

Merging Logistics and Engineering
Williston Basin Symposium

JP Baker Management Inc.



April 2015

Discussion Topics

Bakken Rail Solutions



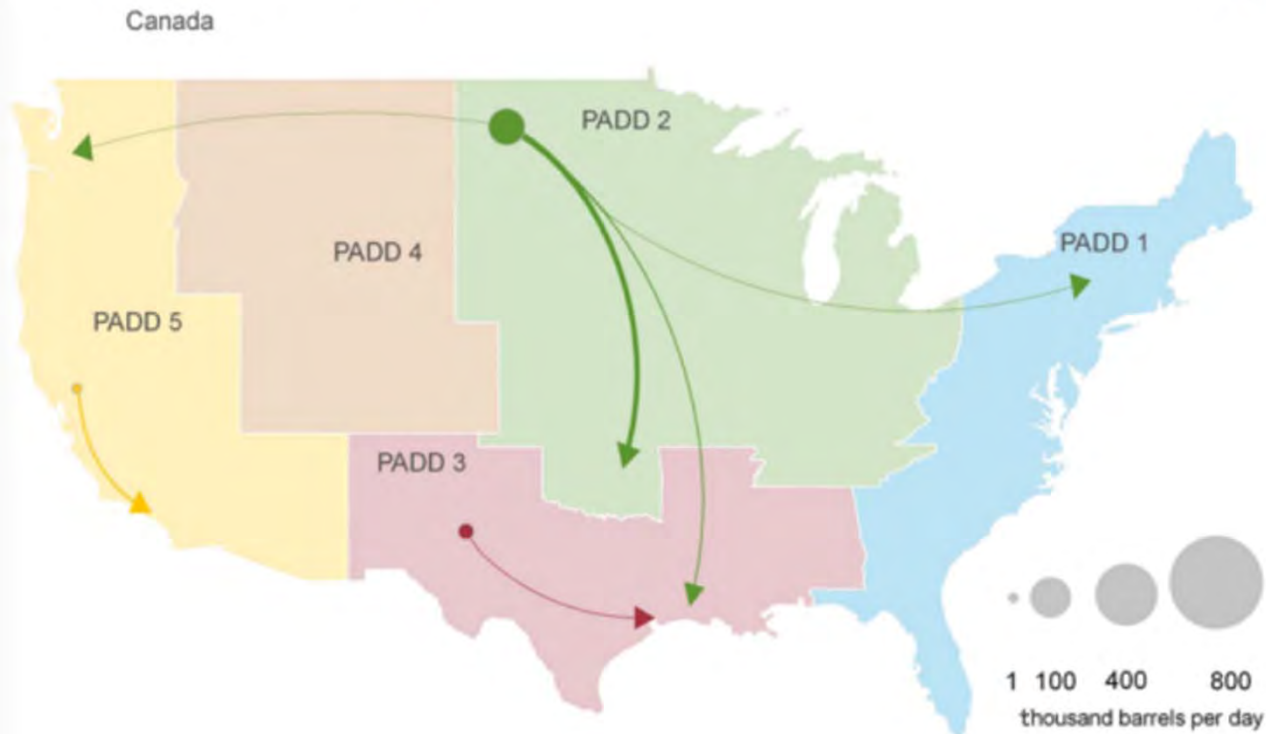
- Crude by Rail Growth
- Northgate
- Williston
- Rail Terminal Efficiencies
- Who We Are



