

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date:	June 30, 2014
Last Submission Date:	December 11, 2014
Province:	AB
AER Field Centre:	Midnapore
Surface location:	15-31-014-18W4
Well Licence Number:	0155090
Licensee Name:	Zargon Oil & Gas Ltd.
Unique Well Identifier:	S0/02-05-015-18W4/0
Well Name:	ZARGON 02 LBOW 2-5-15-18
Number of Stages:	1
Bottom Hole Latitude:	50.222607
Bottom Hole Longitude:	-112.443540
Lat/Long Projection:	NAD 83
Production Fluid Type:	WATER
True Vertical Depth (TVD):	1,145.52
Total Water Volume (m3):	12

Hydraulic Fracturing Fluid Composition:

Fracture Start/End Date:	Component Type	Trade Name	Supplier	Purpose	Ingredient/Family Name	CAS # / HMIRC #	Concentration in Component (% by mass)	Concentration in HFF (% by mass)
Jun 30 2014 - Jun 30 2014	CARRIER FLUID				water	Not Available	100.000000%	84.847100%
	PROPPANT	Econo 20/40	Trican		mullite	1302-93-8	85.000000%	11.309310%
	PROPPANT	Econo 20/40	Trican		amorphous silicon dioxide	7631-86-9	35.000000%	4.656775%
	PROPPANT	Econo 20/40	Trican		silica crystalline-cristobalite	14464-46-1	20.000000%	2.661014%
	ADDITIVE	WBO-2	Trican	Breaker	sodium persulfate	7775-27-1	100.000000%	0.087533%
	ADDITIVE	BXL-A	Trican	Breaker	Triethanolamine	102-71-6	60.000000%	0.115176%
	ADDITIVE	BXL-A	Trican	Breaker	non-hazardous ingredients	Not Available	30.000000%	0.057588%
	ADDITIVE	BXL-A	Trican	Breaker	Diethanolamine	111-42-2	10.000000%	0.019196%
	ADDITIVE	CC-55	Trican	Clay Control	1,3-propanediaminium-2-substitued, -hexaalkyl-, di halide	7744	60.000000%	0.172528%
	ADDITIVE	CC-55	Trican	Clay Control	non-hazardous ingredients	Not Available	35.000000%	0.100641%
	ADDITIVE	CC-55	Trican	Clay Control	formic acid	64-18-6	5.000000%	0.014377%
	ADDITIVE	WXB-10	Trican	Crosslinker	borate salts	1319-33-1	60.000000%	0.211761%
	ADDITIVE	WXB-10	Trican	Crosslinker	Distillates (petroleum), hydrotreated light	64742-47-8	60.000000%	0.211761%
	ADDITIVE	GNE-1	Trican	Demulsifier	Propylene glycol	57-55-6	60.000000%	0.115544%
	ADDITIVE	GNE-1	Trican	Demulsifier	non-hazardous ingredients	Not Available	40.000000%	0.077029%

Fracture Start/End Date:	Component Type	Trade Name	Supplier	Purpose	Ingredient/Family Name	CAS # / HMIRC #	Concentration in Component (% by mass)	Concentration in HFF (% by mass)
Jun 30 2014 - Jun 30 2014	ADDITIVE	WG-111L	Trican	Gelling Agent	distillates (petroleum), hydrotreated middle	64742-46-7	60.000000%	0.441168%
	ADDITIVE	WG-111L	Trican	Gelling Agent	polysaccharide blend	Not Available	60.000000%	0.441168%

Comments:

*Information provided in this form is submitted in accordance with the requirements of AER Directive 59 Well Drilling and Completion Data Filing Requirements.

*Total Water Volume sources may include fresh water, produced water, recycled water, and/or other water types as listed in The "DDS Well Drilling Completion Data Submission System: A User Guide - Appendix D".

*CAS # - Chemical Abstract Service Number. Individual chemical ingredients have a unique CAS #. Specific ingredient names are shown for each CAS #. "Not Available" indicates the ingredient CAS # is not available.

*HMIRC # - Hazardous Material Information Review Commission (registry) number. The HMIRC # indicates the (hazardous) additive ingredient is considered to be confidential business information and is subject to a Hazardous Material Information Review Act claim exemption. General chemical family names are shown for each HMIRC #. "Not Available" indicates the ingredient HMIRC # is not available.

**"Trade Secret" indicates the (non-hazardous) additive ingredient is considered to be confidential business information. General chemical family names are reported for ingredients considered "Trade Secret".

*Any public concerns related to this information should be directed to the AER Field Centre shown on the report.

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