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ADDENDUM TO CHEVRON ET AL FT. LIARD K-29 FINAL REPORT

COMPLETION SUMMARY

Completion operations on the well resumed on July 31, 1999. At that time Akita Rig #48, Lee Tool, and Dowell began operations to replace the 88.9 mm tubing left in the hole in May 1999 with 177.8mm tubing. The 88.9mm packer tailpipe, which was set at 2464.11 remained in the hole, while the upper tubing was pulled. This operation was completed on August 4, 1999, and the Akita rig was torn out.

On September 4, 1999, operations to install the permanent wellhead and flow the well for short term evaluation began. Contractors on location were Norward Testers and Baker Atlas Wireline. The permanent wellhead was installed Sept 4, 1999. Debris in the tailpipe prevented the crew from reaching the Otis RN blanking plug located at the bottom of the tailpipe (2650.34mKB). A decision was made to perforate the tailpipe from 2517 – 2523m to allow the well to flow alongside the tailpipe, then through the perforations. The perforation operation was successful, but the perf gun stuck at 2477.43mKB while pulling out of hole, and the wireline had to be cut to free the wireline from the perf gun. The wireline was cut, and the perf gun fell downhole, taking the cable cutter tool with it. The cable cutter tool and 54 m of cable were successfully fished out of the hole, leaving a fish consisting of the perf gun and approximately 6m of cable in the tailpipe. Total length of the fish was 7.8m and the top was at 2529.3mKB, which is below the perforations (as per wellbore diagram).

The well was flow tested using 4 bottom hole pressure recorders. None were successful in recording flow data, due to downhole temperatures of up to 165°C. On September 18, 1999 the permanent wellhead was installed (as per diagram), and Norward Testerswere moved off location. Well was secured for long term suspension, until production facilities are ready.

GENERAL DATA

Completion Dates:	July 31 – September 18,1999
Status:	suspended, pending production facilities
Contractors:	Akita Drilling, Lee Tool, Baker Atlas Wireline, Norward Testers
Perforation Interval:	2517-2523mKB (through tailpipe)

FLOW TEST RESULTS

A one day flow test has been completed on the K-29 well to confirm wellbore performance and stabilized wellhead flowing pressures. The blank off plug that was set in the tubing tail pipe at 2650 mKB could not be recovered due to fill in the tubing; the 88.9 mm tail pipe was perforated at a depth of 2517 to 2523 mMD. A three point flow test at rates of 2260 10^3 m^3/day (80 MMCFD), 1680 10^3 m^3/day (60 MMCFD), and at 960 10^3 m^3/day (34 MMCFD) was completed on September 14, 1999 (see Norward Energy Services final report).

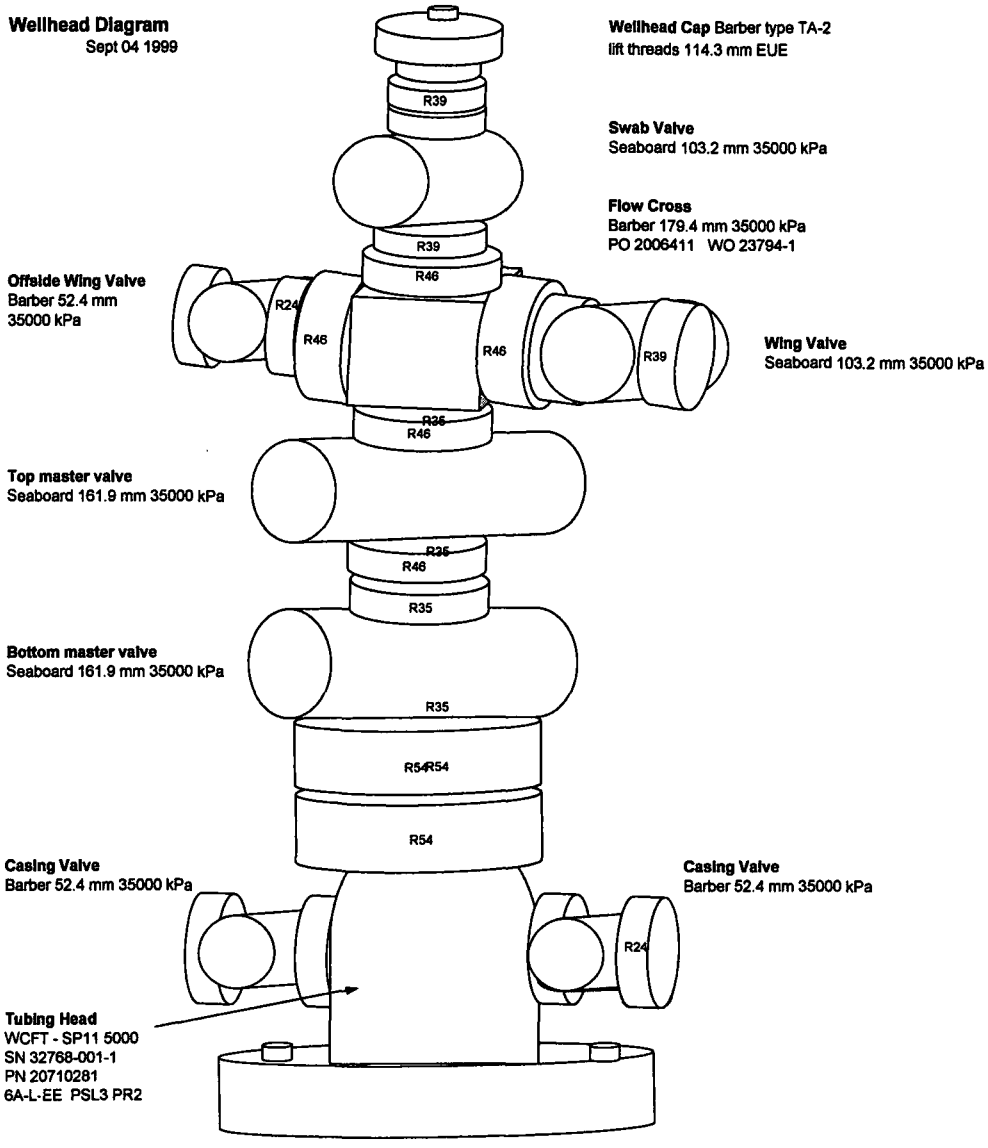
ATTACHMENTS: wellhead diagram, wellbore diagram, Norward Energy Services final report