Crude by Rail
Growth

2010 Crude-by-Rail

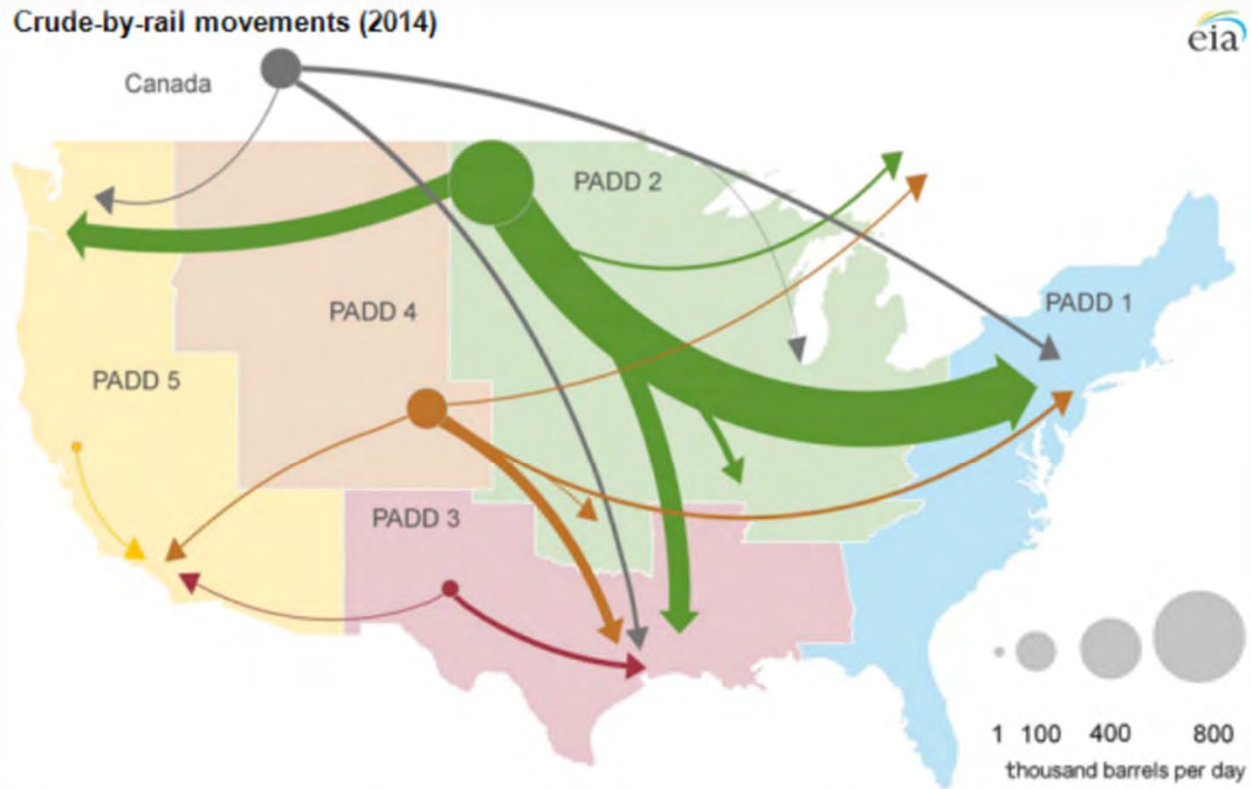
Crude-by-rail movements (2010)



Source: U.S. Energy Information Administration based on data from the Surface Transportation Board and other information

Note: Crude-by-rail movements greater than 1,000 barrels per day are represented on the map; short-distance movements between rail yards within a region are excluded

2014 Crude-by-Rail



Source: U.S. Energy Information Administration based on data from the Surface Transportation Board and other information

