonic Porosity Formula	WYLLIE	
SPSO	Sonic Porosity Source	DTCO	
STKT	STI Stuck Threshold	2.5	FT

Format: STC Vertical Scale: 5" per 100' Graphics File Created: 4-FEB-1996 10:34

OP System Version: 7C0-427

DSM

BTCL	7B427KV-537	BTCC	7B427KV-637

Input DLIS Files

DEFAULT	MCDG .003	FN:2	FIELD	4-FEB-1996 04:23	4178.5 FT	3894.0 FT

Output DLIS Files

DEFAULT	MCDG .016	FN:17	FIELD	4-FEB-1996 10:34

Output DLIS Files

DEFAULT	MCDG .022	FN:21	FIELD	5-FEB-1996 02:57	4260.5 FT	3861.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 304.28 F3

Cement Volume = 236.37 F3 (assuming 6.50 IN casing O.D.)

Computed from 4260.5 FT to 3861.5 FT using data channel(s) HD

OP System Version: 7C0-427

DBM

BTCL	7S427KV-537	STCC	7S427KV-537

PIP SUMMARY

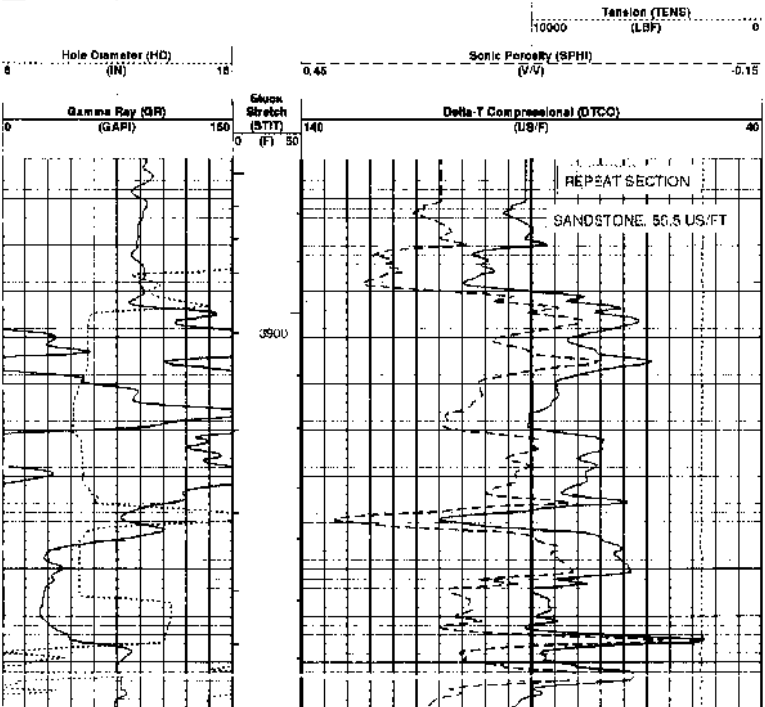
⊢ Integrated Hole Volume Minor Pip Every 10 F3