MICROFILMED
SUR MICROFILM:

Chevron Canada Resources

Chevron et al Liard K-29
(grid section 60°30', 123°30')

Wellhead Diagram
Sept 04 1999



Wellhead Cap Barber type TA-2
lift threads 114.3 mm EUE

Swab Valve
Seaboard 103.2 mm 35000 kPa

Flow Cross
Barber 179.4 mm 35000 kPa
PO 2006411 WO 23794-1

Offside Wing Valve
Barber 52.4 mm
35000 kPa

Wing Valve
Seaboard 103.2 mm 35000 kPa

Top master valve
Seaboard 161.9 mm 35000 kPa

Bottom master valve
Seaboard 161.9 mm 35000 kPa

Casing Valve
Barber 52.4 mm 35000 kPa

Casing Valve
Barber 52.4 mm 35000 kPa

Tubing Head
WCFT - SP11 5000
SN 32768-001-1
PN 20710281
6A-L-EE PSL3 PR2

Valve Description Summary

	Bottom Master	Top Master	Wing Valve	Swab Valve	Off side Wing Valve	Casing Valve	Casing Valve
Make	Seaboard	Seaboard	Seaboard	Seaboard	Barber	Barber	Barber
model	540	540	500	S	B	B	B
size	6 3/8	6 3/8	4 1/16	4 1/16	2 1/16	2 1/16	2 1/16
MWP	5000	5000	5000	5000	5000	5000	5000
spec	6A	6A	6A	CS	6A	6A	6A
lic	413	413	413		44	44	44
temp	L	L	L	L	L / X	L	L
M/C	HH	EE1	H	EE	EE	DD	DD
PSL	3	2	3	2	2	2	2
PR	1	1	1	2	1	1	1
SN	H17100-1	H16947-1	H15955-1	H13071-1	37563-01	32775061	31744031
Body	ASCRA	CS	AS/CLAD	CS	A487	A487	A487
Bonnett	ASCRA	CS	AS/CLAD	CS	4130	4130	4130
Stem	Inconel	SS	Inconel	SSBRN	CRA718	17-4 PH	17-4 PH
Gate	SSHF	SSHF	SSHF	SSHF	410HF	4130 HF	4130 HF
Seat	SSHF	SSHF	SSHF	SSHF	410HF	4130 HF	4130 HF
PN	A19543-001	A19542-001	A14972022	50053011	50023013	50023011	50023011

Chevron Canada Resources
(grid section 60 deg.30', 123 deg. 30')
Start Test Date: 1999/09/14
Final Test Date: 1999/09/15

FieldNotes

Chevron et al Liard K-29

Job Number: GP99-109

Gas Meter 1

Meter Type:	Orifice Meter	
Meter Size:	146.33	mm
Previous Gas Production:	0.000	10^3m^3
Tap Type:	Flange	
Tap Location:	Downstream	
Gas Gravity (G):	0.780	
CO_2:	21.75	%
H_2S:	0.49	%
N_2:	3.40	%
Critical Temperature (T_C):	213.70	K
Critical Pressure (P_C):	5184.00	kPa

Gas Meter 2

Meter Type:	Orifice Meter	
Meter Size:	193.52	mm
Previous Gas Production:	0.000	10^3m^3
Tap Type:	Flange	
Tap Location:	Downstream	
Gas Gravity (G):	0.780	
CO_2:	21.75	%
H_2S:	0.49	%
N_2:	3.40	%
Critical Temperature (T_C):	213.70	K
Critical Pressure (P_C):	5184.00	kPa

Oil Meter 1

Meter Type:	Produced Volume	
Measurement Type:	Incremental	
Columns for Produced Volume:		
Previous Oil Production:	0.000	m^3
Previous Water Production:	0.000	m^3

Water Meter 1

Meter Type:	Produced Volume	
Measurement type:	Incremental	
Columns for Produced Volume:		
Previous Water Production:	0.000	m^3

Fast

Chevron Canada Resources
(grid section 60 deg.30', 123 deg. 30')
Start Test Date: 1999/09/14
Final Test Date: 1999/09/15

