Schlumberger

BestDT* Final Result

Custom Sonic Processing

COMPANY: BP Exploration(Alaska), Inc.

WELL: MT Elbert–01

FIELD: Milne Pt

State: ALASKA

COUNTRY: USA

Date Processed: 22–MAR–2007 Date Logged: 14–Feb–2007

Job Number: 11638614 **Processed at: Anchorage, AK**

Well Location: **1242' FNL & 4183' FEL**

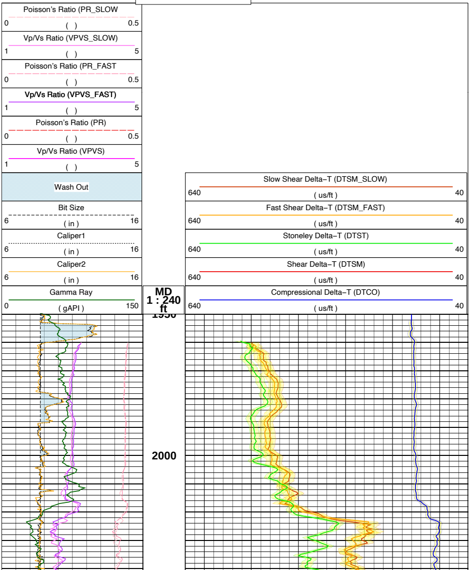
Latitude: Longitude:

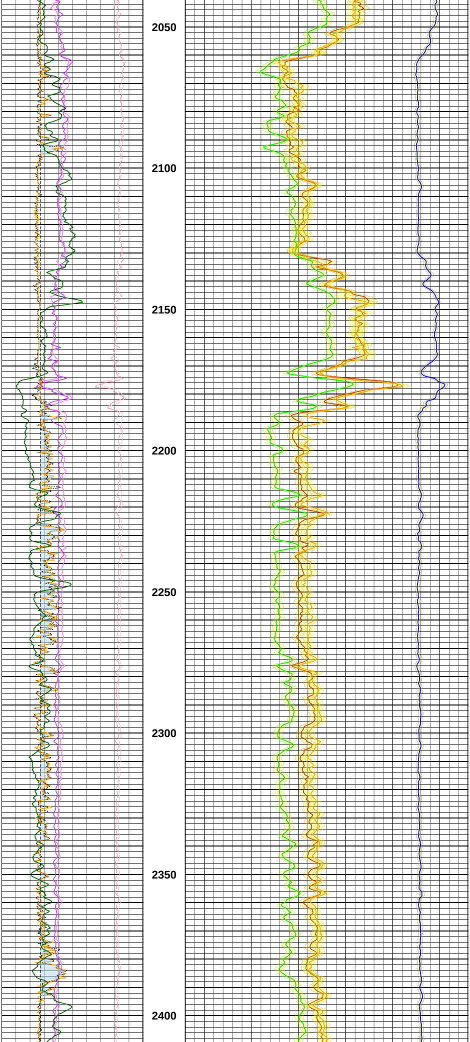
Elevations: KB: 54.8 Ft DF: 54.8 Ft GL: 21.4 Ft

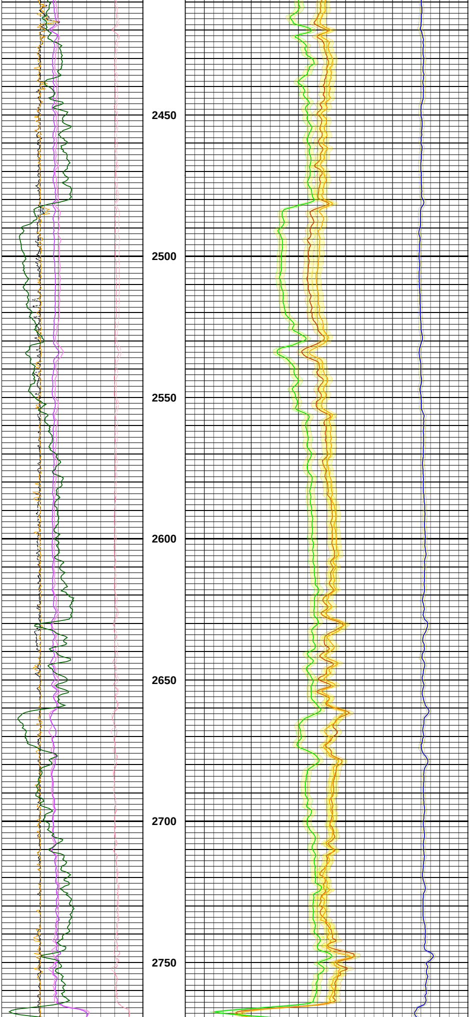
FOLD HERE The well name, location and borehole reference data were furnished by the customer.

