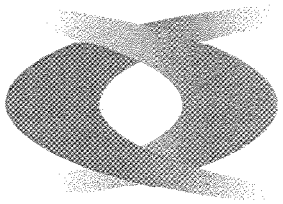
INTEGRATED PRODUCTION SERVICES



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Project Management & Engineering

SINGLE POINT TEST

APACHE CANADA LIMITED

Well Name: APACHE NOGHA M-17
UWI: 300_M-17-66-36 125-48-0

FIELD: COLVILLE LAKE

FORMATION: MOUNT CLARK 'C'

TEST DATE: March 8-13, 2004

DISTRIBUTION: ***Walter Stock, Calgary, AB***
via email: walterf.stock@apachecorp.com
Lee Forbes, Calgary, AB
via email: lee.forbes@apachecorp.com

PREPARED BY: ***Roberta (Robbie) Lailey***

Core Lab
RESERVOIR OPTIMIZATION

EXTENDED GAS ANALYSIS

CONTAINER IDENTITY	METER ID	WELL LICENSE NUMBER	LABORATORY FILE NUMBER
V0005581 - 1		1970	52136-2004-1252

OPERATOR: Apache Canada Ltd.

PAGE: 1

LOCATION (UWI)	WELL NAME	KB ELEV (m)	GR ELEV (m)
M-17-66-36-125-48-0	Apache Nogha M17-66-36-125-48-0	350.0	344.0

FIELD OR AREA	POOL OR ZONE	SAMPLER
Nogha	Mount Clark C	IPS

TEST TYPE AND NO.: Meter Run

TEST RECOVERY:

POINT OF SAMPLE: PUMPING / FLOWING / GAS LIFT / SWAB

SAMPLE POINT ID:

TEST INTERVAL or PERFS (meters): 1411.0 - 1414.0

WATER ____ m³/d OIL ____ m³/d GAS 43000 m³/d

Pressures, kPa (gauge)

SEPARATOR	RESERVOIR	OTHER	CONTAINER WHEN SAMPLED @ °C	CONTAINER WHEN RECEIVED @ °C
310			@ °C	392 @ 22 °C

Temperatures, °C

SEPARATOR	OTHER
23	

at 17:00 hrs

DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	AMT. AND TYPE CUSHION	MUD RESISTIVITY @ °C
2004 03 09	2004 04 06	2004 04 14	CL		@ °C

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m³ AIR FREE AS RECEIVED
H_2	0.0001	0.0001	
He	0.0054	0.0054	
N_2	0.1995	0.1995	
CO_2	0.0001	0.0000	
H_2S	0.0000	0.0000	
C_1	0.7329	0.7330	
C_2	0.0330	0.0330	117.1
C_3	0.0130	0.0130	47.7
iC_4	0.0032	0.0032	14.0
C_4	0.0038	0.0038	16.0
iC_5	0.0018	0.0018	8.8
C_5	0.0010	0.0010	4.8
C_6	0.0011	0.0011	5.9
C_{7+}	0.0051	0.0051	30.9
Total	1.0000	1.0000	245.2

CALCULATED GROSS HEATING VALUE MJ/m³ @ 15°C & 101.325 kPa (abs.)

MOISTURE FREE	MOISTURE & ACID GAS FREE
33.64	33.64

CALCULATED VAPOR PRESSURE kPa (abs.) @ 40 °C: 53.0 (PENTANES PLUS)

CALCULATED TOTAL SAMPLE PROPERTIES (AIR=1) @ 15°C & 101.325 kPa
MOISTURE FREE AS SAMPLED

DENSITY	RELATIVE DENSITY	RELATIVE MOLECULAR MASS
0.853 kg/m³	0.697	20.2

CALCULATED PSEUDOCRITICAL PROPERTIES

AS SAMPLED pPc	AS SAMPLED pTc	ACID GAS FREE pPc	ACID GAS FREE pTc
4320.8 kPa (abs)	187.5 K	4320.5 kPa (abs)	187.4 K

C_{7+} PROPERTIES @ 15°C & 101.325 kPa DENSITY	MOLECULAR WEIGHT	MOLE FRACTION HYDROGEN SULPHIDE	LOCATION	METHOD
742.3 kg/m³	104.6	0.0000000	Field	Kitagawa

REMARKS:

H2S was not detected in the field by Kitagawa.