FieldNotes
Field Measurements

Chevron et al Liard K-29

Job Number: GP99-109

	Date	Clock Time	Pt	FP2	FP3	WHT	FT2	Orifice1	Static1 Pres	Diff1 Pres	Temp1	Gas1 Rate	Orifice2	Static2 Pres	Diff2 Pres	Temp2	Gas2 Rate	Tot Gas Rate	Tot Cum Gas	H2O Gain	H2O Rate	Cum H20	pH	Salinity	WGR
	yyyy/mm/dd	hh:mm:ss	kPa(g)	kPa	kPa(g)	°C	°C	mm	kPa(g)	kPa	°C	$10^3m^3/d$	mm	kPa(g)	kPa	°C	$10^3m^3/d$	$10^3m^3/d$	10^3m^3	m^3	m^3/d	m^3		ppm	$m^3/10^3m^3$
1	1999/09/14	14:00:00	Pressure up to choke and take opening pressure.																						
2	1999/09/14	14:00:00						0.000	0	0.0	0.0	0.00	0.000	0	0.0	0.0	0.00	0.000	0.000	0.00		0.00			
3		14:05:00	17739			23.5	22.0																		
4		14:10:00	17739			23.6	22.2																		
5		14:15:00	17800			23.8	22.5	0.000	0	0.0	0.0	0.00	0.000	0	0.0	0.0	0.00	0.000	0.000	0.00	0.00	0.00			
6		14:15:00	Open to flow to TK37 (gas meter #2) on a 16.67mm adjustable choke and adjust as needed to unload well.																						
7		14:20:00	14483	14116		24.1	16.1																		
8		14:25:00	19066	17952		24.6	38.7																		
9		14:26:00	Fluid to surface.																						
10	1999/09/14	14:30:00	15435	14769		25.1	33.0	107.950	0	0.0	0.0	0.00	0.000	0	0.0	0.0	0.00	0.000	0.000						
11		14:35:00	17275	16371		36.3	40.8																		
12		14:40:00	18288	17308		37.7	42.2																		
13		14:45:00	17995	17574		42.6	49.7		0	0.0	0.0	0.00	133.350	0	0.0	0.0	0.00	0.000	0.000						
14		14:45:00	Open flow to TU29 (gas meter #1) on a 25.4mm adjustable choke.																						
15		14:50:00	16695	16216	16249	60.9	5.5																		
16		14:55:00	15316	14839	14025	68.9	54.9	0.000	0	0.0	0.0	0.00	0.000	0	0.0	0.0	0.00	0.000	0.000						
17		14:55:00	Gas meter #1 in service with a 107.95mm orifice plate. Gas meter #2 in service with a 133.35mm orifice plate.																						
18	1999/09/14	15:00:00	15255	14788	13979	75.3	59.8	107.950	2200	68.5	50.0	980.19	133.350	425	52.5	33.0	610.79	1590.975	5.524	28.50	912.00	28.50	6	114000	0.573
19		15:05:00	14764	14333	12774	81.9	64.3																		
20		15:05:00	Increase choke to TU29 to 27.78mm.																						
21		15:10:00	14501	14074	12545	86.8	68.7																		
22		15:15:00	14776	14330	12795	91.6	73.0	107.950	3000	80.0	54.0	1228.86		387	45.0	35.0	541.91	1770.776	23.033	2.27	217.92	30.77			0.123
23		15:20:00	14727	14272	12749	94.9	75.7																		
24		15:25:00	14077	13366	12203	97.8	79.1																		
25		15:26:00	Choke to TK37 set at 32.54mm.																						
26		15:30:00	13906	13189	12041	100.7	81.9	107.950	2700	79.2	60.0	1147.42		740	62.0	69.0	793.77	1941.190	42.366	2.13	204.48	32.90	7	118000	0.105
27		15:35:00	12823	11507	11077	102.5	84.0																		
28		15:35:00	Increase choke to TK37 to 36.51mm.																						
29		15:40:00	12313	11043	10628	104.6	87.1																		
30		15:40:00	Increase choke to TU29 to 50.8mm, choke is now fully open.																						
31		15:45:00	12045	10811	9853	105.6	87.7	107.950	2750	79.5	70.0	1140.76		1100	73.0	68.0	1033.01	2173.773	63.799	4.50	432.00	37.40			0.199
32		15:45:00	Increase choke to TK37 to 40.48mm.																						
33		15:50:00	11398	9847	9319	107.0	88.8																		
34		15:50:00	Increase choke to TK37 to 46.83mm.																						
35		15:55:00	11306	9762	9249	108.2	89.8																		
36		16:00:00	11138	9450	9109	108.9	90.7	107.950	2500	74.0	78.0	1035.99		1090	72.5	69.0	1023.51	2059.499	85.847	4.35	417.60	41.75			0.203
37		16:00:00	Increase choke to TK37 to 50.8mm, choke is now fully open.																						
38		16:05:00	11175	9487	9145	109.5	92.2																		
39		16:10:00	11050	9389	9063	110.1	93.0																		
40		16:15:00	11035	9368	9048	110.3	93.3	107.950	2500	72.5	79.0	1023.75		1150	72.8	70.0	1049.74	2073.489	107.373	1.95	187.20	43.70			0.090
41		16:20:00	11044	9377	9054	110.4	92.1																		
42		16:25:00	10919	9267	8947	110.6	93.0																		
43		16:30:00	10897	9255	8944	110.7	93.5	107.950	2450	73.0	82.0	1012.33		1155	72.8	73.0	1047.02	2059.350	128.898	1.60	153.60	45.30			0.075
44		16:35:00	10983	9331	9023	110.9	92.3																		
45		16:40:00	10861	9228	8922	110.9	91.5																		
46		16:41:00	Two HP gas samples taken.																						
47		16:45:00	10952	9310	9002	111.2	92.7	107.950	2500	74.0	83.0	1027.88		1160	73.5	73.0	1054.22	2082.104	150.468	1.95	187.20	47.25			0.090

