

Pembina Cochin LLC  
Light Condensate Acceptance Practice  
Effective February 1, 2023

**Preamble**

This Light Condensate Acceptance Practice is subject to the Rules Tariff for the Cochin Pipeline. With regard to any inconsistency between the Quality Specifications (Attachment 2) and the Rules Tariff, whichever is the more stringent shall apply. All other inconsistencies shall be resolved in conformance with the Rules Tariff. Defined terms not identified herein shall have the meaning given in the Rules Tariff.

This Light Condensate Acceptance Practice sets forth the procedures and mechanisms that Carrier shall utilize in approving for receipt into the Cochin Pipeline volumes of Light Condensate duly nominated by Shipper for transportation on the Cochin Pipeline.

**Defined Terms**

"Shipper Authorized Assay" means a written notice to Carrier from Shipper whereby Shipper represents that the Nominated Light Condensate is compliant with the Specifications as evidenced by Shipper's provision of the physical and chemical Light Condensate characteristics set out in Attachment 1.

"Carrier" means Pembina Cochin LLC.

"Compliant Light Condensate" means Nominated Light Condensate from a specific source or an aggregation of sources or volumes that collectively are compliant with the Specifications.

"Certified Assay" means a wet assay or analysis applicable to the Nominated Light Condensate undertaken by a qualified party acceptable to Carrier of the (i) Light Condensate chemical properties and (ii) identification of the Light Condensate physical properties and attributes as set out in Attachment 1 hereto and submitted in the form of a signed certificate of analysis that is acceptable to Carrier.

"Light Condensate" shall have the meaning set forth in the Rules Tariff.

"Light Condensate Identifier" has the meaning set out in Section 5.

"Cochin Pipeline" means that Light Condensate pipeline system owned and operated by Carrier extending from a receipt facility in Kankakee County, IL to the International Boundary near Maxbass, North Dakota.

"SDS" means a safety data sheet which is a document that contains information, as specified by Carrier, (i) on the potential health and environmental effects of exposure to Light Condensate; and (ii) on safe working procedures users should, or are required to, adhere to when handling such Light Condensate.

"Nomination Notification Date" shall have the meaning set out in the Rules Tariff.

"New Light Condensate" means Nominated Light Condensate for which Carrier has not already made a determination that such Nominated Light Condensate qualifies as Compliant Light Condensate in accordance with the Specifications and Rules Tariff or Nominated Light Condensate that does not have a Light Condensate Identifier.

"Non-compliant Light Condensate" means Nominated Light Condensate that does not comply, or may not comply, with the Specifications and ~~[W] Rules Tariff Rules~~ and is not Compliant Light Condensate.

"Rules Tariff" means the rules and regulations in force and governing the tolls, receipt, operations and delivery for Light Condensate transportation service on the Cochin Pipeline filed with, and approved by, the appropriate regulatory authority as may be amended from time to time.

"Shipper" shall have the meaning set forth in the Rules Tariff.

"Specifications" means those physical and chemical characteristics of Light Condensate as set out in Attachment 2 hereto, as may be modified by Carrier from time to time in conformance with this Practice, that Light Condensate shall comply with in order for Carrier to designate Light Condensate as Compliant Light Condensate.

"Nominated Light Condensate" means Light Condensate that a Shipper has duly nominated for transportation on the Cochin Pipeline in accordance with the Rules Tariff.