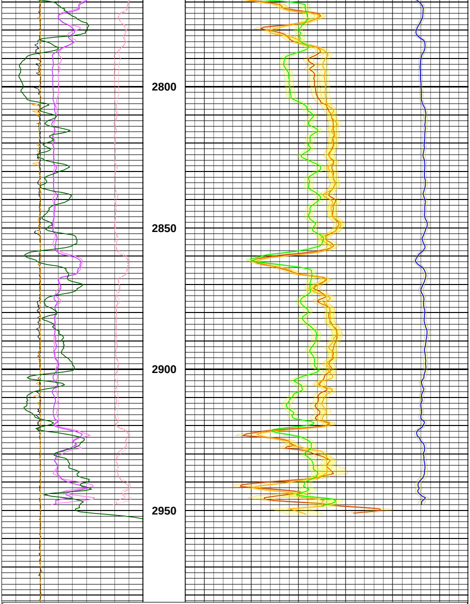
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

Best DT# Processed DT









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  --- Finalization Result ---
 1 MPS Compressional    Receiver        Absent levels=   77
 1 MPS Compressional    Transmitter     Absent levels=   70
 1 MPS Shear            Receiver        Absent levels= 2044
 1 MPS Shear            Transmitter     Absent levels= 2062
 1 FAST_IN Shear        Receiver        Absent levels=   90
 1 FAST_IN Shear        Transmitter     Absent levels=  124
 1 SLOW_IN Shear        Receiver        Absent levels=  108
 1 SLOW_IN Shear        Transmitter     Absent levels=  103
 1 MST Stoneley         Receiver        Absent levels=   90
 1 MST Stoneley         Transmitter     Absent levels=   84

 1 MPS Compressional    DDBHC           Absent levels=   69    *Selected*
 1 MPS Shear            DDBHC           Absent levels= 2062    *Selected*
 1 FAST_IN Shear        DDBHC           Absent levels=   79    *Selected*
 1 SLOW_IN Shear        DDBHC           Absent levels=   79    *Selected*
 1 MST Stoneley         DDBHC           Absent levels=   83    *Selected*
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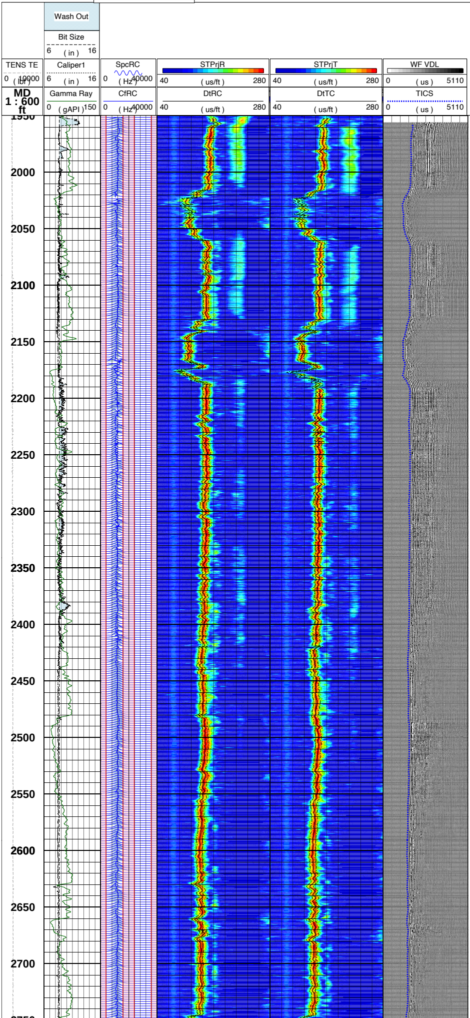
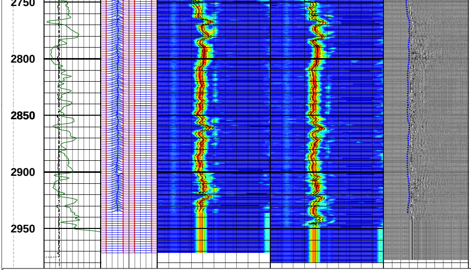
Gamma Ray 0 (gAPI) 150	**MD** **1 : 240** **ft**	Compressional Delta–T (DTCO) 640 (us/ft) 40
Caliper2 **6 (in) 16**		Shear Delta–T (DTSM) **640 (us/ft) 40**
Caliper1 6 (in) 16		Stoneley Delta–T (DTST) 640 (us/ft) 40
Bit Size 6 (in) 16		Fast Shear Delta–T (DTSM_FAST) 640 (us/ft) 40
Wash Out		Slow Shear Delta–T (DTSM_SLOW) 640 (us/ft) 40
Vp/Vs Ratio (VPVS) 1 ( ) 5		
Poisson's Ratio (PR) 0 ( ) 0.5		
Vp/Vs Ratio (VPVS_FAST) 1 ( ) 5		
Poisson's Ratio (PR_FAST 0 ( ) 0.5		
Vp/Vs Ratio (VPVS_SLOW) 1 ( ) 5		
Poisson's Ratio (PR_SLOW 0 ( ) 0.5		