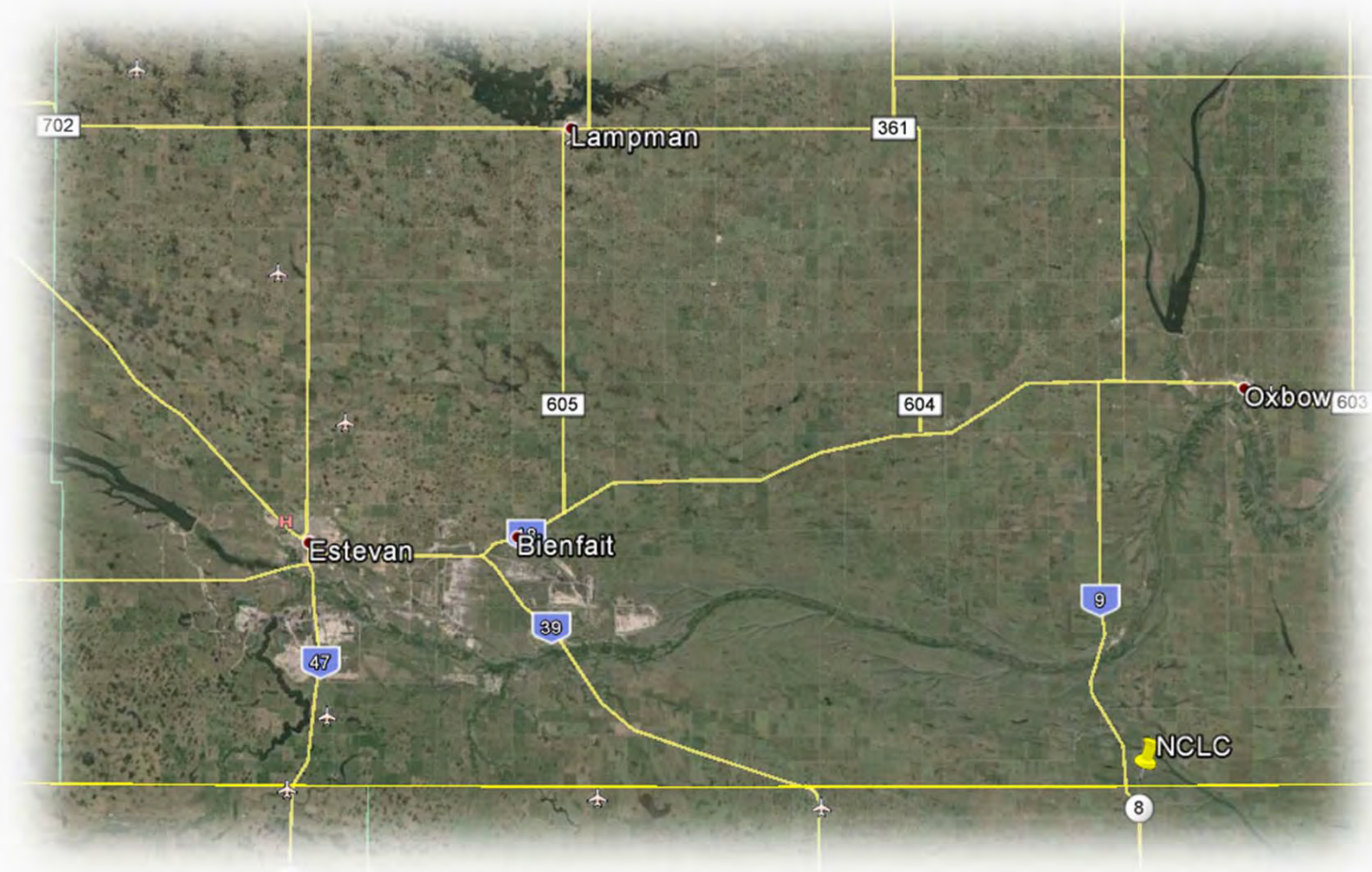
Note: Crude-by-rail movements greater than 1,000 barrels per day are represented on the map; short-distance movements between rail yards within a region are excluded.



Canadian Bakken
Rail Solution

Northgate Commodity
Logistic Centre

Locator Map



Northgate Aerial



Northgate Capabilities

Ceres Global Ag Inc.

SE Saskatchewan's first world class rail transportation terminal

- 1200 Acre Site in SE Saskatchewan on the US/Canada border
- Located on SK Hwy 9, ND Hwy 8
- East of North Portal 12 miles
- BNSF Connected rail service
- Loop and yard configuration to accommodate all rail service options
 - Grain
 - Oil
 - NGLs
 - Frac Sand
 - Fertilizer
 - Other