#### Light Condensate Approval for Receipt Procedure

1. In the event that Shipper proposes to deliver New Light Condensate to Carrier, then Shipper shall make application to the Carrier in accordance with the Rules Tariff and provide therewith a Shipper Authorized Assay to the Carrier no later than fifteen (15) Business Days prior to the Nomination Notification Date.
2. Carrier in its sole discretion, but acting reasonably, shall evaluate the submitted Shipper Authorized Assay and determine if the New Light Condensate qualifies to be designated as Compliant Light Condensate.
3. In the event that, pursuant to Section 2 above, Carrier determines that the New Light Condensate complies with the Specifications and Tariff Rules, Carrier will provide written notice to Shipper that the New Light Condensate has been designated a Compliant Light Condensate no later than ~~[W] five (5)~~ ten (10) Business Days after Carrier's receipt of Shipper's application pursuant to Section 1 above. If, pursuant to Section 2 above, Carrier determines that New Light Condensate does not comply with the Specifications and Rules Tariff, then Carrier will provide written notice of same no later than ~~[W] five (5)~~ ten (10) Business Days after Carrier's receipt of Shipper's application pursuant to Section 1 above.
4. New Light Condensate designated by Carrier as Compliant Light Condensate shall be accepted by Carrier for transportation on the Cochin Pipeline.
5. ~~[C] Carrier, upon designating Shipper's New Light Condensate as Compliant Light Condensate, shall assign such Compliant Light Condensate a unique identifier name ("Light Condensate Identifier"). Thereafter, should a specific Shipper's Nominated Light Condensate have the specification characteristics of Compliant Light Condensate having that Light Condensate Identifier, Shipper need only provide that Light Condensate Identifier to Carrier as part of the Light Condensate nomination procedures set forth in the Rules Tariff and such Nominated Light Condensate shall, at Carrier's discretion, but acting reasonably, be accepted by Carrier for transportation on the Cochin Pipeline.~~
6. Should Carrier provide notice to Shipper that New Light Condensate is Non-compliant Light Condensate, then Carrier shall have no obligation to receive or transport Shipper's Non-compliant Light Condensate.

7. Carrier, acting reasonably, shall have the right at any time to request that Shipper submit an SDS for New Light Condensate, Compliant Light Condensate or Non-compliant Light Condensate as the case may be. In the event that Carrier requests that Shipper provide an SDS and Shipper fails to comply within a reasonable period of time with such request, Carrier shall designate Shipper's Nominated Light Condensate to be Non-compliant Light Condensate.
8. Notwithstanding Sections 3 and 4, ~~[C] but in conformance with the "Enforcement and Consequences" provisions of Attachment 2~~, if Carrier determines that Nominated Light Condensate does not or may not comply with the Specifications or Rules Tariff, Carrier shall have the right to change the designation of such Nominated Light Condensate from Compliant Light Condensate to Noncompliant Light Condensate. In the event Carrier makes such determination, Carrier shall provide notice of such to Shippers in a timely manner.
9. Shipper accepts that it is Shipper's obligation to ensure that any Nominated Light Condensate delivered to the Carrier for transportation is Compliant Light Condensate.
10. In the event that Shipper becomes aware of any change that will or in its sole ~~[W] determination, but acting reasonably, determination~~, may cause Nominated Light Condensate to become Non-compliant Light Condensate, then Shipper shall be obligated to inform Carrier of such change, and at Carrier's discretion, Carrier may revise the designation of such Nominated Light Condensate to New Light Condensate.
11. Carrier may at any time, in its sole discretion, but acting reasonably, request Shipper to provide a Certified Assay (or select Specifications information) for Nominated Light Condensate. In the event Shipper fails to comply with such request within a reasonable period of time, Carrier shall designate such Nominated Light Condensate as Non-compliant Light Condensate.
12. In the event that either Carrier or PKM Cochin ULC determines that a New Light Condensate qualifies as a Compliant Light Condensate, such determination shall be binding upon both Carrier and PKM Cochin ULC and shall be accepted by both for transportation on the Cochin Pipeline system.
13. Any costs associated with testing for quality parameters identified in Attachment 2, performed by the Carrier on behalf of the Shipper(s), will be invoiced by the Carrier to the Shipper(s) on a volumetric pro-rata basis. The Carrier may contract a third party to administer billing for such costs as outlined in Section 1.7 of the Pembina Cochin Equalization Practice.

#### Revisions to the Light Condensate Acceptance Practice

Upon its own initiative or at the request of any Shipper, Carrier will use reasonable efforts to determine, in its sole discretion, but acting reasonably, whether a revision to ~~[W] this~~ Light Condensate Acceptance Practice is warranted. Carrier shall give each Shipper sufficient notice of any such revision.

**Pembina Cochin LLC**

[C] Light Condensate Acceptance Practice Authorized Shipper Assay

**Attachment 1**

**[N] Cochin Light Condensate Acceptance Practice Authorized Shipper Assay**

Shipper:	Diluent Name:
Contact Name:	Diluent Source:
Contact Phone #:	Diluent Connection to Cochin:
Contact Email:	Sample Date:
	Laboratory Performing Analysis:
	Email to: PQM@PEMBINA.COM

Whole diluent sample to be utilized unless otherwise dictated by test method

Tariff Properties	Test Method	Units	Result
Absolute Density at 15°C	ASTM D4052	kg/m3	
Kin Viscosity	ASTM D7042	cSt	
	7.5°C		
	15°C		
	30°C		
Vapor Pressure (DVPE)	ASTM D5191	kPa	
Sediment and Water	ASTM D95 / D473 or D2709 D6304, ASTM D4802	Vol %	
Organic Chlorides	ASTM D4929	wppm	

Operational Properties	Test Method	Units	Result
Sulfur, total <sup>1</sup>	ASTM D5453	wt%	
Olefins, total	H NMR	wt%	
Aromatics, total (BTEX)	PONAOX(U) ASTM D6729	vol%	
Mercaptans, volatile (cumulative C1, C2, C3)	ASTM D5623	wppm S	
Hydrogen Sulfide (in liquid phase)	ASTM D5623	wppm S	
Benzene	PONAOX(U) ASTM D6729	vol%	
Mercury	UOP 938 (CVAA)	wppb	
Oxygenates	PONAOX(U) ASTM D6729	wppm	
Total Filterable Solids	ASTM D4807C	mg/L	
Phosphorous, volatile	ICP AES D86 (250 cut)	ppm	
Selenium	ICP-MS	wppb	
Pour Point	ASTM D97	°C	

Salt Content	ASTM D3230	g/m3	
MCR	ASTM D4530	wt%	

<sup>1</sup> Attach full speciated sulfur results

High Temp SimDist

Extended ASTM D2887  
% Recovered

- IBP
- 5%
- 10%
- 15%
- 20%
- 25%
- 30%
- 35%
- 40%
- 45%
- 50%
- 55%
- 60%
- 65%
- 70%
- 75%
- 80%
- 85%
- 90%
- 95%
- 100%
- FBP

Cut Point Temp °C

Submitted analysis results to be signed by authorized Shipper Representative

Signature:

Date:

[C]

**Diluent Acceptance Practice Authorized Shipper Assay**

Shipper: \_\_\_\_\_ Diluent Identifier (if applicable): \_\_\_\_\_  
Company Contact Name: \_\_\_\_\_  
Company Contact Phone #: \_\_\_\_\_  
Company Contact email: \_\_\_\_\_  
Data Source: \_\_\_\_\_  
Party Performing Analysis: \_\_\_\_\_

**Component, Chemical and Physical Diluent Data To Be Included in Submitted Assay**

**FAX TO:** MANAGER - Quality Control (713) 230-5568  
**PHONE:** (713) 420-4789

\*Whole Diluent to be utilized unless otherwise dictated by test method.

TARIFF PROPERTIES		Test Method	Units	Result	Common Name:
Density, @ 15°C		ASTM D4052	kg/m <sup>3</sup>		Diluent Type:
Kinematic Viscosity		ASTM D445			Location of Diluent:
	7.5°C		cSt		Sample Date:
	20°C		cSt		Testing by:
	40°C		cSt		
Reid vapor pressure		ASTM D5191	kPa		
Sediment and Water (BS & W)		ASTM D95 /D473 or D2709	Vol.%		
Organic chlorides <sup>1</sup>		ASTM D4929	wppm		
OPERATIONAL PROPERTIES		Test Method	Units	Result	
Sulfur, total <sup>2</sup>		ASTM D5453	wt%		
Olefins, total <sup>1</sup>		PONAOX(U) ASTM D6729 (250 cut) /D6730	wt%		
Aromatics, total (BTEX)		PONAOX(U) ASTM D6729 /D6730	Vol%		
Mercaptans, volatile (cumulative C12, C2, C3)		ASTM D5623	wppm		
Hydrogen Sulfide (in liquid phase)		ASTM D5623	wppm		
Benzene		PONAOX(U) ASTM D6729 /D6730	Vol%		
Mercury <sup>1</sup>		UOP 938 (CVAA)	wppb		
Oxygenates		PONAOX(U) ASTM D6729 /D6730	wppm		
Total Suspended Solids		ASTM D4807	mg/l		
Phosphorus, volatile		ICP AES D86 (250 cut)	ppm		
Selenium		ICP-MS	wppb		
Pour point		ASTM D97	oC		
Salt content		ASTM D3230	ptb		

High Temp SimDist  
Cut Point Temp

Extended ASTM 2887  
% Recovered (Vol%)

IBP  
5%  
10%  
15%  
20%  
25%  
30%  
35%  
40%  
45%  
50%  
55%  
60%  
65%  
70%  
75%  
80%  
85%  
90%  
95%  
100%  
FBP

Submitted analysis results to be signed by authorized Shipper Person(s)

Company:

Name:

Phone #:

Date:

Signature:

<sup>1</sup> For these properties, the intent is that blending not occur up to the specification limit.

<sup>2</sup> Attach individual Sulfur composition results.

**Pembina Cochin LLC**

**Light Condensate Acceptance Practice Petroleum Quality Specification**

**Attachment 2**

[N]

<b><u>COCHIN PIPELINE PETROLEUM SPECIFICATIONS</u></b> Effective: February 1, 2023	<b><u>Units</u></b>	<b><u>Test Method</u></b>	<b><u>LIGHT CONDENSATE</u></b>
<b><u>Absolute Density at 15°C</u></b>	<b><u>kg/m<sup>3</sup></u></b>	<b><u>ASTM D4052</u></b>	<b><u>600-775</u></b>
<b><u>Kinematic Viscosity at 7.5°C</u></b>	<b><u>cSt</u></b>	<b><u>ASTM D7042</u></b>	<b><u>&lt; 2</u></b>
<b><u>Sulfur, total</u></b>	<b><u>wt%</u></b>	<b><u>ASTM D5453</u></b>	<b><u>&lt; 0.5</u></b>
<b><u>Olefins, total</u></b>	<b><u>wt%</u></b>	<b><u>H NMR</u></b>	<b><u>&lt; 1</u></b>
<b><u>Vapor Pressure</u></b>	<b><u>kPa</u></b>	<b><u>ASTM D5191</u></b>	<b><u>&lt; 103</u></b>
<b><u>Sediment and Water</u></b>	<b><u>vol%</u></b>	<b><u>ASTM 95 / D473 or D2709 D6304 / ASTM D4807C</u></b>	<b><u>&lt; 0.5</u></b>
<b><u>Organic Chlorides<sup>1</sup></u></b>	<b><u>wppm</u></b>	<b><u>ASTM D4929</u></b>	<b><u>&lt; 1</u></b>
<b><u>Aromatics, Total (BTEX)<sup>2</sup></u></b>	<b><u>vol%</u></b>	<b><u>PONAOX(U) ASTM D6729</u></b>	<b><u>&gt; 2</u></b>
<b><u>Mercaptans, volatile (cumulative C1, C2, C3)</u></b>	<b><u>wppm S</u></b>	<b><u>ASTM D5623</u></b>	<b><u>&lt; 175</u></b>
<b><u>Hydrogen Sulfide (in liquid phase)</u></b>	<b><u>wppm S</u></b>	<b><u>ASTM D5623</u></b>	<b><u>&lt; 20</u></b>
<b><u>Benzene</u></b>	<b><u>vol%</u></b>	<b><u>PONAOX(U) ASTM D6729</u></b>	<b><u>&lt; 1.6</u></b>
<b><u>Mercury<sup>1</sup></u></b>	<b><u>wppb</u></b>	<b><u>UOP 938 (CVAA)</u></b>	<b><u>&lt; 10</u></b>
<b><u>Oxygenates</u></b>	<b><u>wppm</u></b>	<b><u>PONAOX(U) ASTM D6729</u></b>	<b><u>&lt; 100</u></b>
<b><u>Total Filterable Solids</u></b>	<b><u>mg/L</u></b>	<b><u>ASTM D4807C</u></b>	<b><u>&lt; 200</u></b>
<b><u>Phosphorous, volatile</u></b>	<b><u>ppm</u></b>	<b><u>ICP AES D86 (250 cut)</u></b>	<b><u>&lt; 1.5</u></b>
<b><u>Micro Carbon Residue (MCR)</u></b>	<b><u>wt%</u></b>	<b><u>ASTM D4530</u></b>	<b><u>&lt; 0.5</u></b>

<sup>1</sup> For these properties, Shipper should not engage in blending in order to attempt to deliver product that is at the limit of the specification.