Chevron Canada Resources
(grid section 60 deg.30', 123 deg. 30')
Start Test Date: 1999/09/14
Final Test Date: 1999/09/15

FieldNotes
Field Measurements

Chevron et al Liard K-29

Job Number: GP98-109

	Date	Clock Time	Pt	FP2	FP3	WHT	FT2	Orifice1	Static1 Pres	Diff1 Pres	Temp1	Gas1 Rate	Orifice2	Static2 Pres	Diff2 Pres	Temp2	Gas2 Rate	Tot Gas Rate	Tot Cum Gas	H2O Gain	H2O Rate	Cum H20	pH	Salinity	WGR
	yyyy/mm/dd	hh:mm:ss	kPa(g)	kPa	kPa(g)	°C	°C	mm	kPa(g)	kPa	°C	$10^3m^3/d$	mm	kPa(g)	kPa	°C	$10^3m^3/d$	$10^3m^3/d$	10^3m^3	m^3	m^3/d	m^3		ppm	$m^3/10^3m^3$
48	1999/09/14	16:50:00	11062	9398	9099	111.5	92.9																		
49		16:55:00	11019	9371	9063	111.3	91.4																		
50		17:00:00	10986	9344	9032	111.5	92.3	107.950	2500	73.2	83.0	1022.27		1150	73.5	73.0	1050.01	2072.282	172.106	0.65	62.40	47.90	6	162000	0.030
51		17:01:00	H2S by Gastec 0.5%.																						
52		17:05:00	10922	9283	8977	111.5	91.5																		
53		17:10:00	11013	9365	9054	111.6	91.5																		
54		17:15:00	10952	9307	8999	111.6	92.2	107.950	2550	73.5	83.0	1034.44		1175	73.5	73.0	1060.52	2094.964	193.810	1.00	96.00	48.90			0.046
55		17:20:00	10961	9316	8999	111.7	91.9																		
56		17:25:00	11093	9423	9093	111.8	93.9																		
57		17:30:00	11093	9429	9093	112.0	95.1	107.950	2600	78.0	84.0	1074.43		1175	76.5	74.0	1080.63	2155.052	215.945	1.20	115.20	50.10			0.053
58		17:35:00	11074	9414	9081	112.0	95.5																		
59		17:40:00	11062	9405	9072	112.0	94.7																		
60		17:45:00	11096	9432	9093	112.1	94.2	107.950	2600	78.5	84.0	1077.88		1175	78.0	74.0	1091.33	2169.218	238.468	1.10	105.60	51.20			0.049
61		17:50:00	11077	9423	9084	112.1	92.5																		
62		17:55:00	11068	9417	9078	112.2	92.9																		
63	1999/09/14	18:00:00	11047	9398	9057	112.3	93.1	107.950	2600	78.0	84.0	1074.43		1175	77.0	74.0	1084.21	2158.632	261.009	0.90	86.40	52.10	6	202000	0.040
64		18:05:00	11090	9435	9093	112.4	94.2																		
65		18:10:00	11169	9499	9157	112.6	95.7																		
66		18:15:00	11178	9514	9170	112.6	95.2	107.950	2600	80.0	84.0	1088.20		1180	79.0	74.5	1099.74	2187.942	283.647	0.90	86.40	53.00			0.039
67		18:20:00	11172	9505	9164	112.7	95.8																		
68		18:25:00	11193	9524	9185	112.8	96.6																		
69		18:30:00	11205	9530	9197	113.0	94.2	107.950	2600	80.0	84.0	1088.20		1180	80.5	74.5	1110.30	2198.500	306.493	0.90	86.40	53.90			0.039
70		18:35:00	11334	9637	9304	113.3	95.4																		
71		18:40:00	11123	9460	9127	113.2	95.3																		
72		18:45:00	11270	9594	9261	113.2	96.4		2600	79.5	84.0	1084.77		1195	79.5	75.0	1108.91	2193.683	329.369	0.60	57.60	54.50			0.026
73		18:50:00	11288	9612	9276	113.4	96.2																		
74		18:55:00	11358	9670	9331	113.5	96.3																		
75		19:00:00	11328	9649	9307	113.6	96.3		2700	80.0	84.0	1108.71		1225	80.0	75.0	1125.33	2234.047	352.430	0.53	50.88	55.03	6	206000	0.023
76		19:05:00	11337	9661	9316	113.7	95.5																		
77		19:10:00	11376	9691	9353	113.7	95.1																		
78		19:15:00	11379	9698	9362	113.9	96.2		2750	81.0	86.0	1122.35		1220	80.0	75.0	1123.20	2245.545	375.761	0.60	57.60	55.63			0.026
79		19:20:00	11398	9713	9371	114.1	97.0																		
80		19:25:00	11401	9722	9368	114.1	96.5																		
81		19:30:00	11459	9774	9420	114.3	97.6		2750	80.5	84.0	1122.36		1225	82.0	75.0	1139.53	2261.893	399.238	0.65	62.40	56.28			0.028
82		19:35:00	11471	9786	9429	114.6	97.8																		
83		19:40:00	11450	9765	9411	114.7	97.1																		
84		19:45:00	11437	9756	9402	114.9	97.4		2700	81.0	84.0	1115.66		1225	82.0	75.5	1138.67	2254.332	422.760	0.57	54.72	56.85			0.024
85		19:50:00	11462	9777	9429	114.8	98.1																		
86		19:55:00	11459	9774	9420	114.8	98.2																		
87		20:00:00	11419	9743	9389	114.9	98.3		2740	81.0	84.0	1123.83		1215	84.0	75.5	1148.32	2272.143	446.335	0.57	54.72	57.42	6	278000	0.024
88		20:05:00	11389	9716	9362	115.0	98.2																		
89		20:10:00	11373	9701	9350	115.0	98.3																		
90		20:15:00	11398	9722	9368	115.1	98.3		2700	81.0	85.0	1113.92		1210	83.0	75.5	1139.17	2253.088	469.904	0.47	45.12	57.89			0.020
91		20:20:00	11370	9701	9353	115.2	98.2																		
92		20:25:00	11318	9658	9310	115.2	98.5																		
93		20:30:00	11312	9810	9316	115.2	98.4		2700	80.0	85.0	1106.98		1220	83.0	76.0	1142.66	2249.645	493.356	0.59	56.64	58.48			0.025
94		20:31:00	Decrease both chokes to 27.78 mm.																						