NOTE: THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO AGA REPORT #5 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING GPA 2145 - 00 PHYSICAL CONSTANTS.

APACHE CANADA LIMITED
300 M-17-66-36 125-48-0
Start Test Date: 2004/03/08
Final Test Date: 2004/03/13

Integrated Production Services
Field Measurements

APACHE NOGHA M-17
Formation: MOUNT CLARK 'C'

Job Number: CX04-169

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
1	2004/03/08	17:00:00	Arrive on location, spot and rig in test equipment																	
2			Hold safety meeting.																	
3		21:15:00	Wireline at surface																	
4			Secure well and equipment for the night																	
5	2004/03/09	07:00:00	Arrive on location, hold safety meeting																	
6			Rig out service rig.																	
7			Rig up flow line.																	
8		10:59:00	12488																	
9			Pressure up to choke and open to flow, 16/64 = 6.53 mm.																	
10		11:05:00	11600																	
11		11:10:00	11320																	
12			Increase choke to 18/64 = 7.14 mm.																	
13			Burnable gas to surface.																	
14			Fluid to surface.																	
15			Shut in, repair flowline leak.																	
16		12:10:00	11909																	
17			Pressure up to choke and open to flow 18/64 = 7.14 mm.																	
18		12:15:00	10850																	
19		12:20:00	10360																	
20			Fluid to surface.																	
21			Shut in, repair manifold leak.																	
22		12:30:00	11110			0.00	0	0.0	0.0	0.000	0.000	0.000	0.0	0.000	0.000	0.000	0.000			
23			Open to flow 12/64 = 4.76 mm.																	
24		12:40:00	10912																	
25		12:45:00	10975																	
26			Increase choke to 18/64 = 7.14 mm.																	
27		12:50:00	10975																	
28		12:55:00	10320			0.00	0	0.0	0.0	0.000	0.000									
29			Meter in service with a 44.45mm orifice plate																	
30		13:00:00	10304		-2.0	44.45	345	22.9	-30.0	42.871	0.149									
31		13:15:00	10080		-2.0		427	28.6	-32.0	52.566	0.646									

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APACHE NOGHA M-17
Formation: MOUNT CLARK 'C'

Job Number: CX04-169

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
32	2004/03/09	13:30:00	10120		-2.0		434	33.3	-20.0	55.755	1.210									
33		14:00:00	10042		-3.0	44.45	448	39.3	17.0	57.235	2.387									
34		14:30:00	9847		-3.0		427	37.3	22.0	54.174	3.548									
35			Decrease choke to 16/64 = 6.35 mm.																	
36		15:00:00	10369		-3.0	44.45	310	28.1	22.0	41.333	4.542									
37		15:30:00	10398		-3.0		331	30.4	24.0	43.923	5.431									
38		16:00:00	10463		-4.0	44.45	331	30.1	24.0	43.737	6.344									
39		16:30:00	10471		-4.0		338	30.4	23.0	44.354	7.261									
40		17:00:00	10491		-4.0	44.45	310	28.9	23.0	41.823	8.159									
41			Samples taken, 2 high pressure gas #'s V0005531 and V0006733.																	
42		17:30:00	10368		-4.0		345	29.9	23.0	44.328	9.056									
43		18:00:00	10578		-4.0	44.45	221	24.9	23.0	34.292	9.875									
44			Increase choke to 18/64 = 7.14 mm.																	
45		18:30:00	10281		-4.0		414	36.8	23.0	53.042	10.785									
46			Seeing very small traces of sand and frac oil, TSTM.																	
47		19:00:00	9553		-5.0	44.45	414	38.3	26.0	53.853	11.899									
48		19:30:00	9400		-5.0		414	36.6	24.0	52.765	13.009									
49		20:00:00	9293		-7.0	44.45	414	36.8	23.0	53.042	14.111									
50		20:30:00	9233		-6.0		414	36.6	22.0	52.949	15.215									
51		21:00:00	9173		-5.0	44.45	407	36.6	21.0	52.681	16.316									
52		21:30:00	9129		-5.0		407	36.3	20.0	52.588	17.412									
53			Decrease choke to 16/64 = 6.35 mm.																	
54		22:00:00	9725	7000	-6.0	44.45	248	27.4	19.0	37.759	18.353									
55			Small traces of sand in samples, TSTM.																	
56		22:30:00	9830		-6.0		359	15.4	18.0	32.461	19.085									
57		23:00:00	9914		-7.0	44.45	448	16.4	17.0	36.706	19.805	0.000		0.000	0.000	0.000	0.000			
58		23:30:00	9899		-7.0		393	19.2	17.0	37.621	20.580									
59	2004/03/10	00:00:00	9824		-7.0	44.45	400	18.9	15.0	37.773	21.365	2.360	0.0	2.360	2.360	0.000	0.000			
60		00:30:00	9760		-6.0		379	18.7	14.0	36.781	22.142									
61		01:00:00	9749		-7.0	44.45	393	18.9	14.0	37.573	22.916	0.120	0.0	0.120	2.480	0.000	0.000			
62		01:30:00	9721		-6.0		386	18.9	14.0	37.302	23.696									