<sup>2</sup> Exemption from aromatics minimum is possible subject to passing Wiehe crude compatibility test (P factor > 2.0)



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Light Condensate Acceptance Practice Petroleum Quality Specifications						
Properties	Test Method	Test Frequency	Units	Minimum	Maximum	Comments
Density, @ 15°C	ASTM 4052	AR <sup>2</sup>	kg/m <sup>3</sup>	600	775	[W] Pembina Cochin LLC equalization property. For test results greater than or equal to 600 kg/m <sup>3</sup> , but less than 650 kg/m <sup>3</sup> perform RVP and Aromatics test to confirm it meets those specifications. Enforcement and Consequence: Delayed shut-in <sup>6</sup>
Kinematic Viscosity at 7.5°C	ASTM D445	QR <sup>4</sup>	cSt		2	Enforcement and consequence: Delayed shut-in <sup>6</sup>
Sulfur, total	ASTM D5453	AR <sup>2</sup>	wt%		0.5	[W] Pembina Cochin LLC equalization property. Enforcement and Consequence: Delayed shut-in <sup>6</sup>
Olefins, total <sup>1</sup>	PONAOX(U) ASTM D6729 (250 cut) /D6730	QR <sup>4</sup>	wt%		<1	Enforcement and consequence: Delayed shut-in <sup>6</sup>
Reid Vapor Pressure	ASTM D5191	MR <sup>3</sup>	kPa		103	
Sediment and Water (BS & W)	ASTM D95 /D473 or D2709	AR <sup>2</sup>	vol%		0.5	Enforcement and consequence: Immediate shut-in <sup>5</sup>
Organic chlorides <sup>1</sup>	ASTM D4929	QR <sup>4</sup>	wppm		<1	Enforcement and consequence: Delayed shut-in <sup>6</sup>
Aromatics, Total (BTEX <sup>7</sup> )	PONAOX(U) ASTM D6729 /D6730		vol%	2		
Mercaptans, volatile (cumulative C1, C2, C3)	ASTM D5623		wppm		175	
Hydrogen Sulfide (in liquid phase)	ASTM D5623		wppm		20	
Benzene	PONAOX(U) ASTM D6729 /D6730		vol%		1.6	
Mercury <sup>1</sup>	UOP 938 (CVAA)		wppb		10	
Oxygenates	PONAOX(U) ASTM D6729 /D6730		wppm		100	
Total Suspended Solids	ASTM D2007		mg/l		200	
Phosphorous, volatile	ICP AES 786 (250 cut)		ppm		<1.5	
Selenium	ICP MS		wppb			
Pour Point	ASTM D97	C		Application Only	New Diluent stream applications for information and report only	
Salt Content	ASTM 3230	ptb				
Simdist	ASTM D2887					

\*Whole Product to be utilized unless otherwise dictated by test method.  
<sup>1</sup> For these properties intent is that blending not occur up to specification limit  
<sup>2</sup> AR: All Receipts of Cochin Pipeline component streams  
<sup>3</sup> MR: Monthly Random testing of Cochin component streams  
<sup>4</sup> QR: Quarterly random testing plus up to 4 additional tests per Cochin Pipeline component stream. Upon violation perform probational testing at Carrier's discretion  
<sup>5</sup> Immediate shut-in upon identifying violation. Request 3rd party Certificate of Analysis prior to subsequent receipts for period of 1 month  
<sup>6</sup> Upon violation increase monitoring for 1 month. If violation continues for 2 consecutive months shut-in stream at end of 2nd month. Certificate of Analysis required to get back into Cochin  
<sup>7</sup> Exemption from aromatics minimum is possible subject to passing Wiehe crude compatibility test (P factor > 2.0) (see <http://www.solublesolutions.com/oilcomp.html>).