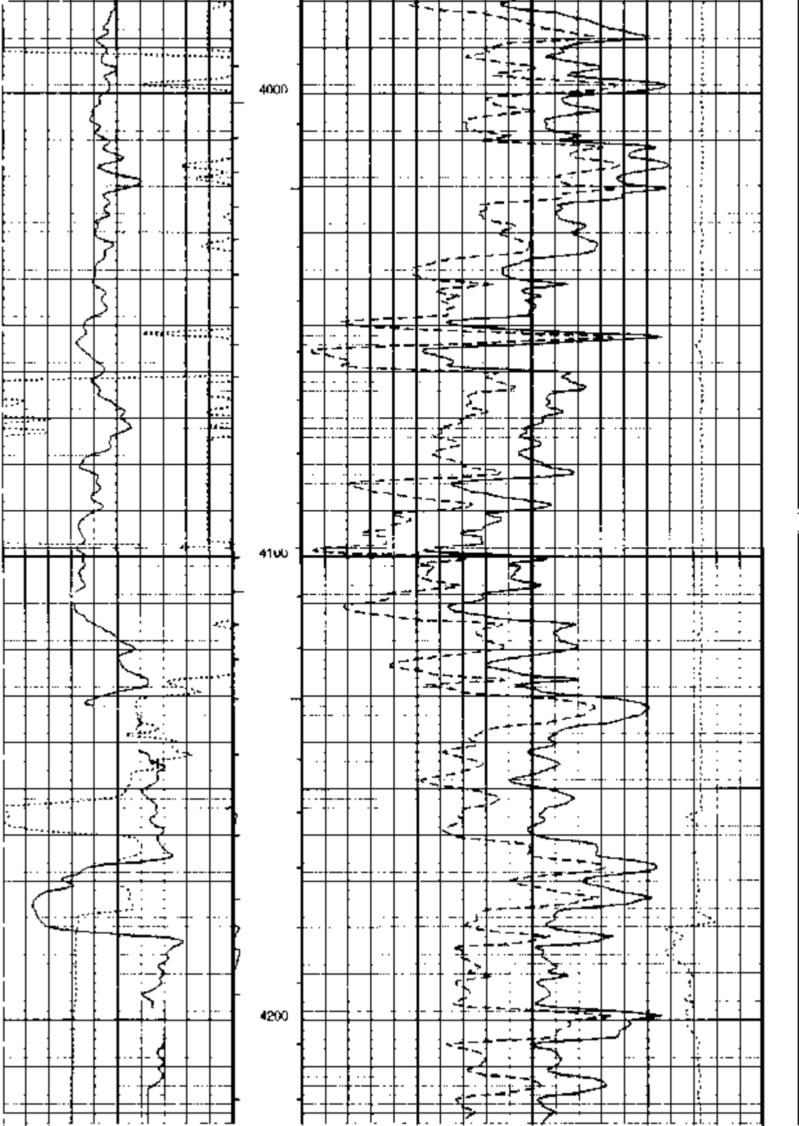
⊢ Integrated Hole Volume Major Pip Every 100 F3

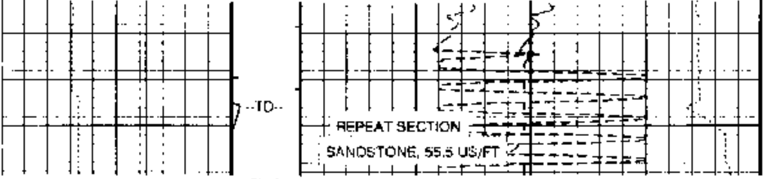
⊣ Integrated Transit Time Minor Pip Every 1 MS

⊣ Integrated Transit Time Major Pip Every 10 MS

■ Time Mark Every 60 S







Gamma Ray (GR)
0 (GAPI) 150

Stuck Stretch (STIT)
0 (F) 50

Delta T Compressional (DTCO)
140 (US/F) 40

Hole Diameter (HD)
6 (IN) 16

Sonic Porosity (SPHI)
0.45 (V/V) -0.15

Tension (TENS)
10000 (LBF) 0

PIP SUMMARY

⊢ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Transit Time Minor Pip Every 1 MS
⊣ Integrated Transit Time Major Pip Every 10 MS

■ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
CDTS	C-Delta-T Shale	100	US/F
DTF	Delta-T Fluid	189	US/F
DTM	Delta-T Matrix	55.5	US/F
SPFS	Sonic Porosity Formula	WYLLIE	
SPSO	Sonic Porosity Source	DTCO	
STKT	STI Stuck Threshold	2.5	FT

Format: STCPOR Vertical Scale: 5" per 100' Graphics File Created: 5-FEB-1996 02:57

OP System Version: 7C0-427

DBM

STCL 7S427KV-537 STCC 7S427KV-537

Output DLIS Files

DEFAULT MCDQ .022 FN:21 FIELD 5-FEB-1996 02:57

PIP SUMMARY

⊣ Integrated Transit Time Minor Pip Every 1 MS
⊣ Integrated Transit Time Major Pip Every 10 MS

■ Time Mark Every 60 S

Tension (TENS)
10000 (LBF) 0

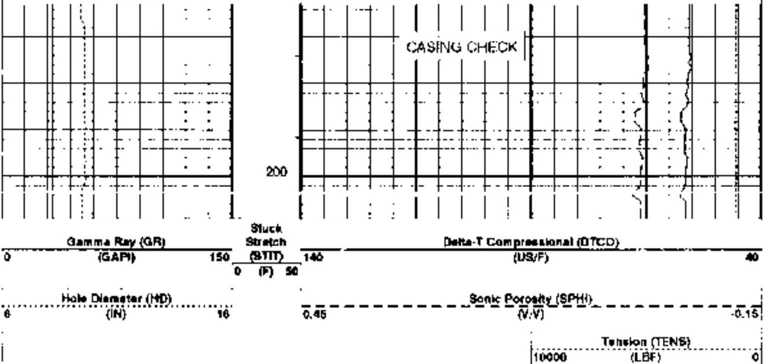
Hole Diameter (HD)
6 (IN) 16

Sonic Porosity (SPHI)
0.45 (V/V) -0.15

Gamma Ray (GR)
0 (GAPI) 150

Stuck Stretch (STIT)
0 (F) 50

Delta-T Compressional (DTCO)
140 (US/F) 40



PIP SUMMARY

- Integrated Transit Time Minor Pip Every 1 MS
- Integrated Transit Time Major Pip Every 10 MS