APACHE CANADA LIMITED
300 M-17-66-36 125-48-0
Start Test Date: 2004/03/08
Final Test Date: 2004/03/13

Integrated Production Services
Field Measurements

APACHE NOGHA M-17
Formation: MOUNT CLARK 'C'

Job Number: CX04-169

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
63	2004/03/10	02:00:00	9722	7000	-6.0	44.45	372	17.7	15.0	35.450	24.454	0.070	0.0	0.070	2.550	0.000	0.000			54.0
64			Small traces of sand in samples, TSTM.																	
65		02:30:00	9687		-6.0		379	17.4	15.0	35.458	25.192									
66		03:00:00	9684		-6.0	44.45	379	17.4	14.0	35.521	25.932	0.080	0.0	0.080	2.630	0.000	0.000			
67		03:30:00	9675		-6.0		379	17.4	15.0	35.458	26.671									
68		04:00:00	9658		-7.0	44.45	379	17.4	14.0	35.521	27.411	0.090	0.0	0.090	2.720	0.000	0.000			
69		04:30:00	9647		-7.0		379	17.4	15.0	35.458	28.150									
70		05:00:00	9641		-7.0	44.45	372	17.2	16.0	34.876	28.883	0.090	0.0	0.090	2.810	0.000	0.000			
71		05:30:00	9632		-7.0		372	17.2	17.0	34.814	29.609									
72		06:00:00	9614	7000	-7.0	44.45	372	17.2	17.0	34.814	30.334	0.040	0.0	0.040	2.850	0.000	0.000			55.1
73			Injecting methonol into flowstream at a rate of 8L/hour																	
74		06:30:00	9590		-6.0		379	17.4	19.0	35.207	31.063									
75		07:00:00	9577		-6.0	44.45	379	17.4	19.0	35.207	31.797	0.150	0.0	0.150	3.000	0.000	0.000			
76		07:30:00	9540		-6.0		372	17.4	19.0	34.946	32.527									
77		08:00:00	9522		-6.0	44.45	386	17.4	19.0	35.466	33.261	0.110	0.0	0.110	3.110	0.000	0.000			
78		08:30:00	9494		-6.0		379	17.4	18.0	35.269	33.998									
79		09:00:00	9487		-6.0	44.45	379	17.9	17.0	35.842	34.738	0.060	0.0	0.060	3.170	0.000	0.000			
80		09:30:00	9467		-6.0		379	17.7	18.0	35.524	35.482									
81		10:00:00	9467	6950	-6.0	44.45	379	17.7	19.0	35.462	36.221	0.070	0.0	0.070	3.240	0.000	0.000			53.2
82		10:30:00	9452		-6.0		379	17.7	19.0	35.462	36.960									
83		11:00:00	9438		-6.0	44.45	379	17.7	19.0	35.462	37.699	0.020	0.0	0.020	3.260	0.000	0.000			
84		11:30:00	9437		-5.0		379	17.7	20.0	35.399	38.437									
85		12:00:00	9419		-5.0	44.45	379	17.7	20.0	35.399	39.174	0.140	0.0	0.140	3.400	0.000	0.000			
86		12:30:00	9413		-5.0		379	17.7	20.0	35.399	39.912									
87		13:00:00	9408		-5.0	44.45	379	17.7	20.0	35.399	40.649	0.080	80.0	0.016	3.416	0.064	0.064	6		
88			Salinity of water is too high to measure.																	
89		13:30:00	9380		-5.0		379	17.7	22.0	35.276	41.386									
90		14:00:00	9393	6950	-5.0	44.45	379	17.7	22.0	35.276	42.121	0.060	90.0	0.006	3.422	0.054	0.118	6		54.7
91		14:30:00	9395		-5.0		379	17.7	22.0	35.276	42.855									
92		15:00:00	9384		-5.0	44.45	379	17.7	22.0	35.276	43.590	0.160	90.0	0.016	3.438	0.144	0.262	6	274000	
93		15:30:00	9379		-5.0		379	17.7	22.0	35.276	44.325									