Fast

Chevron Canada Resources
(grid section 60 deg.30', 123 deg. 30')
Start Test Date: 1999/09/14
Final Test Date: 1999/09/15

FieldNotes
Field Measurements

Chevron et al Liard K-29

Job Number: GP99-109

	Date	Clock Time	Pt	FP2	FP3	WHT	FT2	Orifice1	Static1 Pres	Diff1 Pres	Temp1	Gas1 Rate	Orifice2	Static2 Pres	Diff2 Pres	Temp2	Gas2 Rate	Tot Gas Rate	Tot Cum Gas	H2O Gain	H2O Rate	Cum H20	pH	Salinity	WGR
	yyyy/mm/dd	hh:mm:ss	kPa(g)	kPa	kPa(g)	°C	°C	mm	kPa(g)	kPa	°C	$10^3m^3/d$	mm	kPa(g)	kPa	°C	$10^3m^3/d$	$10^3m^3/d$	10^3m^3	m^3	m^3/d	m^3		ppm	$m^3/10^3m^3$
95	1999/09/14	20:35:00	15609	15325	13579	116.9	100.1																		
96		20:40:00	16680	16384	15361	119.1	99.1																		
97		20:42:00	Decrease choke to TU29 to 25.4 mm.																						
98		20:45:00	17177	16881	16237	117.7	99.5		2400	74.0	80.0	1012.14		695	50.5	63.0	702.06	1714.201	514.001	0.10	9.60	58.58			0.006
99		20:50:00	17379	17067	16396	117.1	99.8																		
100		20:50:00	Decrease choke to TU29 to 20.64 mm.																						
101		20:55:00	17742	17433	16945	116.3	100.0																		
102	1999/09/14	21:00:00	17812	17510	17006	116.2	99.9		2400	69.5	75.0	988.50		725	51.0	61.0	721.05	1709.549	531.833	0.25	24.00	58.83			0.014
103		21:00:00	Insufficient fluid being produced to sample.																						
104		21:05:00	17800	17491	16988	116.2	99.7																		
105		21:10:00	17806	17504	17000	116.3	99.6																		
106		21:15:00	17818	17516	17015	116.4	99.7		2250	68.0	75.0	947.14		700	51.5	60.0	714.64	1661.784	549.392	0.20	19.20	59.03			0.012
107		21:20:00	17824	17510	17021	116.6	99.5																		
108		21:25:00	17827	17516	17015	116.7	99.3																		
109		21:30:00	17843	17531	17027	116.9	100.1		2250	68.5	68.0	961.41		700	51.5	59.5	715.20	1676.612	566.779	0.21	20.16	59.24			0.012
110		21:35:00	17849	17537	17046	117.1	100.5																		
111		21:40:00	17858	17549	17055	117.2	100.8																		
112		21:45:00	17864	17546	17052	117.4	100.8		2200	69.0	67.0	955.89		700	53.0	60.0	725.15	1681.040	584.267	0.20	19.20	59.44			0.011
113		21:50:00	17864	17558	17061	117.6	100.9																		
114		21:55:00	17867	17565	17064	117.8	100.0																		
115		22:00:00	20382	20363	19438	118.9	99.7		2300	67.3	72.0	957.05		695	52.5	60.0	719.39	1676.441	601.754	0.20	19.20	59.64			0.011
116		22:01:00	Shut in flowline to TK37; decrease choke to TU29 to 17.86 mm.																						
117		22:05:00	21685	21727	21049	116.1	95.6																		
118		22:10:00	21987		21526	115.0	90.6																		
119		22:15:00	Decrease choke to TU 29 to 17.46 mm.																						
120		22:15:00	21904		21315	114.4	88.9		2250	68.2	69.0	957.73		0	0.0	0.0	0.00	957.734	611.727	0.05	4.80	59.69			0.005
121		22:30:00	22005		21358	113.0	81.9		2260	68.0	67.0	961.54						961.542	621.723	0.05	4.80	59.74			0.005
122		22:45:00	22060		21443	111.8	73.7		2200	68.0	66.0	950.45						950.452	631.681	0.20	19.20	59.94			0.020
123		23:00:00	22072		21443	110.4	66.3		2200	68.0	65.0	952.02						952.016	641.590	0.10	9.60	60.04			0.010
124		23:15:00	22081		21455	109.7	59.6		2200	68.0	66.0	950.45						950.452	651.499	0.30	28.80	60.34			0.030
125		23:30:00	22084		21449	109.0	53.3		2200	68.0	66.0	950.45						950.452	661.399	0.10	9.60	60.44			0.010
126		23:45:00	22091		21446	108.7	49.6		2200	68.0	66.0	950.45						950.452	671.300	0.10	9.60	60.54			0.010
127		23:55:00	Two HP gas samples and two extra stock water samples taken.																						
128	1999/09/15	00:00:00	22091		21437	108.4	46.0		2210	68.0	66.0	952.57						952.574	681.211	0.10	9.60	60.64			0.010
129		00:01:00	End of test. Shut in well and secure wellhead.																						
130		00:01:00						0.000	0	0.0	0.0	0.00	0.000	0	0.0	0.0	0.00	0.000	681.211	0.00	0.00	60.64			

