Enbridge Pipelines Inc.
200, 425 – 1st Street SW
Calgary, Alberta
T2P 3L8
Canada
www.enbridge.com

Shaun Serediak
Petroleum Quality Specialist
Phone (780) 420-8420
Fax (780) 893-8301
email: shaun.serediak@enbridge.com

ENBRIDGE SWIFTLINK

Date: January 24, 2017

To: Mainline All, Athabasca, Hardisty, Southern Lights

RE: Quality Specifications for Component Streams to the Condensate (CRW) Pool – New Specification Implementation

The extended comment period for the proposed new MCR specification is now closed and no written comments have been received. As such, the finalization of the MCR specification in the Quality Specifications for Component Streams to the Condensate (CRW) Pool, will be implemented on March 1st, 2017 as per below:

Specification: Micro Carbon Residue (MCR)
Max Limit: 0.5wt%
Test Method: ASTM D4530
Test Frequency: All receipts of CRW component streams tested using weekly composite
Enforcement: Delayed shut-in

Specifications apply to all condensate feeders at Enbridge's custody transfer point to the blended CRW Pool. The current CRW specification package is available at:
www.enbridge.com/~/media/Enb/Documents/Shippers/QualityPoolingSpecificationPackage
This specification package will be updated to reflect the addition of MCR effective March 1st, 2017

If you have further questions regarding the new MCR specification, specification or limit, please email Nanette Yearley at nanette.yearley@enbridge.com (780-420-8519) or Shaun Serediak at shaun.serediak@enbridge.com (780-420-8420).

Sincerely,

Shaun Serediak
Specialist, Petroleum Quality

Enbridge provides SWIFTLINK notices to its Shippers in an effort to assist them in managing their business. These SWIFTLINK notices are intended solely for Enbridge Shippers and are not intended for redistribution, public consumption or use by media and as such are not official. Enbridge will not confirm or update any SWIFTLINK notice information to outside parties not intended to receive SWIFTLINK notices. Enbridge reserves the right to discontinue these updates without notice.

Condensate Blend (CRW) Pool Quality Specifications

Quality Specifications for Component Streams to the Condensate Blend (CRW) Pool						
Quality	Units	Min	Max	Referee Test Method	Test Frequency	Enbridge Response to Crude Not Meeting Quality
Existing Specifications						
Density (15C)	kg/m^3	600	775	ASTM D4052	Frequency: AR[2]	Delayed shut-in[5]
Viscosity	cSt		2	ASTM D445	Frequency: R[6]	Delayed shut-in[5]
Olefins, total[1]	wt%		<1	H NMR	Frequency: R[6]	Immediate shut-in[4]
Vapour Pressure (DVPE)	kPa		103	ASTM D5191	Frequency: MR[3]	Monitoring Process[8]
BS&W	vol%		0.5	ASTM D4007	Frequency: AR[2]	Immediate shut-in[4]
Organic Chlorides[1]	wppm		<1	ASTM D4929	Frequency: R[6]	Immediate shut-in[4]
Sulphur, total	wt%		0.5	ASTM D5453	Frequency: AR[2]	Reclassification Process[5]
Aromatics, total (BTEX)	vol%	2		PONAOX(U) ASTM D6729	Frequency: R[6]	Reclassification Process[5,9]
Mercaptans, volatile (cumulative C1, C2, C3)	ppmw S		175	ASTM D5623	Frequency: R[6]	Reclassification Process[5]
H_2S (in liquid phase)	wppm		20	ASTM D5623	Frequency: R[6]	Reclassification Process[5]
Benzene[7]	vol%		1.6	PONAOX(U) ASTM D6729	Frequency: R[6]	Delayed shut-in[5]
Mercury[1]	wppb		10	UOP 938 (CVAA)	Frequency: R[6]	Delayed shut-in[5]
Oxygenates	wppm		100	PONAOX(U) ASTM D6729	Frequency: R[6]	Delayed shut-in[5]
Filterable Solids	mg/L		200	ASTM D4807 with "Procedure C"	Frequency: R[6]	Reclassification Process[5]
Phosphorus, volatile	ppm	Per CAPP guidelines		ICP AES D86 (250 cut)	Frequency: R[6]	CAPP Guidance. Refer to AEB Directive 058. Violating test results communicated to the AEB

Notes

1. For these properties, blending should not occur.
2. AR: All Receipts of CRW component streams tested using weekly composite.
3. MR: Monthly Random testing of CRW component streams.
4. Immediate shut-in upon identifying violation. Request third party Certificate of Analysis prior to subsequent receipt.
5. Upon violation, notification to applicable party, increase monitoring. Consequence based on outcome of increased monitoring.
6. R: Random composite testing per CRW component stream. 2015 – Twice per year; 2016 onwards – Annually.
7. Benzene level of the CRW pool to be monitored and if a test result of 1.25 vol% is received the Enbridge CRW Committee will reconvene to discuss appropriateness of benzene spec on CRW component streams.
8. Monitoring and reporting only.
9. For BTEX values < 2.0 vol%, a component stream condensate can still be accepted through completion of a Wiehe compatibility analysis.