APACHE CANADA LIMITED
300 M-17-66-36 125-48-0
Start Test Date: 2004/03/08
Final Test Date: 2004/03/13

Integrated Production Services
Field Measurements

APACHE NOGHA M-17
Formation: MOUNT CLARK 'C'

Job Number: CX04-169

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
94	2004/03/10	16:00:00	9380		-5.0	44.45	379	17.7	22.0	35.276	45.060	0.020	90.0	0.002	3.440	0.018	0.280	6	274000	
95		16:30:00	9376		-5.0		379	17.4	22.0	35.022	45.792									
96		17:00:00	9374		-5.0	44.45	379	17.4	22.0	35.022	46.522	0.040	90.0	0.004	3.444	0.036	0.316	6	272000	
97		17:30:00	9375		-5.0		379	17.4	22.0	35.022	47.252									
98		18:00:00	9378	7000	-5.0	44.45	372	17.2	22.0	34.509	47.976	0.090	90.0	0.009	3.453	0.081	0.397	6	272000	55.0
99		18:30:00	9381		-5.0		379	17.4	23.0	34.961	48.700									
100		19:00:00	9383		-5.0	44.45	379	17.4	24.0	34.900	49.427	0.070	90.0	0.007	3.460	0.063	0.460	6	271000	
101		19:30:00	9391		-5.0		379	17.4	24.0	34.900	50.154									
102		20:00:00	9372		-5.0	44.45	379	17.7	23.0	35.214	50.885	0.090	90.0	0.009	3.469	0.081	0.541	6	272000	
103		20:30:00	9372		-6.0		379	17.4	22.0	35.022	51.616									
104		21:00:00	9357		-6.0	44.45	379	17.4	22.0	35.022	52.346	0.040	95.0	0.002	3.471	0.038	0.579	6	272000	
105		21:30:00	9353		-6.0		379	17.4	23.0	34.961	53.075									
106		22:00:00	9351	6950	-6.0	44.45	372	17.4	23.0	34.702	53.801	0.050	95.0	0.003	3.474	0.048	0.627	6	272000	54.8
107		22:30:00	9348		-5.0		379	17.2	24.0	34.646	54.523									
108		23:00:00	9344		-5.0	44.45	379	16.9	25.0	34.330	55.242	0.060	98.0	0.001	3.475	0.059	0.685	6	279000	
109		23:30:00	9341		-5.0		379	16.7	26.0	34.014	55.953									
110			Salinity of water is to high to measure.																	
111	2004/03/11	00:00:00	9338		-5.0	44.45	379	16.7	26.0	34.014	56.662	0.080	98.0	0.002	3.476	0.078	0.764	6		
112		00:30:00	9329		-5.0		372	16.2	26.0	33.245	57.363									
113		01:00:00	9327		-5.0	44.45	372	15.9	26.0	32.995	58.053	0.070	98.0	0.001	3.478	0.069	0.832	6		
114		01:30:00	9328		-5.0		372	15.9	27.0	32.938	58.739									
115		02:00:00	9321	6900	-4.0	44.45	372	15.9	26.0	32.995	59.426	0.060	98.0	0.001	3.479	0.059	0.891	6		
116		02:30:00	9344		-4.0		372	15.9	26.0	32.995	60.114									
117		03:00:00	9344		-5.0	44.45	372	15.9	26.0	32.995	60.801	0.060	99.0	0.001	3.480	0.059	0.951	6		
118		03:30:00	9359		-6.0		365	15.9	26.0	32.746	61.486									
119		04:00:00	9350		-6.0	44.45	372	15.9	26.0	32.995	62.171	0.060	99.0	0.001	3.480	0.059	1.010	6		
120		04:30:00	9336		-6.0		372	15.9	26.0	32.995	62.858									
121		05:00:00	9324		-5.0	44.45	372	15.9	26.0	32.995	63.545	0.060	99.0	0.001	3.481	0.059	1.069	6		
122		05:30:00	9312		-5.0		365	15.9	26.0	32.746	64.230									
123		06:00:00	9317	6900	-4.0	44.45	372	15.9	27.0	32.938	64.914	0.060	99.0	0.001	3.481	0.059	1.129	6		
124		06:30:00	9336		-4.0		365	15.7	26.0	32.485	65.596									

APACHE CANADA LIMITED
300 M-17-66-36 125-48-0
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Integrated Production Services
Field Measurements

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Formation: MOUNT CLARK 'C'

Job Number: CX04-169

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
125	2004/03/11	07:00:00	9327		-4.0	44.45	359	15.4	26.0	32.011	66.268									
126		07:30:00	9335		-4.0		365	15.4	26.0	32.222	66.937									
127		08:00:00	9351		-4.0	44.45	359	15.4	26.0	32.011	67.606	0.060	99.0	0.001	3.482	0.059	1.188	6		
128		08:30:00	9340		-4.0		359	15.4	27.0	31.957	68.272									
129		09:00:00	9312		-4.0	44.45	372	15.9	27.0	32.938	68.948	0.030	99.0	0.000	3.482	0.030	1.218	6		
130		09:30:00	9297		-4.0		372	15.7	27.0	32.676	69.632									
131		10:00:00	9296	7000	-4.0	44.45	365	15.7	27.0	32.430	70.310	0.120	99.0	0.001	3.483	0.119	1.337	6		
132		10:30:00	9316		-4.0		365	15.7	27.0	32.430	70.986									
133		11:00:00	9308		-4.0	44.45	365	15.7	27.0	32.430	71.661	0.030	99.0	0.000	3.484	0.030	1.366	6		
134		11:30:00	9324		-4.0		352	15.4	28.0	31.655	72.329									
135		12:00:00	9294		-4.0	44.45	352	15.4	28.0	31.655	72.988	0.010	99.0	0.000	3.484	0.010	1.376	6		
136		12:30:00	9287		-4.0		365	15.7	28.0	32.374	73.655									
137		13:00:00	9257		-4.0	44.45	365	15.7	28.0	32.374	74.330	0.030	99.0	0.000	3.484	0.030	1.406	6		
138		13:30:00	9201		-2.0		365	16.2	28.0	32.883	75.009									
139		14:00:00	9167	7000	-1.0	44.45	379	15.9	28.0	33.127	75.697	0.040	99.0	0.000	3.485	0.040	1.446	6		
140		14:30:00	9111		-1.0		372	15.9	28.0	32.882	76.385									
141		15:00:00	9091		-1.0	44.45	359	15.9	28.0	32.421	77.065	0.080	99.0	0.001	3.485	0.079	1.525	6		
142		15:30:00	9056		-1.0		365	15.7	28.0	32.374	77.740									
143		16:00:00	9018		-2.0	44.45	365	15.7	27.0	32.430	78.415	0.120	99.0	0.001	3.487	0.119	1.644	6		
144		16:30:00	8962		-2.0		359	15.7	27.0	32.218	79.088									
145		17:00:00	8913		-2.0	44.45	359	15.7	26.0	32.273	79.760	0.040	99.0	0.000	3.487	0.040	1.683	6	270000	
146		17:30:00	8890		-2.0		352	15.4	26.0	31.764	80.427									
147		18:00:00	8841	6975	-2.0	44.45	352	15.2	26.0	31.502	81.086	0.090	99.0	0.001	3.488	0.089	1.772	6	270000	
148		18:30:00	8832		-2.0		345	14.9	26.0	30.993	81.737									
149		19:00:00	8813		-3.0	44.45	345	14.9	28.0	30.887	82.382	0.080	99.0	0.001	3.489	0.079	1.851	6	270000	
150		19:30:00	8788		-3.0		345	14.9	28.0	30.887	83.025									
151		20:00:00	8775		-3.0	44.45	345	14.9	28.0	30.887	83.669	0.090	99.0	0.001	3.490	0.089	1.941	6	272000	
152		20:30:00	8764		-4.0		331	14.4	28.0	29.873	84.302									
153			Suspect well is loading up, increase choke to a 22/64 = 8.73 mm.																	
154			Well is slugging fluid, 30% frac oil, 38% sand.																	
155			Salinity of water is to high to measure.																	

APACHE CANADA LIMITED
300 M-17-66-36 125-48-0
Start Test Date: 2004/03/08
Final Test Date: 2004/03/13

Integrated Production Services
Field Measurements

APACHE NOGHA M-17
Formation: MOUNT CLARK 'C'

Job Number: CX04-169

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
156	2004/03/11		Returns are water with trace of oil, 49% sand.																	
157		21:00:00	8204		-4.0	44.45	572	30.9	34.0	54.382	85.179	0.440	99.0	0.004	3.494	0.436	2.376	6		
158		21:30:00	7432		-4.0		621	24.4	34.0	50.006	86.267									
159			Returns are water with 3% frac oil, 2% sand.																	
160		22:00:00	7417	7000	-4.0	44.45	565	21.4	34.0	44.933	87.256	0.410	95.0	0.021	3.514	0.390	2.766	6		
161		22:30:00	7340		-4.0		572	22.4	32.0	46.384	88.207									
162		23:00:00	7249		-4.0	44.45	552	21.1	32.0	44.374	89.152	0.450	99.0	0.005	3.519	0.445	3.211	6		
163			Vac truck on location, transfer fluid from p-tank to vac truck.																	
164			Vac truck hauled off 3.15m³.																	
165		23:30:00	7027		-4.0		552	21.4	32.0	44.638	90.079									
166	2004/03/12	00:00:00	7006		-4.0	44.45	552	20.9	30.0	44.258	91.005	0.450	99.0	0.005	3.523	0.445	3.657	6		
167			Returns are water with a trace of frac oil, 3% sand.																	
168		00:00:00	Shut in at wing valve, bleed off test vessel, obstruction in meter run.																	
169		00:25:00	8400																	
170		00:30:00	8632																	
171		00:45:00	9200																	
172		01:00:00	9523			0.00	0	0.0	0.0	0.000	91.005	0.000	0.0	0.000	3.523	0.000	3.657			
173			Problem repaired, open to flow on a 22/64 = 8.73 mm, Orifice plate = 38.1mm.																	
174			Fluid to surface, returns are water with a trace frac oil, 6% sand.																	
175		01:05:00	8196																	
176		01:10:00	8852																	
177		01:15:00	8509			0.00	0	0.0	0.0	0.000	91.005									
178		01:30:00	7918		-6.0	38.10	724	48.8	32.0	55.880	91.588									
179		01:45:00	7694																	
180			Returns are water with a trace of frac oil, 3% sand.																	
181		02:00:00	7462	6975	-4.0	38.10	669	47.3	31.0	53.224	92.724	0.520	99.0	0.005	3.529	0.515	4.171	6	276000	
182		02:30:00	6978		-4.0		621	45.3	31.0	50.417	93.804									
183		03:00:00	7116		-4.0	38.10	600	43.5	32.0	48.609	94.835	0.400	99.0	0.004	3.533	0.396	4.567	6	278000	
184		03:30:00	7382		-4.0		621	44.8	33.0	49.960	95.862									
185		04:00:00	6961		-4.0	38.10	586	42.8	33.0	47.615	96.878	0.330	99.0	0.003	3.536	0.327	4.894	6	275000	
186		04:30:00	7006		-3.0		572	42.0	33.0	46.703	97.861									

APACHE CANADA LIMITED
300 M-17-66-36 125-48-0
Start Test Date: 2004/03/08
Final Test Date: 2004/03/13

Integrated Production Services
Field Measurements

APACHE NOGHA M-17
Formation: MOUNT CLARK 'C'

Job Number: CX04-169

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
187	2004/03/12	05:00:00	6896		-3.0	38.10	586	42.3	32.0	47.410	98.841	0.500	99.0	0.005	3.541	0.495	5.389	6	275000	
188		05:00:00	Shut in at wing valve, bleed off p-tank, repair Daniels orifice meter.																	
189		05:15:00	8701																	
190		05:20:00	8790																	
191		05:25:00	8999																	
192		05:30:00	9210																	
193		05:45:00	9546																	
194		06:00:00	9833																	
195		06:30:00	10493																	
196		07:00:00	10771																	
197		07:30:00	10940																	
198		08:00:00	11061																	
199		08:30:00	11145																	
200		09:00:00	11224																	
201			IPS Wireline arrive on location.																	
202		09:30:00	11306																	
203			Rig in wireline.																	
204			Wireline running in hole with plug.																	
205			Wireline at surface, hydrate at surface, add methanol.																	
206			Wireline running in hole with guage ring.																	
207		11:00:00	Wireline at surface, lay down lubricator, wait on hot oiler.																	
208		12:00:00	11637																	
209		12:30:00	11680																	
210		13:00:00	11721																	
211		13:30:00	11757																	
212		14:00:00	11794																	
213		14:30:00	11823																	
214		15:00:00	11855																	
215		15:30:00	11886																	
216		16:00:00	11913																	
217			Hot oiler arrive on location, spot and rig in.																	