US Bakken Rail
Solution

East Valley Rail
Terminal

Williston, ND

East Valley Rail terminal

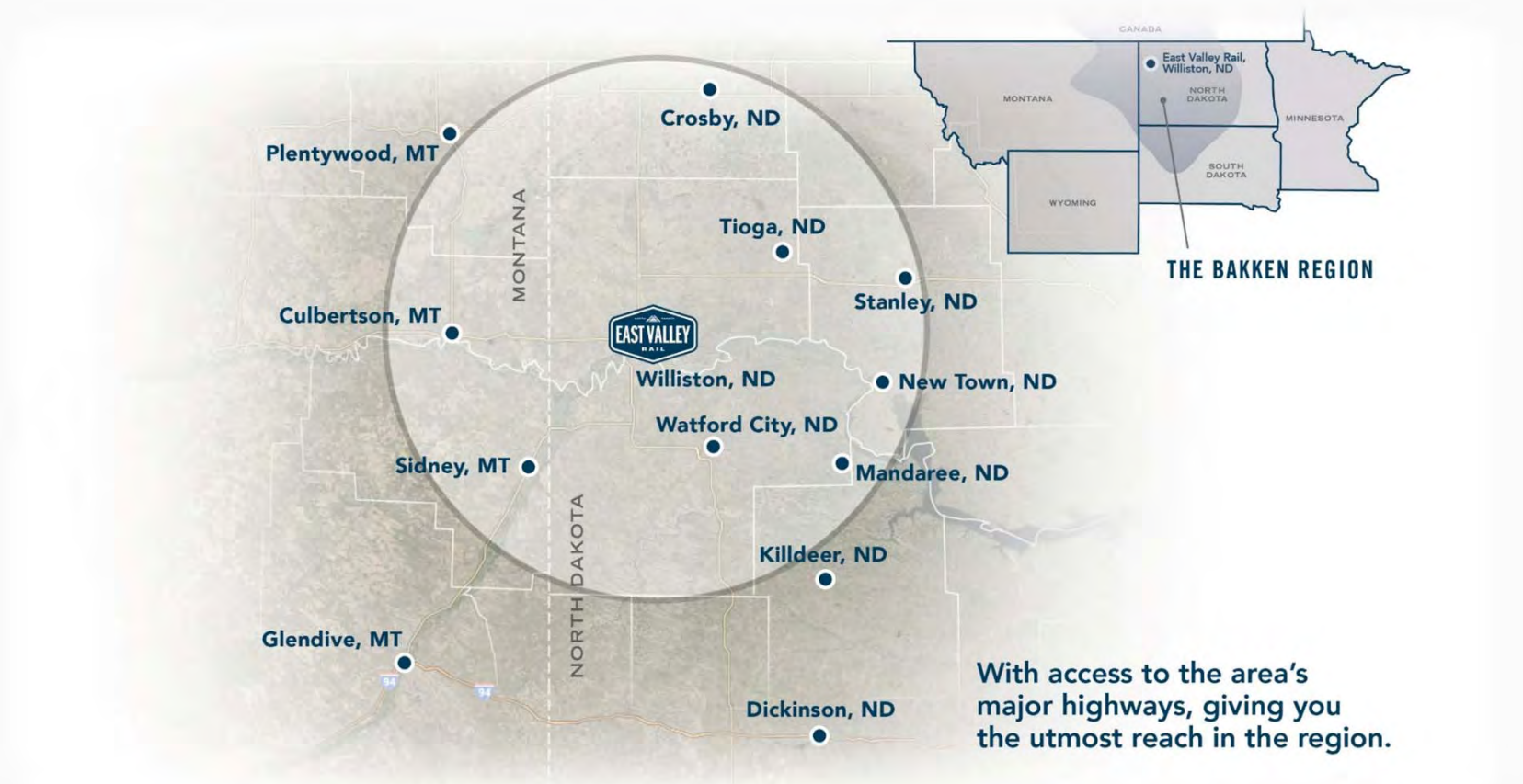
Bakken's first world class supply chain, transportation, and storage solution
reducing total costs for oilfield supplies by 30% to 70%

Frac sand, pipe, cement, fuel, chemicals, well components, building materials

- High efficiency terminal designed to optimize truck and rail operations
- Fully integrated, BNSF served unit train facility
- Direct connection to BNSF's Northern Transcontinental Double Mainline
- Capable of handling up to 4 unit and merchandise trains per day
- Logistics team located in Ft. Worth, TX, integrating with BNSF operations
- Management team with experience developing & operating similar multi-commodity terminals in other locations
- Located near most oilfield service yards & support functions in Williston, ND
- Scalable to become the largest inbound frac sand facility in North America
- Situated on major state and federal highways with bypasses around Williston congestion

Locator Map

East Valley Rail terminal



With access to the area's major highways, giving you the utmost reach in the region.