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
CDTS	C-Delta-T Shale	100	US/F
DTF	Delta-T Fluid	189	US/F
DTM	Delta-T Matrix	55.5	US/F
SPFS	Sonic Porosity Formula	WYLLIE	
SPSO	Sonic Porosity Source	DTCO	
STKT	STI Stuck Threshold	2.5	FT

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Mechanical Caliper - G Wellsite Calibration Electronics Calibration							
Before Feb 4 03:29 1996							
MCOG Counts Plus	377.0	N/A	375.5	N/A	N/A	N/A	
MCOG Counts Zero	103.0	N/A	102.6	N/A	N/A	N/A	
Mechanical Caliper - G Wellsite Calibration - Caliper Calibration							
Before Calibration not done							
Diameter Large Ring	12.00	N/A	N/A	N/A	N/A	N/A	IN
Diameter Small Ring	6.000	N/A	N/A	N/A	N/A	N/A	IN
Scintillation Gamma-Ray - L Wellsite Calibration - Detector Calibration							
Before Feb 4 03:27 1996							
Gamma Ray Background	35.00	N/A	34.85	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	163.9	N/A	163.9	N/A	N/A	[illegible].90	GAPI
Gamma Ray (Calibrated)	167.0	N/A	167.0	N/A	N/A	15.05	GAPI

Mechanical Caliper - G / Equipment Identification

Primary Equipment:
Mechanical Caliper Device - G   MCD - G

Auxiliary Equipment

Mechanical Caliper - G Wellsite Calibration
Electronics Calibration

Phase	MCOG Counts Plus			Value	Phase	MCOG Counts Zero			Value
Before	339.5 (Minimum)	377.0 (Nominal)	433.5 (Maximum)	375.5	Before	87.56 (Minimum)	103.0 (Nominal)	115.4 (Maximum)	102.6

Before Feb 4 03:26 1996

Mechanical Caliper - G Wellsite Calibration
Caliper Calibration

Phase	Diameter Large Ring IN			Value	Phase	Diameter Small Ring IN			Value
Before	10.50 Minimum	12.00 Nominal Not done	13.50 Maximum	N/A	Before	8.000 Minimum	9.000 Nominal Not done	9.900 Maximum	N/A

Before: Calibration not done

Scintillation Gamma-Ray - L / Equipment Identification

Primary Equipment:
Scintillation Gamma Cartridge — SGC - SA
Scintillation Gamma Detector — SGD - TAA

Auxiliary Equipment
Scintillation Gamma Housing — SGH - K
Gamma Source Radioactive — GSR - U/Y

Scintillation Gamma-Ray - L Wellsite Calibration
Detector Calibration

Phase	Gamma Ray Background (GAPI)			Value	Phase	Gamma Ray (Jig - Bkg) (GAPI)			Value	Phase	Gamma Ray (Calibrated) (GAPI)			Value
Before	0 Minimum	30.00 Nominal	100.0 Maximum	36.95	Before	148.6 Minimum	163.9 Nominal	179.8 Maximum	163.9	Before	152.0 Minimum	167.0 Nominal	182.0 Maximum	167.0

Before: Feb 4 03:27 1996

RECEIVED
FEB 08 1996
Div. of Minerals

COMPANY	CONLEY P. SMITH OPERATING CO.	BOTTOM LOG INTERVAL	4244 F
	(APOLLO PROGRAM)	SCHLUMBERGER DEPTH	4247 F
WELL	CAVE VALLEY FEDERAL 13-10	DEPTH DRILLER	4205 F
FIELD:	WILDCAT	KELLY BUSHING	6019 F
COUNTY:	LINCOLN	DRILL FLOOR	6018 F
STATE:	NEVADA	GROUND LEVEL	6009 F

Schlumberger

ARRAY SONIC LOG
MECHANICAL CALIPER LOG
GAMMA RAY