Monopole Projection





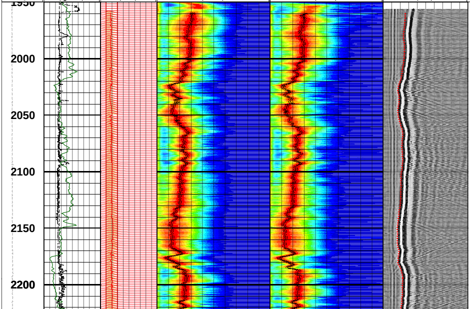
Customized Process: Start Depth (2980.25 ft), Stop Depth (1949.75 ft), Logging Mode (DSI – MPS)
Noise Cut Filtering(No), Casing Cut Filtering(No)
WF_FLG(1 1 1 1 1 1 1 1), MUD_TYPE(OBM), DTMUD(220), STCAL(Full Array)
TRSPAC(9), RRSPAC(0 0.5 1 1.5 2 2.5 3 3.5)
Hole Diameter (HCAL@AIT_TLD_MCFL_CNL_030PUP;1 (2994 – 1872.58 ft))
Zoning Guide (DTCO@OBMI_CAL_DSI_081PUP;1 (2997.5 – 1912 ft))
Tracking Guide (DTRP@BestDT–3;3 .CO .MPS .081 .BDT .EDT (2971.25 – 1885.75 ft))

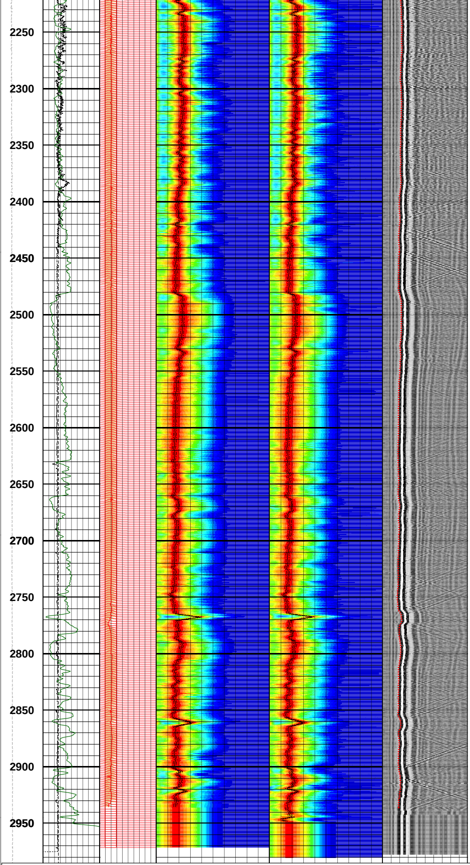
––– Zone Top Depth (0), Zone Name (Zone1) –––
SFTY(Very Slow), BHS(OPEN), CSIZ(7), HDM(HCAL), HD(8.75)
TWI(320), SLL(40), SUL(280), SST(2), TLL(400), TUL(4500), TST(100)
SBW(2410), SBO(360), SWD(20), TWD(1806), SEM(0.35), FLENG(49), FLOW(4000), FHIGH(16000)
TKO_MODEL_ORDER(2), TKO_TOL(50) TKO_FLOW(0), TKO_FHIGH(12000)