Fast

Cindy: 279-7992

AGAT® Laboratories

GAS ANALYSIS

CONTAINER IDENTIFICATION: AGAT 11119

LABORATORY NUMBER: GG38119A

OPERATOR NAME: CHEVRON CANADA RESOURCES LIMITED

UNIQUE WELL IDENTIFIER:

WELL NAME: CHEVRON et al LIARD K-29

ELEVATIONS: KB m / GRD m

FIELD OR AREA: LIARD

POOL OR ZONE: NAHANNI

NAME OF SAMPLER:

COMPANY: NORWARD ENERGY

TEST TYPE: NO:

TEST RECOVERY: NAHANNI DOLOMITE: LOWER FRACTURED ZONE

TEST INTERVAL OR PERFS:

SAMPLING POINT: METER RUN

	SEPARATOR	TREATER	RESERVOIR	SOURCE	SAMPLED	RECEIVED
GAUGE PRESSURE kPa				2450	2450	2680
TEMPERATURE °C				72	72	21

DATE SAMPLED (Y-M-D): 99-04-18

DATE RECEIVED (Y-M-D): 99-04-21

DATE REPORTED (Y-M-D): 99-04-21

ANALYST: NA NCO

OTHER INFORMATION: SAMPLED @ 14:00HRS

COMP	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	PETROLEUM LIQUID CONTENT (mL/m³)
H_2	0.0004	0.0005	
He	0.0010	0.0013	
N_2	0.0340	0.0437	
CO_2	0.2175	0.0000	
H_2S	0.0049	0.0000	
C_1	0.7422	0.9545	
C_2	TRACE	TRACE	
C_3	0.0000	0.0000	0.0
iC_4	0.0000	0.0000	0.0
nC_4	0.0000	0.0000	0.0
iC_5	0.0000	0.0000	0.0
nC_5	0.0000	0.0000	0.0
C_6	0.0000	0.0000	0.0
C_7+	0.0000	0.0000	0.0
C_8			
C_9			
C_{10}+			
TOTAL	1.000000	1.000000	0.0

GROSS HEATING VALUE MJ/m³ 15° C AND 101.325 kPa

MOISTURE AND ACID GAS FREE	AIR FREE AS RECEIVED	VAPOUR PRESSURE PENTANES PLUS
36.07	28.18	0.0 kPa

RELATIVE DENSITY

MOISTURE FREE AS SAMPLED		MOISTURE AND ACID GAS FREE	
MEASURED	CALCULATED	MEASURED	CALCULATED
	0.780		0.571

PSEUDO CRITICAL PROPERTIES (CALCULATED)

AS SAMPLED		ACID GAS FREE	
ppc (abs)	pTc	ppc (abs)	pTc
5184 kPa	213.7 K	4544 kPa	187.4 K

RELATIVE MOLECULAR MASS

TOTAL GAS	C_{7+}
22.6	0.0

H_2S (ppm): 7.04

REMARKS:

EXCEED NORMAL LIMITS : CO2
FIELD H2S= 4900ppm/LAB= 0.17%

BAKER HUGHES

Baker Atlas

NORWARD ENERGY SERVICES

Customer: Chevron Canada Resources
Wellname: Chevron et al Liard K-29
Well Location: grid section 60°30', 123°30'
Test Dates: Sept 14 - 15, 1999
Formation: Nahanni

File Name: GP99-109, CHEV407.FLD
Supervisors: R. Rutherford, M. Mueller
Customer Reps: Curtis Tromphe
Test Unit/Tank: TK#37, TU#29
Test Type: Multi - Point Test

Gas analysis used was from April 1999 test.

