CRUDE QUALITY
PRESENTATION
March 5, 2020
Agenda

I. EPIC Midstream Overview

II. EPIC Crude System Overview

III. EPIC Crude Quality Initiatives

IV. Questions??
EPIC Midstream Overview
EPIC Project Overview

EPIC Y-Grade and Crude System Map

Projects Overview

- EPIC formed in 2017 by the management team behind TexStar Midstream to build, own, and operate midstream infrastructure from the Permian and Eagle Ford basins to Corpus Christi

- EPIC is laying over 1,300 miles of crude and Y-Grade pipelines from the Permian and Eagle Ford Basins to Corpus Christi and Ingleside

- First greenfield fractionator expected to be mechanically complete in late 1Q 2020

- The EPIC Crude project will run parallel to the EPIC Y-Grade pipeline and is expected to be in full service in Q1 2020

EPIC Y-Grade

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Capacity (Bbls/d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPIC Y-Grade</td>
<td>~700 miles</td>
<td>~600,000</td>
</tr>
</tbody>
</table>

EPIC Crude

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Capacity (Bbls/d)</th>
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<tbody>
<tr>
<td>EPIC Crude</td>
<td>~700 miles</td>
<td>~1,000,000</td>
</tr>
</tbody>
</table>

Color Legend:
- Green: EPIC Crude Pipeline
- Black: EPIC Y-Grade Pipeline
- Red: EPIC Product Pipeline
EPIC Oil and Gas Market Participation

Midstream Value Chain

**Crude Oil**

*Upstream Companies*
drilling produces crude oil and gas

- **Wellheads**
- **Infield Gathering Pipelines**
- **Wet Gas Processing**
- **Wet Gas Midstream Operator**
separates wet gas into dry gas and raw NGL mix ("Y-grade")

- **Dry Gas**

**Wet Gas**

- **Crude Midstream Operator**
Transports crude from gathering lines and terminals in the Permian Basin to refineries and terminals on the Gulf Coast

- **Long-Haul Crude Pipeline**
- **NGL Y-Grade Pipeline**

**NGL Midstream Operator**
Transports Y-grade from in-field processing plants to be fractionated, or separated, into component products on the Gulf Coast

- **NGL Fractionator**

**Purity Products**
- ethane
- propane
- butane
- other

**Ethane Cracking Plants**
convert ethane to polyethylene for use in plastic products

*Oil Refineries* Export Terminals

**Crude Oil**

- **Long-Haul Crude Pipeline**

**Crude Midstream Operator**

Transports crude from gathering lines and terminals in the Permian Basin to refineries and terminals on the Gulf Coast

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EPIC Y-Grade Pipeline

1. Operational in February 2018
2. Crude Service August 2019
3. Under Construction
EPIC Y-Grade Fractionators

- EPIC Purchased the existing Southcross Fractionator
  - 70,000 bpd capacity

- EPIC is constructing our first green field fractionator
  - 110,000 bpd capacity
  - Complete ~Q2 2020
EPIC Crude
EPIC Crude Pipeline

Length: 700 miles
Pipeline Diameter: 30-inch
Capacity (Bbls/d): 1,000,000 bpd

Terminals: Orla, Saragosa, Wink, Crane, Upton, Midland (via Medallion), Gardendale, Hobson, Robstown, EPIC Inner Harbor Dock
Upstream and Downstream Connectivity
EPIC Crude

- EPIC began interim service in August 2019 utilizing NGL 24-inch pipeline
  - Interim capacity 400,000 bpd

- EPIC 30-inch construction completed Q1 2020
  - Initial capacity 600,000 bpd
  - Total capable capacity 1,000,000 bpd

- EPIC 1st waterborne dock operational late 2019 with second inner harbor dock ready Q3/Q4 2020
  - EPIC has received NSR permit for 2nd Suezmax dock
  - Suezmax dock expected completion late 2020
EPIC Crude Quality Initiatives
Crude Quality is all about Approach and Priorities

- EPIC is not a Marketer on our system with any blend economics
  - Blending to a spec has massive impacts on crude quality

- EPIC is a batched system in both Permian and EF grades
  - WTI / WTL / EF / EF Light being segregated

- EPIC’s Permian presence pulling volumes directly from gathering systems not tank farms enhances quality

- EPIC has fiber optic communications on our system allowing for instantaneous data for control room when cutting batches reducing interface between grades
Truck deliveries are a major source of Quality issues

- EPIC has Densitometers at all offloading meters eliminating the possibility of off spec crude being delivered into system

- Gravity of each truck is delivered to proper tank at location based on density measured at meter

- Meter sample pots accumulated over a month of volume allows for variance in quality day-to-day and truck-to-truck
EPIC Crude Spec is always evolving

- Testing methods included in filed spec which are updated with most current testing
- Adding tests is swift and effective as quality problems happen
- Mercaptan spec recently added despite not yet being an issue
- H2S specs in older systems doesn’t exist (sulfur spec only)
  - EPIC has installed inline H2S monitors for known areas where H2S is known to exist

<table>
<thead>
<tr>
<th>Common Stream Product shipped from Groups 2 to 3</th>
<th>EF Common Stream 2</th>
<th>ASTM Testing Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>API Gravity, API</td>
<td>≥ 45.1 – ≤ 55.0</td>
<td>ASTM D 1298</td>
</tr>
<tr>
<td>Sulfur Content, Weight %</td>
<td>≤ 0.25</td>
<td>ASTM D 5504</td>
</tr>
<tr>
<td>H₂S, ppm in vapor</td>
<td>≤ 10.0 PPM</td>
<td>ASTM D 5705 as modified for crude petroleum</td>
</tr>
<tr>
<td>Mercaptans</td>
<td>≤ 75 PPM</td>
<td>UOP 163</td>
</tr>
<tr>
<td>Max Reid Vapor Pressure, psi</td>
<td>≤ 10.0</td>
<td>ASTM D 6377</td>
</tr>
<tr>
<td>Max True Vapor Pressure, psi</td>
<td>≤ 11.0</td>
<td>ASTM D 2879</td>
</tr>
<tr>
<td>Basic sediment, water, and other impurities</td>
<td>≤ 1.0 %</td>
<td>ASTM D 4007</td>
</tr>
</tbody>
</table>
Questions??