MD 1 : 600 ft	Gamma Ray 0 (gAPI) 150	CfRC 0 (Hz) 40000	DtRC 40 (us/ft) 280	DtTC 40 (us/ft) 280	TICS 0 (us) 5110
TENS TE 0 (lbf) 10000	Caliper1 6 (in) 16	SpcRC 0 (Hz) 40000	STPrjR 40 (us/ft) 280	STPrjT 40 (us/ft) 280	WF VDL 0 (us) 5110
	Bit Size 6 (in) 16				
	Wash Out				

Stoneley Projection

	Wash Out				
	Bit Size 6 (in) 16				
TENS TE 0 (lbf) 10000	Caliper1 6 (in) 16	SpcRS 0 (Hz) 5000	STPrjR 200 (us/ft) 1200	STPrjT 200 (us/ft) 1200	WF VDL 0 (us) 20440
MD 1 : 600 ft	Gamma Ray 0 (gAPI) 150	CfRS 0 (Hz) 5000	DtRS 200 (us/ft) 1200	DtTS 200 (us/ft) 1200	TISS 0 (us) 20440



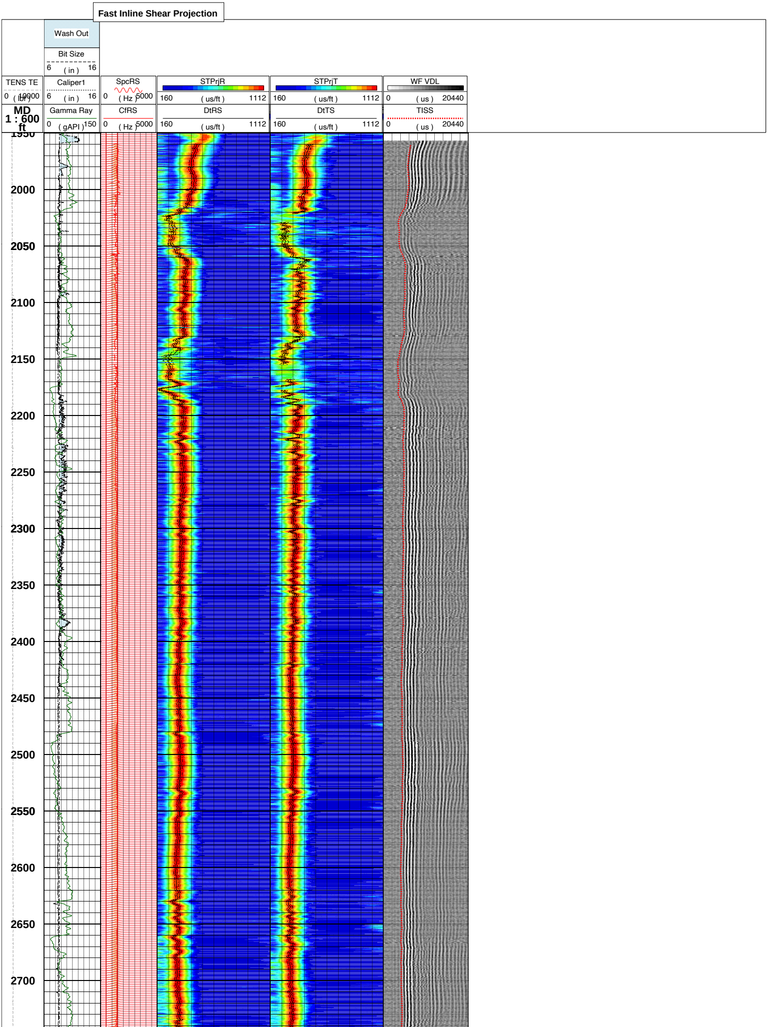


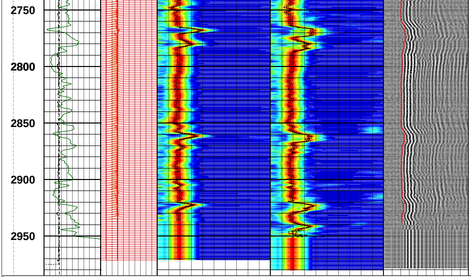
Customized Process: Start Depth (2980.25 ft), Stop Depth (1949.75 ft), Logging Mode (DSI – MST)
Noise Cut Filtering(No)
WF_FLG(1 1 1 1 1 1 1 1), MUD_TYPE(OBM), DTMUD(220), STCAL(Full Array)
TRSPAC(9), RRSPAC(0 0.5 1 1.5 2 2.5 3 3.5)
Hole Diameter (HCAL@AIT_TLD_MCFL_CNL_030PUP;1 (2994 – 1872.58 ft))
Zoning Guide (DTCO@OBMI_CAL_DSI_081PUP;1 (2997.5 – 1912 ft))
Tracking Guide (DTRP@BestDT–3;5 .CO .MPS .081 .BDT .EDT (2971.25 – 1949.75 ft))