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GENERAL INFORMATION

Client Information:

Company: Chevron Canada Resources

Contact:

Phone: Fax: e-mail:

Site Information:

Contact: Curtis Triomphe

Phone: Fax: e-mail:

Well Information:

Name: Chevron et al Liard K-29

Operator: Chevron Canada Resources

Location-Downhole: (grid section 60 deg.30', 123 deg. 30')

Location-Surface:

Test Information:

Company:	Norward Energy Services		
Representative:	Paul Ringrose		
Supervisor:	R. Rutherford, M. Mueller, D.Shaver		
Test Type:	Multi - Rate Test	Job Number:	GP99-109
Test Unit:	TU29, TK37		
Start Date:	1999/09/14	Start Time:	14:00:00
End Date:	1999/09/15	End Time:	00:00:00
Report Date:	1999/10/04	Prepared By:	C. Brunt
Remarks:		Qualified By:	

- Wellhead and flowing pressures and temperatures taken with electronic gauges.
- Pt taken at the top of the wellhead.
- WHT taken after the ESD on the flowline to TU29.
- FP2, FT2 taken upstream of the choke on the flowline to TK37.
- FP3 taken upstream of choke on flowline to TU29.
- Stock water samples taken every 1/2 hr beginning at 17:30 hrs.
- April Gas Analysis used

Office national
de l'énergie

WELL TERMINATION RECORD

This record is submitted in compliance with Section 184 of the *Canada Oil and Gas Drilling Regulations*.

Well Name: Chevron et al Liard K-29 Area: Liard Basin

Grid Area: 60° 30', 123° 30' Field / Pool: Exploratory

Interest Identifier: Nahanni Final Coordinates: TD Lat: 60° 28' 40.15" N Long: 123° 34' 41.34" W

Surface 60° 28' 41.04" 123° 35' 04.10"

Drilling Unit: Akita Drilling # 48 Elevations-KB/RT: 418.8m (ASL) GL/Seafloor: 409.60m

Spud Date: 1999-02-03 R.R.: 1999-03-30 Total Depth: 3000 mKB,MD

O.D. (mm)	Weight (kg/m)	Grade	Depth Set (m KB)	Cement (m^3)
508	78.55 / 117.15		7.6 / 20	Class 'G' (7.6)
339.7	101.2	K-55	701.3	93.3
244.5	64.94 / 69.9	MN-80	1538 / 2500	96.5

PLUGGING PROGRAM

Approval of the following program was obtained by (person)

from (person) of the

by means of on

Type of Plug	Interval (m KB)	Felt	Cement (m^3)

Lost Circulation/Overpressure Zones:

Equipment left on Seafloor (Describe): N/A

Provision for Re-entry (Describe and attach sketch):

Cores: NONE Type: Intervals:

Other Downhole Completion/Suspension Equipment: 177.8mm, 43.16kg/m, Hydril 563 tubing & permanent packer

CERTIFICATION

I certify on the basis of personal knowledge of operations undertaken at the above named well that the above information is accurate.

Signed: Title: Well Construction Engineer

Name: Miles N. Sweep, P.Eng Date: 1999-08-17

Company: Chevron Canada Resources

MICROFILMED
SUR MICROFILM:

Well Status

Suspended ☐

Completed X

Abandoned ☐

Acknowledged by:

Chief Conservation Officer

Date: Nov 4/99

File: 9211-C004-1-1

UWI: 300K29603012330 WID: 1861

Canada
444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S.-O.

Telephone/Téléphone : (403) 292-4800
Facsimile/Télécopieur : (403) 292-5876
http://www.neb.gc.ca

Chevron Canada Resources

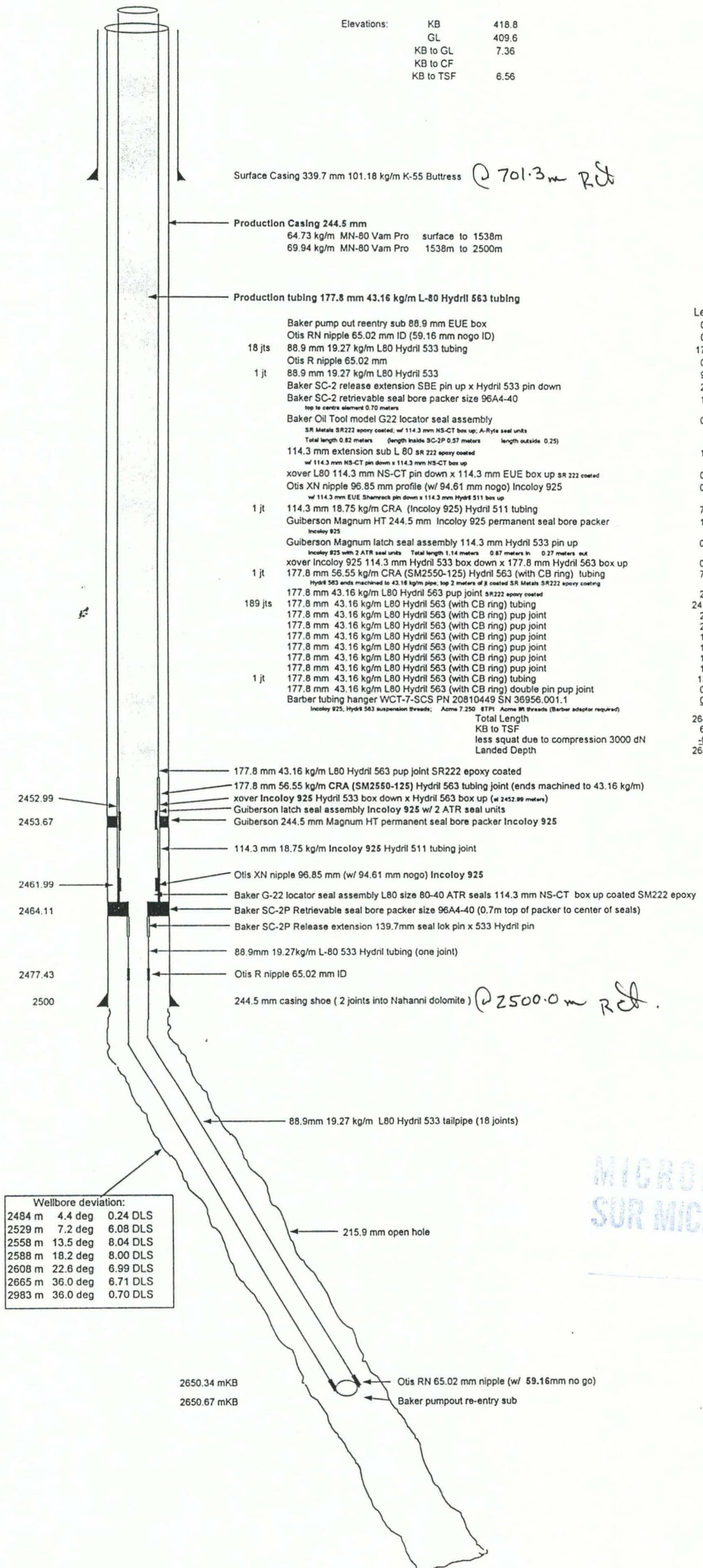
Chevron et al Liard K-29
(grid section 60°30', 123°30')

