

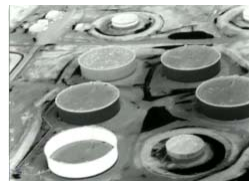


Tracking of Pipeline Movements of Crude Oil and Condensate between Canada and the U.S

Hillary Stevenson

Genscape Oil Overview

- Storage
 - 165mn barrels storage capacity in 3 countries
 - Track construction progress and maintenance
- Oil Transport
 - 7mn bpd crude oil pipeline capacity in 2 countries
 - .5 mn bpd oil rail loading/unloading capacity
 - Strategic tanker loadings
- Refineries
 - 8 mn bpd refining capacity in 3 countries
 - Real time refinery operation alerts



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Data streams

- Web dashboard
- PDF Reports
- Historical Data file
- Real-time email alerts

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Movements of Crude Oil and Condensate between Canada and the U.S

- Crude Oil Pipelines
 - Spearhead
 - Keystone
 - Keystone Extension
- Condensate Pipelines
 - Southern Lights
- Crude Oil Storage (US)
 - Patoka
 - Cushing
- Condensate Storage (US)
 - Patoka
 - Manhattan

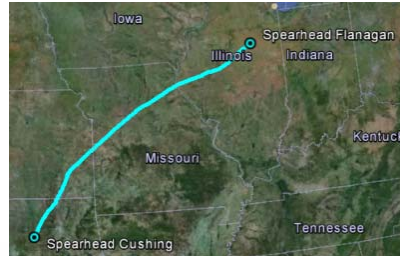


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Spearhead

- The Spearhead pipeline has a capacity of 190,000 bpd and flows southwest from Flanagan, IL to Cushing, OK

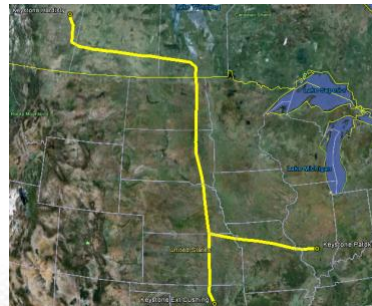


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Keystone

- The Keystone pipeline system has a capacity of 590,000 bpd and flows from Hardisty, AB to Steele City, NE and from there either to Patoka, IL or to Cushing, OK.



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Southern Lights

- The Southern Lights pipeline has a capacity of 250,000 bpd and flows northwest from Manhattan, IL to Edmonton, AB.
- Serviced by two tanks in Manhattan



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Patoka

- PAA expansion
 - Construction continues on the phase 4 and 5 expansion plans consisting of three tanks. Construction began in June 2011.
 - Construction has begun on a five tank expansion project that will add a total of 2mn barrels of storage. PAA received permits for this project in May 2011.
- Two condensate tanks currently operational (572,000 barrels storage capacity)



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Cushing

- Added ~7.5mn barrels storage capacity in 2012
 - PAA has been granted approval to build a total of 15.3mn barrels of storage. The company completed 16 tanks (Phases IX, X, and XI) with a total capacity of 4.32mn barrels this year.
- ~4.5mn barrels of storage capacity in construction
 - Expected to come online in 2012



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