––– Zone Top Depth (0), Zone Name (Zone1) –––
SFTY(Very Slow), BHS(OPEN), CSIZ(7), HDM(HCAL), HD(8.75)
TWI(2600), SLL(200), SUL(1200), SST(4), TLL(1800), TUL(19800), TST(600)
SBW(9320), SBO(2560), SWD(60), TWD(6990), SEM(0.35), FLENG(91), FLOW(500), FHIGH(1500)
TKO_MODEL_ORDER(2), TKO_TOL(50) TKO_FLOW(0), TKO_FHIGH(8000)

MD **1 : 600** **ft**	Gamma Ray 0 (gAPI) 150	CfRS 0 (Hz) 5000	DtRS 200 (us/ft) 1200	DtTS 200 (us/ft) 1200	TISS 0 (us) 20440
TENS TE 0 (lbf) 10000	Caliper1 6 (in) 16	SpcRS 0 (Hz) 5000	STPrjR 200 (us/ft) 1200	STPrjT 200 (us/ft) 1200	WF VDL 0 (us) 20440
	Bit Size 6 (in) 16				
	Wash Out				

Fast Inline Shear Projection





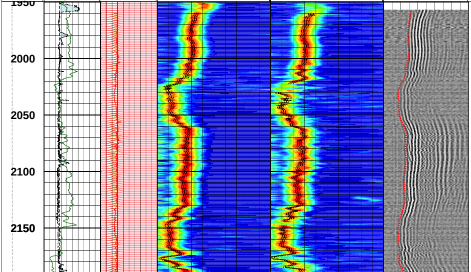
Customized Process: Start Depth (2980.25 ft), Stop Depth (1949.75 ft), Logging Mode (DSI – FAST_IN)
Noise Cut Filtering(No)
WF_FLG(1 1 1 1 1 1 1), MUD_TYPE(OBM), DTMUD(220), STCAL(Full Array)
TRSPAC(11.5), RRSPAC(0 0.5 1 1.5 2 2.5 3)
Hole Diameter (C1_OBMT@OBMI_CAL_DSI_081PUP;1 (2997.5 – 1912.12 ft))
Zoning Guide (DTCO@OBMI_CAL_DSI_081PUP;1 (2997.5 – 1912 ft))
Tracking Guide (DTRP@BestDT–3;5 .CO .MPS .081 .BDT .EDT (2971.25 – 1949.75 ft))

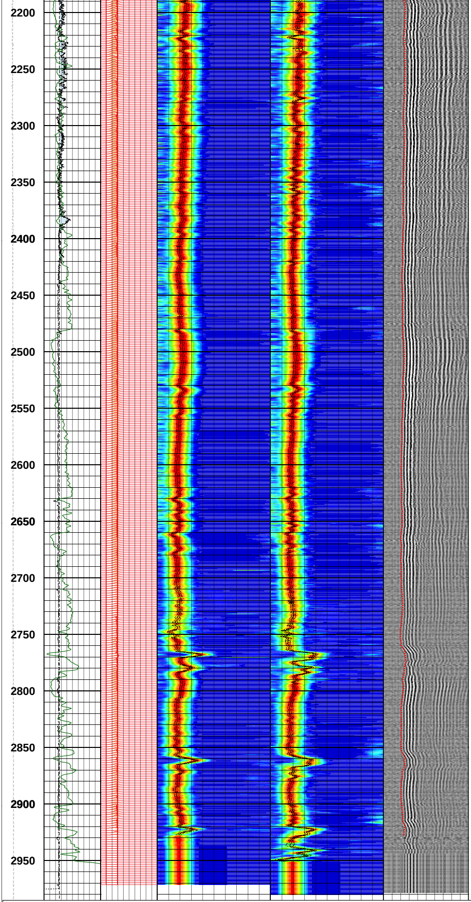
––– Zone Top Depth (0), Zone Name (Zone1) –––
SFTY(Very Slow), BHS(OPEN), CSIZ(7), HDM(C1_OBMT), HD(8.75), DFNM(Vp Based), DFVPVS(2.6)
TWI(2520), SLL(160), SUL(1112), SST(4), TLL(2240), TUL(20720), TST(560)
SBW(10320), SBO(2560), SWD(60), TWD(7740), SEM(0.35), FLENG(49*), FLOW(500*), FHIGH(1500*)
TKO_MODEL_ORDER(2), TKO_TOL(50) TKO_FLOW(0), TKO_FHIGH(8000)