Wellbore . .gram

Wellbore

Chevron

Elevations:		
	KB	418.8
	GL	409.6
	KB to GL	7.36
	KB to CF	
	KB to TSF	6.56



		Length	Depth
	Baker pump out reentry sub 88.9 mm EUE box	0.14	2650.67
	Otis RN nipple 65.02 mm ID (59.16 mm nogo ID)	0.33	2650.34
18 jts	88.9 mm 19.27 kg/m L80 Hydril 533 tubing	172.63	
	Otis R nipple 65.02 mm	0.28	2477.43
1 jt	88.9 mm 19.27 kg/m L80 Hydril 533	9.55	
	Baker SC-2 release extension SBE pin up x Hydril 533 pin down	2.01	
	Baker SC-2 retrievable seal bore packer size 96A4-40 top to centre element 0.70 meters	1.76	2464.11
	Baker Oil Tool model G22 locator seal assembly SR Metals SR222 epoxy coated; w/ 114.3 mm NS-CT box up; A-Ryte seal units Total length 0.82 meters (length inside SC-2P 0.57 meters length outside 0.25)	0.25	
	114.3 mm extension sub L 80 SR 222 epoxy coated w/ 114.3 mm NS-CT pin down x 114.3 mm NS-CT box up	1.22	
	xover L80 114.3 mm NS-CT pin down x 114.3 mm EUE box up SR 222 coated	0.25	
	Otis XN nipple 96.85 mm profile (w/ 94.61 mm nogo) Incoloy 925 w/ 114.3 mm EUE Shamrock pin down x 114.3 mm Hydril 511 box up	0.40	2461.99
1 jt	114.3 mm 18.75 kg/m CRA (Incoloy 925) Hydril 511 tubing	7.00	
	Guiberson Magnum HT 244.5 mm Incoloy 925 permanent seal bore packer Incoloy 925	1.32	2453.67
	Guiberson Magnum latch seal assembly 114.3 mm Hydril 533 pin up Incoloy 925 with 2 ATR seal units Total length 1.14 meters 0.87 meters in 0.27 meters out	0.27	
	xover Incoloy 925 114.3 mm Hydril 533 box down x 177.8 mm Hydril 563 box up	0.41	2452.99
1 jt	177.8 mm 56.55 kg/m CRA (SM2550-125) Hydril 563 (with CB ring) tubing Hydril 563 ends machined to 43.18 kg/m pipe; top 2 meters of 5 coated SR Metals SR222 epoxy coating	7.68	
	177.8 mm 43.16 kg/m L80 Hydril 563 pup joint SR222 epoxy coated	2.44	
189 jts	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) tubing	2411.31	
	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) pup joint	2.99	
	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) pup joint	2.34	
	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) pup joint	1.55	
	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) pup joint	1.24	
	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) pup joint	1.83	
	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) pup joint	1.40	
1 jt	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) tubing	13.10	
	177.8 mm 43.16 kg/m L80 Hydril 563 (with CB ring) double pin pup joint	0.45	
	Barber tubing hanger WCT-7-SCS PN 20810449 SN 36956.001.1 Incoloy 925, Hydril 563 suspension threads; Acme 7.250 6TPI Acme 8R threads (Barber adaptor required)	0.30	
	Total Length	2644.45	
	KB to TSF	6.56	
	less squat due to compression 3000 dN	-0.20	
	Landed Depth	2650.81	

Wellbore deviation:		
2484 m	4.4 deg	0.24 DLS
2529 m	7.2 deg	6.08 DLS
2558 m	13.5 deg	8.04 DLS
2588 m	18.2 deg	8.00 DLS
2608 m	22.6 deg	6.99 DLS
2665 m	36.0 deg	6.71 DLS
2983 m	36.0 deg	0.70 DLS

MICROFILMED
SUR MICROFILM: