



April 16, 2009

CQI Report to Stakeholders

## Subject: February 2009 Condensate Results

As of January 1, 2008, the Crude Quality Monitoring Project has modified its condensate testing program. We acknowledge that industry requirements and specifications are different for condensates than for other types of crude. As such, we have updated our condensate testing program in an effort to provide the industry with reliable, accurate, and usable information specifically relevant to condensates. We believe that this information will be valuable for numerous industry purposes, such as better blending data and formulating condensate specifications and guidelines. Should you have any questions regarding this report, or the modified condensate testing program, please contact Crude Quality Inc. at (780) 991-9900 or at lywood@crudequality.com.

### Observations:

Attached are detailed C30+ compositional and trace sulphur analyses, as well as historical data from crudemonitor.ca pertaining to typical light ends and bulk properties for Condensate Blend (CRW).

In addition to the attached, we note the following testing results:

	Sample Date	Batch #	Sulphur (wt%)	API Gravity (degree)	Absolute Density (kg/m <sup>3</sup> )	MCR (wt%)	Viscosity @ 7.5° C (cSt)	RVP (kPa)	Organo-Phosphates (ppmw)	Total Mercaptans (ppm)	Olefins (wt%)
<b>Current Data</b>	02/09/09	CRW-820	0.35	64.5	721.2	0.3	0.8	76.2	-	90	-
<b>Average To Date</b>			0.19	65.0	719.7	0.24	0.81	74.5	0.87	99	7xND
<b>Std Dev.</b>			0.09	2.1	7.5	0.13	0.05	2.3	0.23	18	-
<b>Avg+StdDev</b>			0.28	67	727.2	0.37	0.86	77.1	1.1	117	-
<b>Avg-StdDev</b>			0.10	63	712.2	0.10	0.77	72.2	0.63	81	-

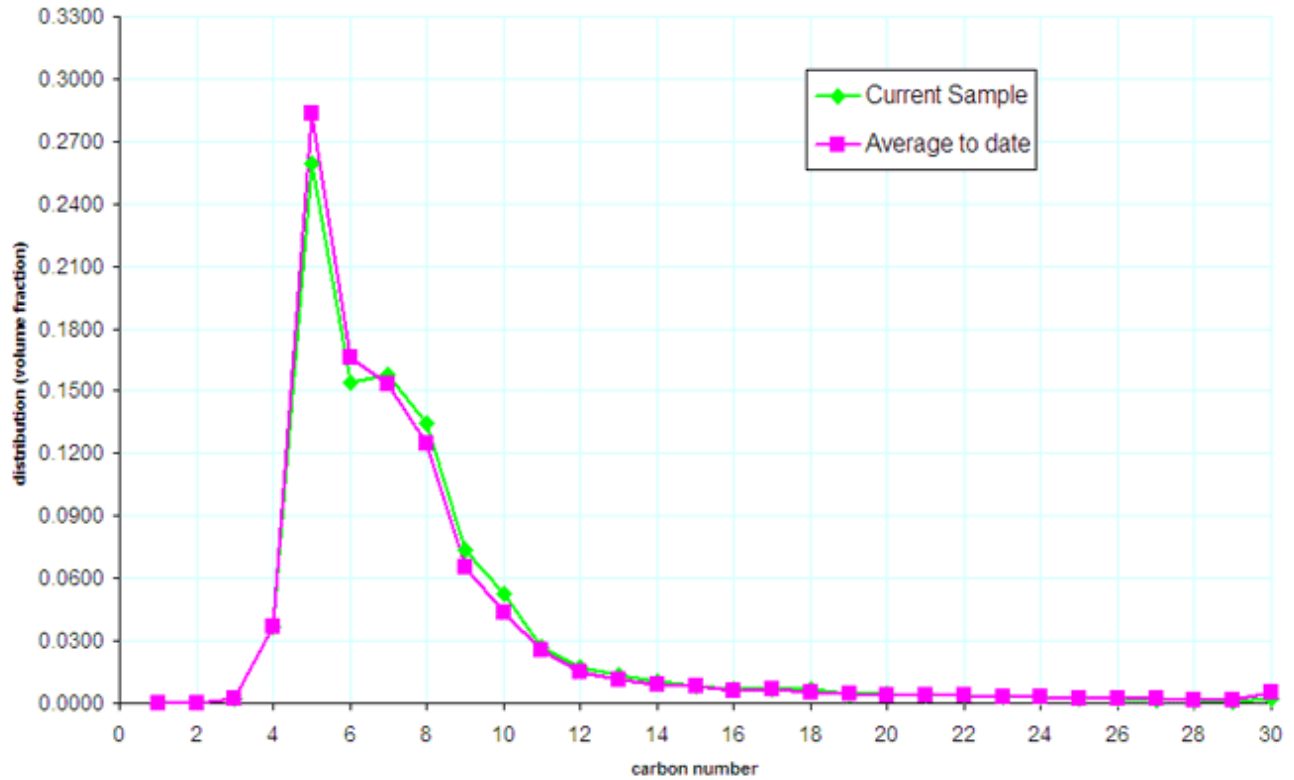
The February sample of CRW contained higher than average sulphur levels (0.35wt% versus 0.19wt% average), in addition to a sediment value of 320 ppmw.

A marginal decrease in C6s, along with slightly elevated C8s x C10s, was also observed.

Figure 1. C30+ Compositional Analysis for CRW-820



## Condensate Blend - C30+ Compositional Analysis





# C30+ COMPOSITIONAL ANALYSIS

A910462:000115

MaxxID

Client ID

Meter Number

Laboratory Number

CRUDE QUALITY INC.

Operator Name

LSD

Well ID

CRUDE QUALITY INC. FEB09 LIGHTS

ENBRIDGE

Well Name

Initials of Sampler

Sampling Company

COND. BLEND CRW-820

1L CAN

Field or Area

Pool or Zone

Sample Point

Container Identity

Percent Full

Test Recovery

Interval 1

Interval 2

Interval 3

Elevations (m)

Sample Gathering Point

Solution Gas

Test Type No. Multiple Recovery

From:

To:

KB

GRD

Well Fluid Status

Well Status Mode

Production Rates

Gauge Pressures kPa

Temperature °C

Well Status Type

Well Type

Water m3/d

Oil m3/d

Gas 1000m3/d

Source

As Received

Source

As Received

Gas or Condensate Project

Licence No.

2009/02/09

2009/03/09

2009/04/08

2009/04/08

SK1,YZ

Date Sampled Start

Date Sampled End

Date Received

Date Reported

Date Reissued

Analyst

## COMPOSITION

COMPONENT	MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
N2			
CO2			
H2S			
C1	0.0000	0.0000	0.0000
C2	Trace	Trace	Trace
C3	0.0041	0.0019	0.0025
IC4	0.0077	0.0046	0.0058
NC4	0.0427	0.0257	0.0310
IC5	0.1512	0.1129	0.1279
NC5	0.1568	0.1170	0.1311
C6	0.1632	0.1456	0.1542
C7+	0.4743	0.5923	0.5475
TOTAL	1.0000	1.0000	1.0000

## PROPERTIES

RESIDUE	RELATIVE DENSITY @ 15 °C		RELATIVE MOLECULAR MASS		DATA SUMMARY		
	OBSERVED	CALCULATED	OBSERVED	CALCULATED	MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
C5+		0.713		99	0.9455	0.9678	0.9607
C6+		0.744		112	0.6375	0.7379	0.7017
C7+	0.765		126	121	0.4743	0.5923	0.5475
C10+					0.1097	0.2082	0.1816
C12+					0.0526	0.1221	0.1018
TOTAL		0.707		97			

Calculated Absolute Density Total Sample:  
Gas Equivalent Factor:

706.4 kg/m3 @ 15°C  
168.70 m3 Gas/m3 Liquid

\*\* Information not supplied by client -- data derived from LSD information

Results relate only to items tested

Remarks:



# C30+ COMPOSITIONAL ANALYSIS

CRUDE QUALITY INC.

A910462:000115

Operator Name

Laboratory Number

CRUDE QUALITY INC. FEB09 LIGHTS

COND. BLEND CRW-820

Well Name

Sample Point

ENBRIDGE

Sampling Company

MaxxID

Client ID

2009/02/09

2009/03/09

2009/04/08

2009/04/08

SK1,YZ

Date Sampled Start

Date Sampled End

Date Received

Date Reported

Date Reissued

Analyst

COMPONENT	BOILING POINT (°C)	MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
Nitrogen	-196			
Carbon Dioxide	-79			
Hydrogen Sulphide	-60			
Methane	-162	0.0000	0.0000	0.0000
Ethane	-89	Trace	Trace	Trace
Propane	-42	0.0041	0.0019	0.0025
Iso-Butane	-12	0.0077	0.0046	0.0058
n-Butane	0	0.0427	0.0257	0.0310
Iso-Pentane	28	0.1512	0.1129	0.1279
n-Pentane	36	0.1568	0.1170	0.1311
Hexanes	37-69	0.1632	0.1456	0.1542
Heptanes	70-98	0.1690	0.1617	0.1575
Octanes	99-126	0.1315	0.1428	0.1346
Nonanes	127-151	0.0641	0.0796	0.0738
Decanes	152-174	0.0383	0.0556	0.0527
Undecanes	175-196	0.0188	0.0305	0.0271
Dodecanes	197-216	0.0114	0.0200	0.0175
Triadecanes	217-236	0.0080	0.0153	0.0132
Tetradecanes	237-253	0.0058	0.0119	0.0102
Pentadecanes	254-271	0.0046	0.0101	0.0085
Hexadecanes	272-287	0.0038	0.0086	0.0071
Heptadecanes	288-302	0.0034	0.0084	0.0069
Octadecanes	303-317	0.0030	0.0078	0.0064
NonaDecanes	318-331	0.0019	0.0052	0.0042
Eicosanes	332-343	0.0019	0.0056	0.0045
Heneicosanes	344-357	0.0016	0.0049	0.0040
Docosanes	358-369	0.0014	0.0044	0.0035
Triacosanes	370-380	0.0012	0.0038	0.0030
Tetracosanes	381-391	0.0011	0.0036	0.0029
Pentacosanes	392-402	0.0009	0.0029	0.0023
Hexacosanes	403-412	0.0007	0.0025	0.0020
Heptacosanes	413-422	0.0006	0.0020	0.0016
Octacosanes	423-432	0.0004	0.0016	0.0013
Nonacosanes	433-441	0.0003	0.0010	0.0008
triacontanes+	442-449+	0.0006	0.0025	0.0019
Totals		1.0000	1.0000	1.0000
neoHexane	50	0.0000	0.0000	0.0000
Methylcyclopentane	70	0.0332	0.0290	0.0270
Benzene	80	0.0149	0.0121	0.0096
Cyclohexane	81	0.0288	0.0251	0.0226
Methylcyclohexane	101	0.0422	0.0429	0.0392
Toluene	111	0.0248	0.0237	0.0192
Ethylbenzene	136	0.0028	0.0031	0.0025
m&p-Xylene	139	0.0157	0.0171	0.0138
o-Xylene	144	0.0040	0.0043	0.0035
1,2,4-Trimethylbenzene	169	0.0041	0.0052	0.0042

\*\* Information not supplied by client -- data derived from LSD information

Results relate only to items tested

Remarks:



# TRACE SULPHUR ANALYSIS

A910462:O00116

MaxID		Client ID		Meter Number		Laboratory Number	
CRUDE QUALITY INC.						LSD	
Operator Name						Well ID	
CRUDE QUALITY INC. FEB09 LIGHTS						ENBRIDGE	
Well Name						Initials of Sampler	
COND. BLEND CRW-820						Sampling Company	
Field or Area						Container Identity	
Pool or Zone						Percent Full	
Test Recovery				Elevations (m)		Sample Gathering Point	
Interval 1 Interval 2 Interval 3				From: To:		Solution Gas	
Test Type No. Multiple Recovery				KB GRD		Well Fluid Status	
Production Rates				Gauge Pressures kPa		Well Status Mode	
Water m3/d Oil m3/d Gas 1000m3/d				Source As Received		Well Status Type	
2009/02/09				2009/03/09		2009/04/08	
Date Sampled Start				Date Received		Date Reported	
2009/02/09				2009/03/09		2009/04/08	
Date Sampled End				Date Received		Date Reissued	
						JSA	
						Analyst	

COMPOSITION			Boiling Pt. (°C)	Sulphur mole ppm	Sulphur mass ppm	PROPERTIES
Component	Common Name					
Hydrogen Sulphide	H2S		-60.4	<0.5	<0.5	Molecular Wt. (g/mole) Measured
Carbonyl Sulphide	COS		-50	<0.5	<0.5	
Methanethiol	Methyl mercaptan		6.2	4.8	1.4	Molecular Wt. (g/mole) Calculated
Ethanethiol	Ethyl mercaptan		35	72.3	20.7	
Dimethyl Sulphide	DMS		38	24.5	7.0	Onsite H2S
Carbon Disulphide	CS2		46.5	6.8	1.9	
Iso-Propanethiol	Iso-propyl mercaptan		58	111.8	31.9	ppm(mole) mole%
t-Butanethiol	tert-butyl mercaptan		64	13.6	3.9	
Methyl Ethyl Sulphide	MES		67	15.9	4.5	
n-Propanethiol	Propyl mercaptan		70	16.5	4.7	
Unknown			36-69	0.8	<0.5	
Thiophene/sec-Butanethiol	Thiophene/sec-Butyl mercaptan		84/90	59.0	16.9	
Diethyl Sulphide	DES		92.1	6.7	1.9	
Iso-Butanethiol	Iso-butyl mercaptan		99	6.0	1.7	
n-Butanethiol	Butyl mercaptan		98	5.6	1.6	
Unknown			71-97	9.8	2.8	
Dimethyl Disulphide	DMDS		110	20.8	5.9	
n-Pentanethiol	Pentyl mercaptan		127	2.1	0.6	
Unknown			100-126	38.9	11.1	
n-Hexanethiol	Hexyl mercaptan		151	18.3	5.2	
Unknown			127-150	66.0	18.9	
n-Heptanethiol	Heptyl mercaptan		177	4.0	1.1	
Unknown			152-176	70.9	20.3	
Total Sulphur				7046	2013.0	

Mercaptan Sulphur on Naphtha fraction (IBP 204°C) ASTM D3227 (mass%)  
Naphtha IBP 204°C (volume %)  
Elemental Sulphur (mass ppm)

\*\* Information not supplied by client -- data derived from LSD information

Results relate only to items tested

Remarks:

# Light Crude Quality Project Analyses Summary (December 2007)

Crude	Sample Date	No. Samples or Batch #	Sulphur (wt%)	API Density (degree)	Absolute Density (kg/m3)	Sediment (ppmw)	MCR (wt%)	Salt (ptb)	TAN (mgKOH/g)	Nickel (mg/L)	Vanadium (mg/L)
<b>CRW Condensate Blend</b>											
	2005 Q2	3	0.17	62.9	727.0		0.2			43.5	4.8
	2005 Q3	3	0.16	63.3	725.8		0.4			17.9	2.4
	2005 Q4	3	0.17	63.6	724.6		0.3				3.6
	2006 Q1	4	0.16	64.8	720.2		0.3				6.8
	2006 Q2	3	0.21	63.3	725.9		0.3				1.4
	2006 Q3	2	0.17	62.1	730.2		0.2				1.2
	2006 Q4	2	0.13	67.0	712.2		0.1				
	2007 Q1	3	0.13	65.4	718.1		0.2				
	2007 Q2	3	0.10	67.6	710.3		0.1				
	2007 Q3	3	0.13	65.7	717.0		0.2				
	2007 Q4	3	0.22	64.8	720.3		0.2				1.6
	2008 Q1	1	0.39	65.1	719.2		0.4				
	12/1/2007	CRW-753	0.15	67.6	710.2		0.1				
	1/1/2008	CRW-757	0.39	65.1	719.2		0.4				
	<b>Average</b>		<b>0.17</b>	<b>64.6</b>	<b>721.0</b>		<b>0.2</b>			<b>35.0</b>	<b>3.2</b>
	<b>Std Dev</b>		<b>0.07</b>	<b>2.1</b>	<b>7.7</b>		<b>0.1</b>			<b>13.1</b>	<b>2.0</b>
	<b>Avg + StdDev</b>		<b>0.24</b>	<b>66.7</b>	<b>728.7</b>		<b>0.4</b>			<b>48.1</b>	<b>5.2</b>
	<b>Avg - StdDev</b>		<b>0.10</b>	<b>62.5</b>	<b>713.3</b>		<b>0.1</b>			<b>21.9</b>	<b>1.2</b>

## Light Crude Quality Project Light Ends Summary (December 2007)

Crude Sample Date	Count of Batches or Batch No.	Ethane (vol%)	Propane (vol%)	Butanes (vol%)	Pentanes (vol%)	Hexanes (vol%)	Heptanes (vol%)	Octanes (vol%)	Nonanes (vol%)	Decanes (vol%)	Benzene (vol%)	Toluene (vol%)	Ethyl Benzene (vol%)	Xylenes (vol%)	
<b>CRW Condensate Blend</b>															
2005 Q2	3	0.02	0.32	3.54	23.63	21.20	15.23	10.08	5.12	2.28	1.15	2.10	0.23	1.86	
2005 Q3	3	0.02	0.23	3.23	23.45	21.28	16.37	10.77	5.51	2.45	1.23	2.34	0.25	2.03	
2005 Q4	3	0.02	0.23	3.15	21.79	21.60	16.33	11.80	6.09	2.40	1.16	2.26	0.30	2.13	
2006 Q1	4	0.02	0.19	2.76	22.50	22.77	14.89	10.86	6.18	2.49	1.23	2.07	0.28	1.92	
2006 Q2	3	0.02	0.27	3.42	22.51	19.93	15.65	10.90	5.69	2.30	1.06	2.08	0.26	1.86	
2006 Q3	2	0.02	0.28	2.96	20.36	19.74	16.38	11.82	6.08	2.52	1.06	2.19	0.29	2.06	
2006 Q4	2	0.02	0.22	3.37	25.43	22.50	15.32	10.35	5.29	2.09	1.13	2.00	0.25	1.82	
2007 Q1	3	0.02	0.24	3.33	24.64	24.26	15.17	10.54	5.29	2.17	1.27	2.10	0.27	1.93	
2007 Q2	3	0.02	0.20	3.22	25.40	23.30	15.51	10.59	5.37	1.96	1.25	2.15	0.27	1.86	
2007 Q3	3	0.02	0.24	3.42	23.97	20.53	15.46	10.25	5.10	2.08	1.08	2.13	0.25	1.82	
2007 Q4	3	0.02	0.26	3.49	24.77	21.60	16.06	11.39	5.70	2.22	1.08	2.15	0.30	1.97	
2008 Q1	1	0.02	0.21	3.06	25.40	21.80	16.14	11.48	5.53	2.05	1.07	2.13	0.31	1.99	
12/1/2007	CRW-753	0.02	0.18	2.89	26.08	22.84	16.97	11.76	5.53	2.07	1.14	2.22	0.3	1.94	
1/1/2008	CRW-757	0.02	0.21	3.06	25.4	21.8	16.14	11.48	5.53	2.05	1.07	2.13	0.31	1.99	
<b>Average</b>		<b>0.02</b>	<b>0.24</b>	<b>3.25</b>	<b>23.56</b>	<b>21.77</b>	<b>15.65</b>	<b>10.85</b>	<b>5.59</b>	<b>2.27</b>	<b>1.16</b>	<b>2.14</b>	<b>0.27</b>	<b>1.93</b>	
<b>Std Dev</b>		<b>0.01</b>	<b>0.06</b>	<b>0.34</b>	<b>2.28</b>	<b>1.95</b>	<b>0.94</b>	<b>0.96</b>	<b>0.65</b>	<b>0.30</b>	<b>0.12</b>	<b>0.16</b>	<b>0.04</b>	<b>0.16</b>	
<b>Avg + StdDev</b>		<b>0.03</b>	<b>0.30</b>	<b>3.59</b>	<b>25.84</b>	<b>23.72</b>	<b>16.59</b>	<b>11.82</b>	<b>6.24</b>	<b>2.56</b>	<b>1.28</b>	<b>2.30</b>	<b>0.31</b>	<b>2.09</b>	
<b>Avg - StdDev</b>		<b>0.01</b>	<b>0.18</b>	<b>2.91</b>	<b>21.28</b>	<b>19.82</b>	<b>14.71</b>	<b>9.89</b>	<b>4.94</b>	<b>1.97</b>	<b>1.04</b>	<b>1.99</b>	<b>0.23</b>	<b>1.78</b>	