Integrated Production Services
Field Measurements

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
218	2004/03/12		Attend safety meeting.																	
219			Pressure test Hot oil line to 15 MPa, preheat oil to 20 °C.																	
220		17:30:00	Begin pumping 2m³ down tubing.																	
221			2m³ pumped, rig off hot oiler, rig up wireline.																	
222			Wireline running in hole with guage ring.																	
223		18:45:00	Wireline at surface.																	
224			Wireline running in hole with plug.																	
225		19:00:00	Wireline at surface, plug set.																	
226			Wireline running in hole with prong.																	
227			Wireline at surface, prong set, bleed well down to 10,000 kpa and monitor pressure.																	
228			Plug leaking, tubing = 10,600 kpa.																	
229		21:30:00	Wireline running in hole to retrieve prong.																	
230			Wireline at surface with prong.																	
231			Wireline running in hole to retrieve plug.																	
232			Wireline at surface with plug, lay over lubricator, monitor pressures for remainder of night.																	
233		22:45:00	11985	6950																
234		23:00:00	12113																	
235		23:30:00	12187																	
236	2004/03/13	00:00:00	12244																	
237		00:30:00	12289																	
238		01:00:00	12326																	
239		01:30:00	12337																	
240		02:00:00	12346	6950																
241		02:30:00	12352																	
242		03:00:00	12364																	
243		03:30:00	12378																	
244		04:00:00	12389																	
245		04:30:00	12397																	
246		05:00:00	12407																	
247		05:30:00	12413																	
248		06:00:00	12420	6950																

Integrated Production Services
Field Measurements

	Date	Clock Time	Tbg	Csg	WHT	Orifice	Static	Diff	Temp	Gas Rate	Cum Gas	Fld Vol	BSW	Oil Gain	Cum Oil	H2O Gain	Cum H2O	pH	Salinity	API
	yyyy/mm	hh:mm:ss	kPa(g)	kPa(g)	°C	mm	kPa(g)	kPa	°C	10^3m^3/	10^3m^3	m^3	%	m^3	m^3	m^3	m^3		ppm	° API
249	2004/03/13	06:30:00	12437																	
250		07:00:00	12442																	
251		07:30:00	12446																	
252		08:00:00	12451																	
253		08:30:00	12461																	
254		09:00:00	12470																	
255			Hot oiler arrive on location, spot and rig in.																	
256			Attend safety meeting.																	
257			Preheat oil to 70°C, pump 5m³ down tubing @ 30 l/min.																	
258			5m³ away,. rig out, rig up wireline.																	
259		11:00:00	Wireline running in hole with plug.																	
260			Wireline at surface.																	
261			Wireline running in hole with blind box.																	
262			Wireline at surface.																	
263		12:45:00	Wireline running in hole with prong.																	
264			Wireline at surface.																	
265			Tubing at 10500 kPa, bleed down to 9400 kPa.																	
266			Tubing at 9400 kPa.																	
267		13:45:00	Wireline running in hole to shift sleeve.																	
268			Wireline at surface.																	
269			Wireline running in hole with collar stop.																	
270			Wireline at surface, with collar stop.																	
271		16:00:00	Wireline running in hole with recorders and hanger.																	
272			Wireline at surface.																	
273			End of report for Mount Clark 'C' zone																	
274			New report started for Mount Clark 'A' zone																	
275		16:30:00	0	0	0.0	0.00	0	0.0	0.0	0.000	98.841	0.000	0.0	0.000	3.541	0.000	5.389			

PACHE CANADA LIMITED
00 M-17-66-36 125-48-0
tart Test Date: 2004/03/08
inal Test Date: 2004/03/13

APACHE NOGHA M-17
Formation: MOUNT CLARK 'C'
Job Number: CX04-169

Single Point Test