

N.E.B. COPY

Chevron Canada Resources

Static Gradient
Chevron Et Al Liard K-29
K-29
Jul 15, 00

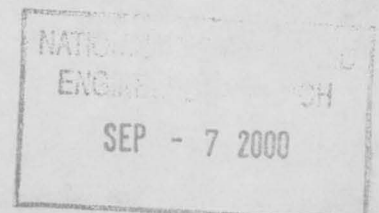
MICROFILMED
SUR MICROFILM:

Results to :
Chevron Canada Resources
Attn : John Cosgrove
07/28/2000
Time : 3:00 p.m.
Calgary
Lee Tool - Red Deer

Service Company Contact Info

Report Writer	Wade Nicks, 309-7940	Service Company	Lee Tool, Div. of Schlumberger
Operator	Dean Kaziechko, 347-2524	Job ID	K-29gradient
		Test Date	Jul 15, 00

Gauge: Lee Memory Recorder Model 3000s (Quartz)
Manufacturer: Lee Tool, Division of Schlumberger Canada Limited



Static Gradient

Chevron Canada Resources
Alberta, Canada

Jul 15, 00

Chevron Et Al Liard K-29

K-29

Ft. Liard, Nahanni

Well					
Client	Chevron Canada Resources			Province	Alberta
				Country	Canada
Well Name	Chevron Et Al Liard K-29			Deviated Well	Yes
				Well Status	Gas
Well No.	K-29			KB Elevation	418.80 m
				CF Elevation	409.60 m
Field	Ft. Liard	Pool	Nahanni		
				Pool Datum	

Test						
Test Name				Atmospheric		
Static Gradient				101.30 KPa A		
Test Start (mm/dd/yy)		Test Finish		Casing ID		Tubing ID
07/15/00		02:30 PM				177.80 mm
On Bottom		Off Bottom		C. Pres. Before		T. Pres. Before
07/15/00		04:58 PM		07/15/00 05:28 PM		0.00 KPa G
Shut In		ETO		C. Pres. After		T. Pres. After
		07/15/00		02:30 PM		
		Meas. Depth [mCF]		TVD [mCF]		Est. Pressure [KPa G]
				Est. Gradient [KPa/m]		Est. Temperature [DegC]
						Grad. Threshold
						2.00 KPa/m
Well Datum						Grad. Recorder
						9446Q-16E
Run Depth		2531.60		2522.71		27156.40
						7.09
Avg. MPP Depth		2850.00		2793.26		29075.14
						7.09
Operator				Service Company		
Dean Kaziechko, 347-2524				Lee Tool, Div. of Schlumberger		
Remarks						
9432Q-16E Bot. Rec. & 9446Q-16E Top Rec.						

Depth References		
Depth Reference	Offset [m]	Elevation [mMSL]
Casing Flange (CF)		409.60
Kelly Bushing (KB)	CF + 9.20	418.80

Perforations				
Perf Top MD, [mCF]	Perf Bottom MD, [mCF]	MPP TVD, [mCF]	Pressure [KPa G]	Gradient [KPa/m]
2700.00	3000.00	2793.26	29075.14	7.09

Top Recorder

Model	LMR-3000S	Serial	9446Q-16E	Latest Calibration	09/01/99
Max. Rated Press.	110213.21 KPa G	Max. Rated Temp.	174.96 DegC		

Gradient Stops

Depth			Sample R/T [mm dd, 24hr]	Pressure [KPa G]	Gradient [KPa/m]	Temperature [DegC]
Tool String MD, [mCF]	Recorder MD, [mCF]	Recorder TVD, [mCF]				
0.00	-1.50	-1.50	Jul 15, 00 14:53:00	22132.25		17.29
1000.00	998.50	997.32	15:26:00	24296.41	2.17	84.54
2000.00	1998.50	1991.45	15:54:00	26083.94	1.80	129.19
2400.00	2398.50	2390.21	16:14:00	26769.51	1.72	145.92
2457.00	2455.50	2446.98	16:26:00	26885.85	2.05	148.78
2507.00	2505.50	2496.82	16:37:00	26972.79	1.74	150.46
2531.60	2530.10	2521.23	16:52:00	27145.91	7.09	151.53
Fluid Interface	Depth TVD, [mCF]	Gradient Before [KPa/m]	Gradient After [KPa/m]			
Interface 1	2499.84	2.05	7.09			

Bottom Hole Pressure

	Tool String MD, [mCF]	Sample R/T [mm dd, yy 24 hr.]	Pressure [KPa G]	
Sample 1	2531.60	Jul 15, 00 16:43:00	27138.18	
Sample 2		17:12:00	27148.67	
Difference:		00:29:00	10.49	Build Up Rate 21.70 KPa/Hr.

Bottom Recorder

Model	LMR-3000S	Serial	9432q-16d	Latest Calibration	10/27/99
Max. Rated Press.	110211.63 KPa G	Max. Rated Temp.	174.96 DegC		

Gradient Stops

Depth			Sample R/T [mm dd, 24hr]	Pressure [KPa G]	Gradient [KPa/m]	Temperature [DegC]
Tool String MD, [mCF]	Recorder MD, [mCF]	Recorder TVD, [mCF]				
0.00	0.00	-0.00	Jul 15, 00 14:53:00	22129.52		14.26
1000.00	1000.00	998.81	15:26:00	24290.19	2.16	84.25
2000.00	2000.00	1992.94	15:54:00	26085.53	1.81	129.16
2400.00	2400.00	2391.70	16:14:00	26760.18	1.69	145.87
2457.00	2457.00	2448.47	16:26:00	26876.00	2.04	148.64
2507.00	2507.00	2498.32	16:37:00	26961.63	1.72	150.27
2531.60	2531.60	2522.71	16:52:00	27149.00	7.68	151.35
Fluid Interface	Depth TVD, [mCF]	Gradient Before [KPa/m]	Gradient After [KPa/m]			
Interface 1	2501.16	2.04	7.68			

Bottom Hole Pressure

	Tool String MD, [mCF]	Sample R/T [mm dd, yy 24 hr.]	Pressure [KPa G]	
Sample 1	2531.60	Jul 15, 00 16:43:00	27140.95	
Sample 2		17:12:00	27151.74	
Difference:		00:29:00	10.79	Build Up Rate 22.33 KPa/Hr.

Deviated Well Survey

Meas. Depth [mKB]	Inclination [Degrees]	TVD [mKB]	Meas. Depth [mCF]	TVD [mCF]
0.00	0.00	0.00	-9.20	-9.20
221.00	0.25	221.00	211.80	211.80
960.00	3.88	958.93	950.80	949.73
1027.00	4.00	1025.77	1017.80	1016.57
1972.50	3.80	1965.52	1963.30	1956.32
2001.20	3.70	1994.16	1992.00	1984.96
2049.10	3.40	2041.97	2039.90	2032.77
2393.70	5.50	2385.47	2384.50	2376.27
2403.30	5.50	2395.03	2394.10	2385.83
2413.10	5.30	2404.78	2403.90	2395.58
2442.00	5.20	2433.56	2432.80	2424.36
2461.40	4.70	2452.89	2452.20	2443.69
2471.00	4.50	2462.46	2461.80	2453.26
2484.00	4.40	2475.42	2474.80	2466.22
2510.00	4.60	2501.34	2500.80	2492.14
2519.60	5.70	2510.90	2510.40	2501.70
2529.30	7.20	2520.54	2520.10	2511.34
2539.00	9.40	2530.14	2529.80	2520.94
2548.60	11.00	2539.58	2539.40	2530.38
2694.20	37.40	2669.22	2685.00	2660.02
2703.90	36.70	2676.96	2694.70	2667.76
2713.50	35.90	2684.70	2704.30	2675.50
2848.90	35.60	2794.11	2839.70	2784.91
2858.60	36.00	2801.98	2849.40	2792.78
2868.30	36.30	2809.81	2859.10	2800.61
2983.00	36.10	2902.45	2973.80	2893.25
3000.00	36.10	2916.19	2990.80	2906.99

Tool Summary

Chevron Canada Resources
Alberta, Canada

Jul 15, 00

Chevron Et Al Liard K-29

K-29

Ft. Liard, Nahanni

Top Recorder

Tool	LMR-3000S	Serial	9446Q-16E	Latest Calibration	09/01/99	Battery Serial	180 C
Landed Depth		Depth Offset	-1.50 m	Min. Battery	16.69 V		

Program: 512kb-St.Gr.

Intervals					Expected Samples			Actual Samples				
Mode	Interval [d hh:mm:ss]	Rate [hh:mm:ss]	Delta [KPa]	Periodic [hh:mm:ss]	Regular Samples	Percent Storage	Energy [Ahr]	Regular Samples	Delta Samples	Percent Storage	Energy [Ahr]	Duration [d hh:mm:ss]
HB	10:00	1			600	0.2%	0.0022	600		0.2%	0.0022	10:00
HB	10	10			86400	24.7%	1.8249	2502		0.7%	0.0528	6:57:00
Totals:	10 10:00				87000	24.9%	1.8271	3102		0.9%	0.0550	7:07:00

Bottom Recorder

Tool	LMR-3000S	Serial	9432q-16d	Latest Calibration	10/27/99	Battery Serial	180 C
Landed Depth		Depth Offset	0.00 m	Min. Battery	16.50 V		

Program: 512kb-St.Gr.

Intervals					Expected Samples			Actual Samples				
Mode	Interval [d hh:mm:ss]	Rate [hh:mm:ss]	Delta [KPa]	Periodic [hh:mm:ss]	Regular Samples	Percent Storage	Energy [Ahr]	Regular Samples	Delta Samples	Percent Storage	Energy [Ahr]	Duration [d hh:mm:ss]
HB	10:00	1			600	0.7%	0.0022	600		0.7%	0.0022	10:00
HB	10	10			86400	98.9%	1.8249	2480		2.8%	0.0524	6:53:20
Totals:	10 10:00				87000	99.6%	1.8271	3080		3.5%	0.0546	7:03:20

Calibration Summary

Chevron Canada Resources
Alberta, Canada

Jul 15, 00

Chevron Et Al Liard K-29

K-29

Ft. Liard, Nahanni

Top Recorder

Tool	LMR-3000S	Serial	9446Q-16E	Latest Calibration	09/01/99	Battery Serial	180 C
Landed Depth				Depth Offset	-1.50 m	Min. Battery	16.69 V

Equations

FP = Pres Freq (Hz)

FT = Temp Freq (Hz)

$XP = 1.715300e+004 + (1.000000e-002) FP$

$XT = 5.608600e+004 + (1.000000e-002) FT$

$P_0 = 1.953501e+001 + (-1.481998e+000) XT + (-1.986578e-002) XT^2 + (1.734426e-007) XT^3 + (-1.375615e-008) XT^4$

$P_1 = 3.930740e+001 + (-1.933781e-002) XT + (3.293536e-005) XT^2 + (2.424752e-008) XT^3 + (1.592954e-010) XT^4$

$P_2 = -1.734644e-003 + (1.023965e-005) XT + (-3.693656e-008) XT^2 + (-9.347514e-011) XT^3 + (-3.910415e-013) XT^4$

$P_3 = 5.799354e-007 + (-4.224041e-009) XT + (1.811928e-011) XT^2 + (6.898616e-014) XT^3 + (3.058980e-016) XT^4$

Pressure (psiA) = $P_0 + P_1 XP + P_2 XP^2 + P_3 XP^3$

$T_0 = 2.554654e+001$

$T_1 = -7.310296e-001$

$T_2 = -8.580091e-004$

$T_3 = -6.784791e-007$

Temperature (degC) = $T_0 + T_1 XT + T_2 XT^2 + T_3 XT^3$

Bottom Recorder

Tool	LMR-3000S	Serial	9432q-16d	Latest Calibration	10/27/99	Battery Serial	180 C
Landed Depth				Depth Offset	0.00 m	Min. Battery	16.50 V

Equations

FP = Pres Freq (Hz)

FT = Temp Freq (Hz)

$XP = 1.896700e+004 + (1.000000e-002) FP$

$XT = 5.034800e+004 + (1.000000e-002) FT$

$P_0 = 1.837109e+001 + (-4.032248e+000) XT + (-1.898848e-002) XT^2 + (1.428917e-005) XT^3 + (1.207189e-008) XT^4$

$P_1 = 4.280762e+001 + (-1.796351e-002) XT + (3.581352e-005) XT^2 + (2.217229e-008) XT^3 + (1.093314e-010) XT^4$

$P_2 = -1.411907e-003 + (4.448556e-006) XT + (-7.740793e-008) XT^2 + (-2.175871e-010) XT^3 + (-4.299675e-013) XT^4$

$P_3 = 6.251524e-007 + (5.425375e-009) XT + (1.202162e-010) XT^2 + (4.680793e-013) XT^3 + (7.567366e-016) XT^4$

Pressure (psiA) = $P_0 + P_1 XP + P_2 XP^2 + P_3 XP^3$

$T_0 = -9.988637e+000$

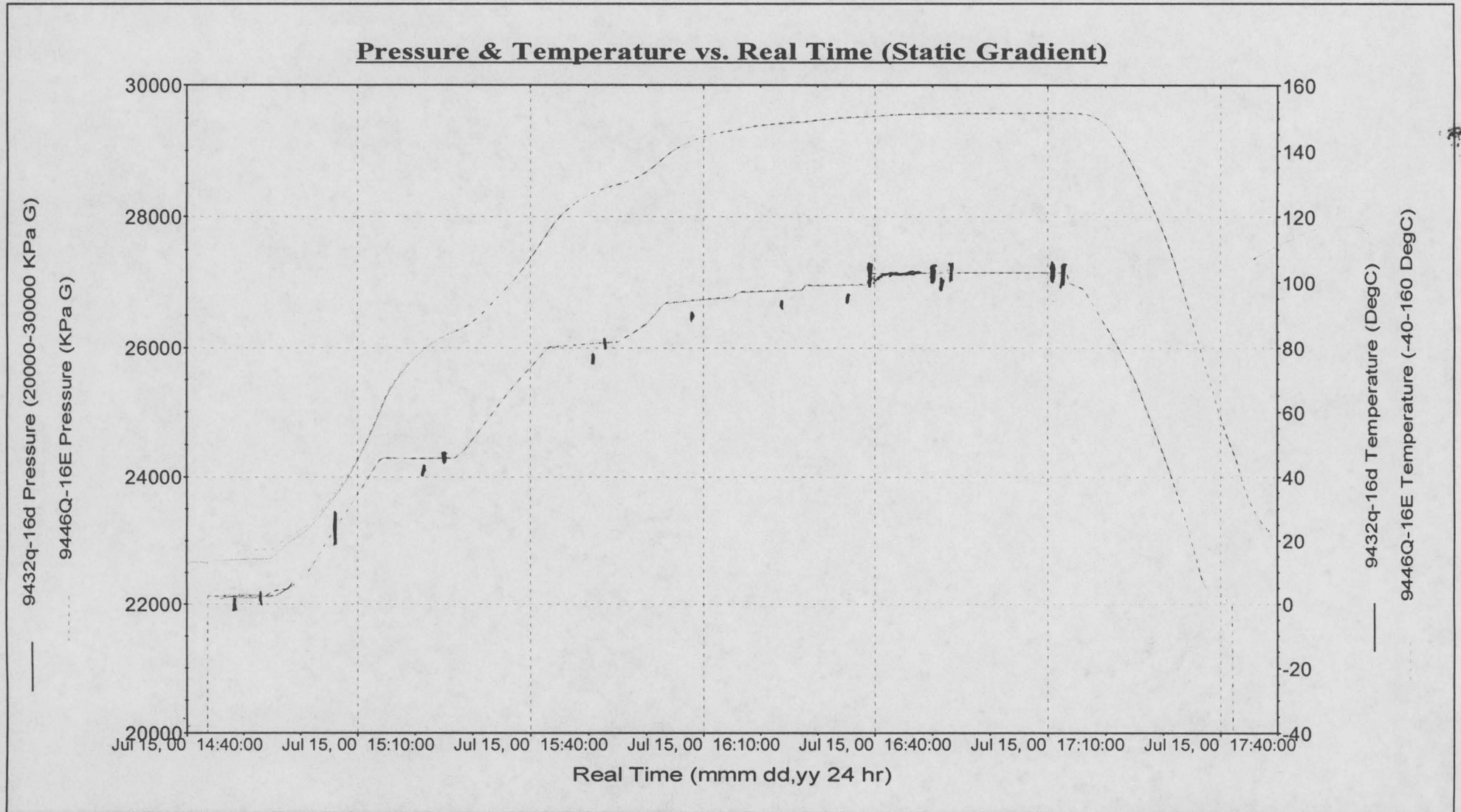
$T_1 = -8.388845e-001$

$T_2 = -1.061943e-003$

$T_3 = -8.520823e-007$

Temperature (degC) = $T_0 + T_1 XT + T_2 XT^2 + T_3 XT^3$

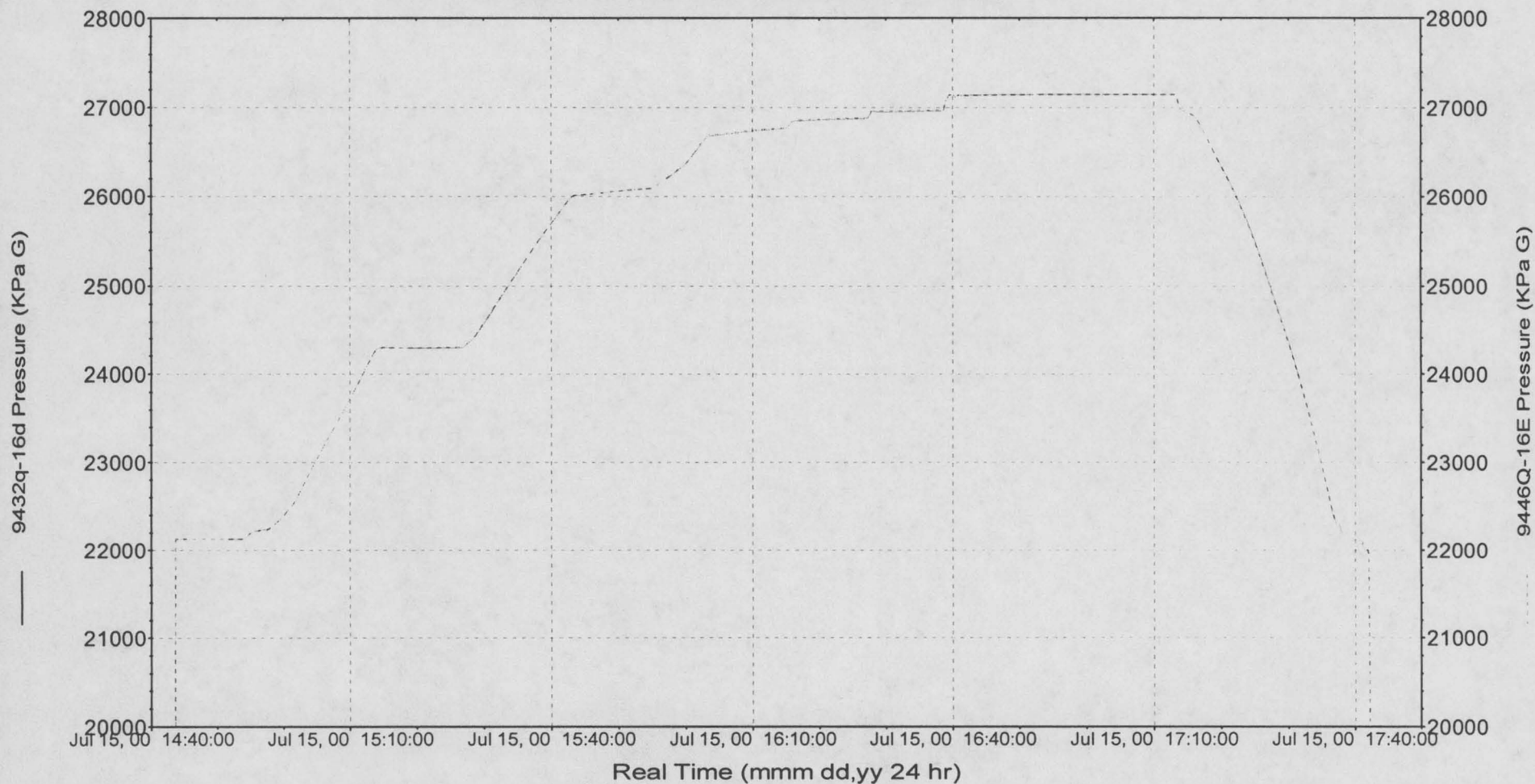
Well					
Client		Well Name		Well No.	
Chevron Canada Resources		Chevron Et Al Liard K-29		K-29	
Province		Alberta			
Test Name		Test Date		Field	
Static Gradient		Jul 15, 00		Ft. Liard	
Pool		Nahanni			



Remarks
9432Q-16E Bot. Rec. & 9446Q-16E Top Rec.

Well					
Client		Well Name		Well No.	
Chevron Canada Resources		Chevron Et Al Liard K-29		K-29	
Province				Alberta	
Test Name		Test Date		Field	
Static Gradient		Jul 15, 00		Ft. Liard	
				Pool	
				Nahanni	

Pressure vs. Real Time (Static Gradient)

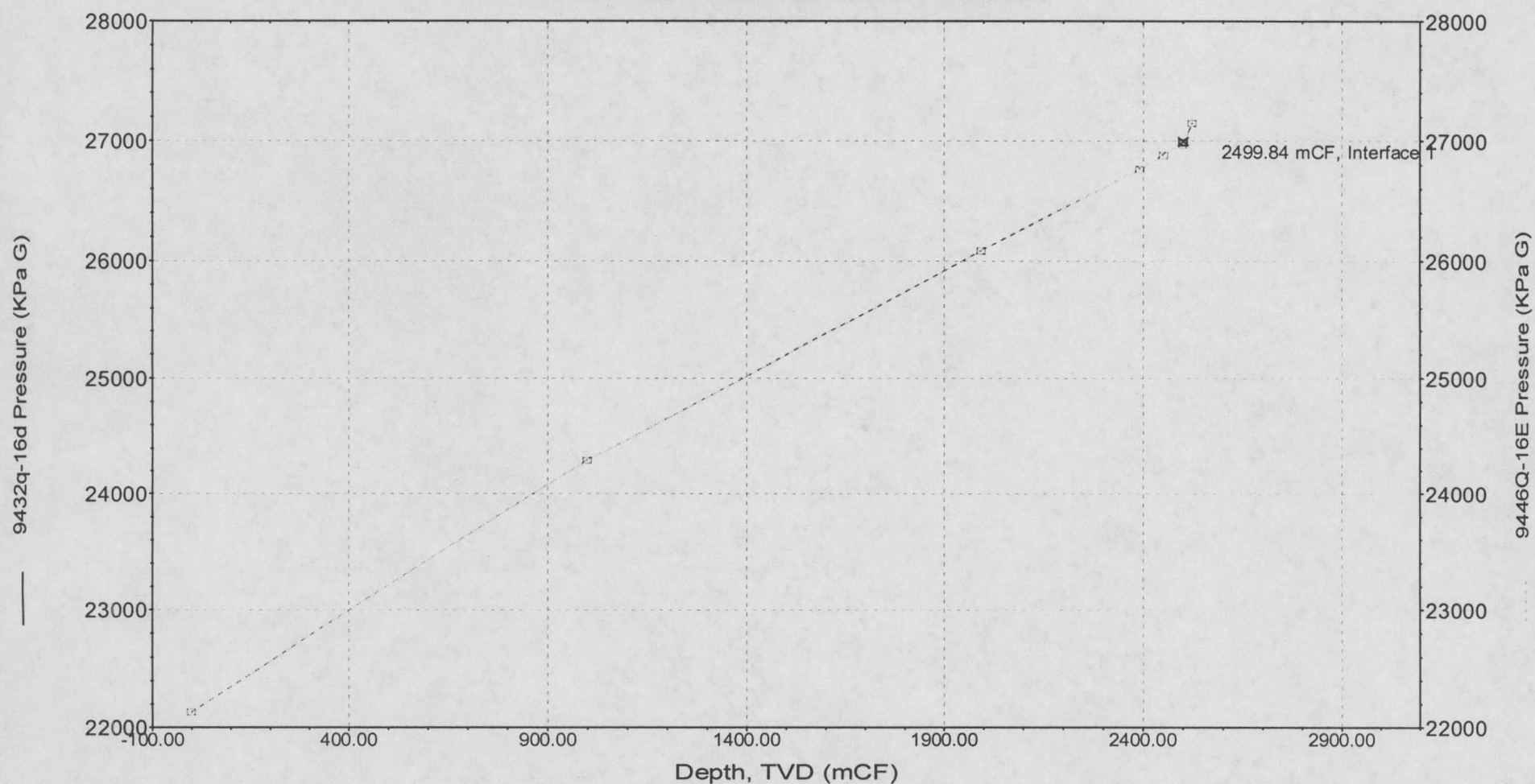


Remarks

9432Q-16E Bot. Rec. & 9446Q-16E Top Rec.

Well

Client	Chevron Canada Resources	Well Name	Chevron Et Al Liard K-29	Well No.	K-29	Province	Alberta
Test Name	Static Gradient	Test Date	Jul 15, 00	Field	Ft. Liard	Pool	Nahanni

Pressure vs. Depth (Static Gradient)**Remarks**

9432Q-16E Bot. Rec. & 9446Q-16E Top Rec.