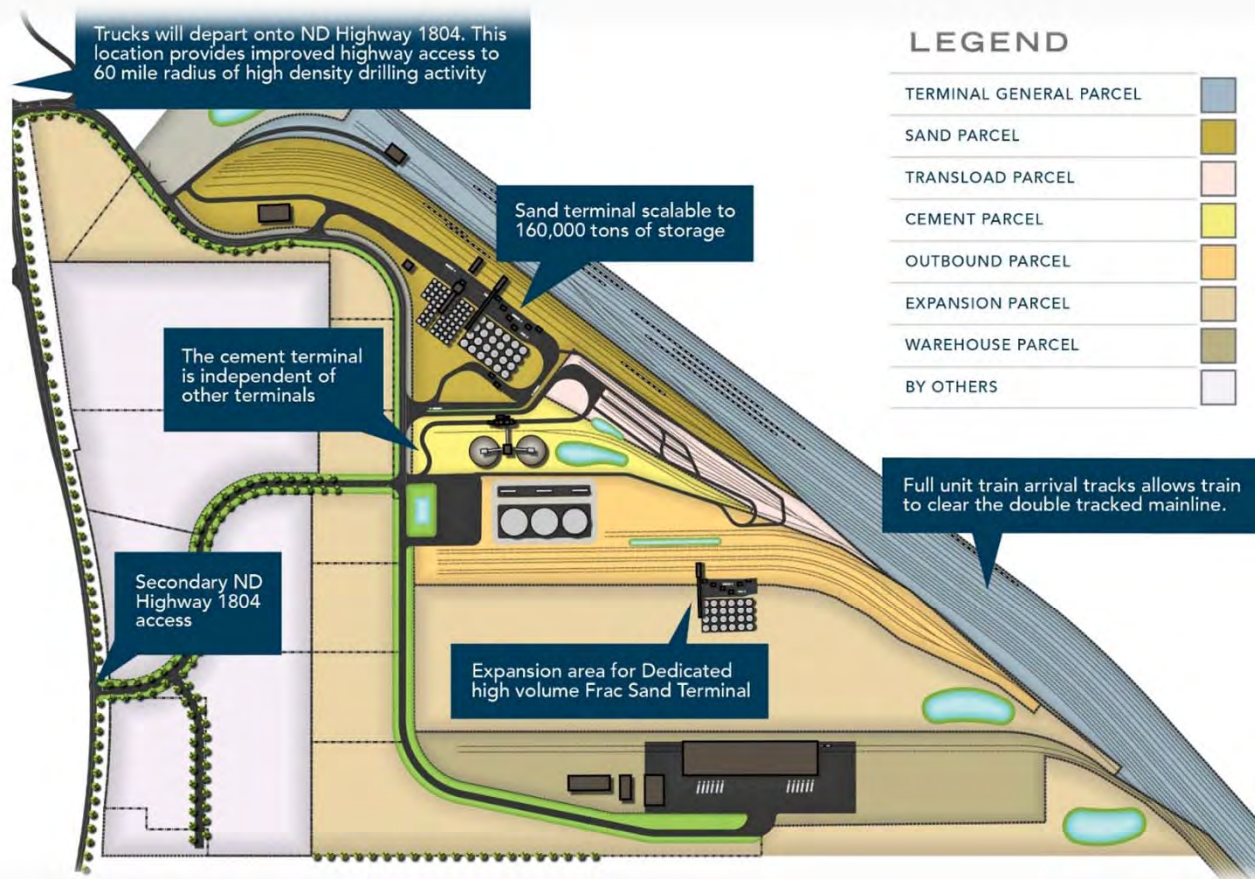
Reduced Rail and Truck Congestion

East Valley Rail terminal



Efficient Footprint, Integrated Material Handling

East Valley Rail terminal





Bakken Rail
Solutions

Not an Easy Fix

Challenges of Rail Transportation

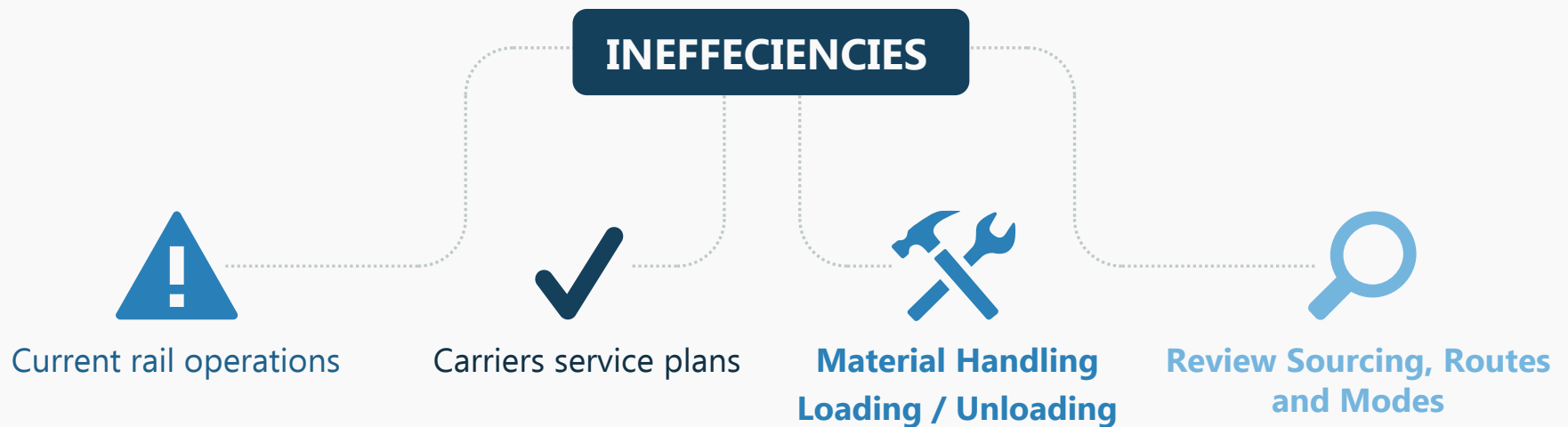
Bakken Region

Rail transportation option have the reputation of being difficult
But can reduce total transportation costs by 30% to 70%

- Location
- Rail geometry and size of property
- Permitting
- Design
- Connecting to serving rail line
- Agreements and liability
- Service

4 Steps of Rail Transportation Analysis

Inbound/outbound Rail Terminals



Our team approaches each transportation challenge and terminal design with open eyes, with the experience to ask questions that will drive to the root causes of an issue. Operations of a terminal are key to solving rail operational issues. We analyze and integrate terminal rail layouts to develop less obvious solutions.

Terminals Are Key to Asset Efficiency

Examples of Completed Oil Industry Terminal Projects



Conversion from Light to Heavy Destination Terminal

Redesign, rail ops, class 1 buyoff 3 weeks
Further redesign caused by property errors
Redesign from light to heavy



Reconfigure Destination Light Terminal

Redesign, ops plan, report/video in 2 weeks
Ops plan capable of 2 full train per day
Fully integrated with Class 1 and commuter rail
Reduced acreage required by 40 plus acres
Avoided land options for former chemical plant and avoided 95% of demolition.



Site Selection to Start Construction Origin Light Terminal

Concept to final design, ops plan, greenfield to construction in 6 months
Connection to BNSF Transcontinental mainline 110 plus trains per day
Developed overall terminal ops – rail, oil infrastructure, pipelines, barge, trucking



Market Analysis thru to Turnkey Delivery of Destination heavy crude

