

MID-CON SYSTEM <u>KINDER MORGAN CRUDE & CONDENSATE RECEIPT POLICY and</u> <u>PRODUCT SPECIFICATIONS</u>

Petroleum Crude Oil and Petroleum Crude Condensate (products) need to meet Kinder Morgan Crude & Condensate (KMCC) Tariff Specifications or the product will not be accepted for transportation on the Kinder Morgan (KM) system.

The shipper has the sole responsibility to assume and perform the duties of testing the product. Accordingly, the shipper will sample product in accordance with current American Petroleum Institute (API) and American Society for Testing and Materials (ASTM) standard practices. A third party laboratory analysis reporting all product specification, as described in the current tariff, must be sent to KM Quality Control each month.

For all new shippers and new location connections to the KMCC Pipeline, an extended analysis must be provided to KM Quality Control, including but not limited to: the tariff specifications, color, metals screen, hydrocarbon composition, and wax percentage. KM Quality Control reserves the right to request any of these additional tests from current shippers on the pipeline.

Product not meeting KMCC Specifications may not be approved for pipeline injection. KM Quality Control reserves the right to review, approve, and deny all incoming product, as well as require retests, request water gauges/draws, and garnish waivers.

KMCC Tariff Specifications	Parameters	Approved Methods
Acid Number, kg KOH/g	Report	ASTM 664
API Gravity, °API	30 to 65	ASTM D287, D5002
Benzene, % wt.	≤ 3.0	ASTM D6730mod, D7900
H2S in Vapor Space, ppm	≤ 10	ASTM D5705
Mercaptan Sulfur, % wt.	< 0.050	UOP 163
Metals: V, Ni, Fe, ppm	Report	ASTM D5708
Organic Chlorides, ppm	< 3.0	ASTM D4929*
RVP, psi	≤ 10.0	ASTM D6377
Sediment and Water, % vol	≤ 1.0	ASTM D4007
Sulfur Content, % wt.	≤ 0.5	ASTM D2622, D5453
Temperature, °F	120	
TVP, psi	≤ 11.0	ASTM D6377
Viscosity, at 104 °F/ 40 °C, cSt	≤ 10.0	ASTM D445

*if D4929 is unavailable, please contact KMCC Quality Control to discuss an acceptable referee or alternative method