MD **1 : 600** **ft**	Gamma Ray 0 (gAPI) 150	CfRS 0 (Hz) 5000	DtRS 160 (us/ft) 1112	DtTS 160 (us/ft) 1112	TISS 0 (us) 20440
TENS TE 0 (lbf) 10000	Caliper1 6 (in) 16	SpcRS 0 (Hz) 5000	STPrjR 160 (us/ft) 1112	STPrjT 160 (us/ft) 1112	WF VDL 0 (us) 20440
	Bit Size 6 (in) 16				
	Wash Out				

Slow Inline Shear Projection

	Wash Out				
	Bit Size 6 (in) 16				
TENS TE 0 (lbf) 10000	**Caliper1** 6 (in) 16	**SpcRS** 0 (Hz) 5000	**STPrjR** 160 (us/ft) 1112	**STPrjT** 160 (us/ft) 1112	**WF VDL** 0 (us) 20440
MD **1 : 600** **ft**	Gamma Ray 0 (gAPI) 150	CfRS 0 (Hz) 5000	DtRS 160 (us/ft) 1112	DtTS 160 (us/ft) 1112	TISS 0 (us) 20440





Customized Process: Start Depth (2980.25 ft), Stop Depth (1949.75 ft), Logging Mode (DSI – SLOW_IN)
Noise Cut Filtering(No)
WF_FLG(1 1 1 1 1 1 1), MUD_TYPE(OBM), DTMUD(220), STCAL(Full Array)
TRSPAC(11.5), RRSPAC(0 0.5 1 1.5 2 2.5 3)
Hole Diameter (C2_OBMT@OBMI_CAL_DSI_081PUP;1 (2997.5 – 1912.12 ft))
Zoning Guide (DTCO@OBMI_CAL_DSI_081PUP;1 (2997.5 – 1912 ft))
Tracking Guide (DTRP@BestDT–3;5 .CO .MPS .081 .BDT .EDT (2971.25 – 1949.75 ft))

––– Zone Top Depth (0), Zone Name (Zone1) –––
SFTY(Very Slow), BHS(OPEN), CSIZ(7), HDM(C2_OBMT), HD(8.75), DFNM(Vp Based), DFVPVS(2.6)
TWI(2520), SLL(160), SUL(1112), SST(4), TLL(2240), TUL(20720), TST(560)
SBW(10320), SBO(2560), SWD(60), TWD(7740), SEM(0.35), FLENG(49*), FLOW(500*), FHIGH(1500*)
TKO_MODEL_ORDER(2), TKO_TOL(50) TKO_FLOW(0), TKO_FHIGH(8000)

MD 1 : 600 ft	Gamma Ray 0 (gAPI) 150	CfRS 0 (Hz) 5000	DtRS 160 (us/ft) 1112	DtTS 160 (us/ft) 1112	TISS 0 (us) 20440
TENS TE 0 (lbf) 10000	**Caliper1** 6 (in) 16	**SpcRS** 0 (Hz) 5000	**STPrjR** 160 (us/ft) 1112	**STPrjT** 160 (us/ft) 1112	**WF VDL** 0 (us) 20440
	Bit Size 6 (in) 16				
	Wash Out				

Company:	BP Exploration(Alaska), Inc.		
Well:	MT Elbert–01		
FIELD:	Milne Pt		
Borough:	NORTH SLOPE		
State:	ALASKA		
Date Logged:	14–Feb–2007	Date Processed:	22–MAR–2007
Well Location:	1242' FNL & 4183' FEL AT SURFACE		
Elevations:	KB: 54.8 Ft	DF: 54.8 Ft	GL: 21.4 Ft
API Number:	50–029–23302–00	Job Number:	11638614

Schlumberger