Concept to final design, ops plan, greenfield to construction in 8 months
Integration of Class 1 for service – very constrained site with challenged access route
Board level discussion resolved
Developed overall terminal ops – rail, oil infrastructure, pipelines, barge, trucking

Lessons Learned

Merging Logistics and Engineering

01 Timing

Delays = big revenue losses = upset clients

02 Rule of 12

Market demands change and expectations are ever evolving
Ask, listen, ask, listen, ask, listen and then ask and listen again, and then do it again

03 Project Stewardship

Understand that projects will impact the environment and local residents
Spend the time to learn the local, natural environment and local citizens and their concerns

04 Build Right Team

Good design engineers are not necessarily good operational professionals
Good operational professionals are not necessarily good design engineers

05 Operational Planning

Without knowing how terminals and carriers operate, inefficiencies are designed in

06 Know Your Carrier

Integrate into their operations = save months if not years in getting terminal operational

07 Flexibility

Client expectations and demands change constantly
Build expansion / operational changes into your operational plans

08 Know your Field

Different take away capacities and carriers / options, different products, different destinations, different regulations, different construction methods

09 Financial Tradeoffs

Direct relationship and tradeoff between upfront capital and ongoing operational expenses



Work with Us

JP Baker Management Inc.
Engineered Rail Solutions LLC

James Baker

Energy Entrepreneurial and Consultant
35 years experience in western Canada

Dave Thomson

20 years rail ops and 10 years terminal ops
Owner of Transload Terminals, Financial
Management and Engineering Companies

Save Time and Money



Thank You!

Questions?