

A Brief History of the Canadian Oil Sands



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Early History



Waterproofing Canoes



1770's fur trade explorers



Bitumen



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Oil Sands Defined

- ✓ Sand
- ✓ Water
- ✓ Clay
- ✓ Bitumen

WHAT ARE
OIL SANDS?



Alberta Tar Sands

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Oil Sands vs. Tar Sands

Natural vs. Synthetic



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Geography

Where is this stuff located?



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1875

Canada Geological Survey registers oil sands.

1915

Shipments to Edmonton for paving.

1929

Dr. Karl Clark patents hot water separation process.

1938

Abasand commercial production (2,500 barrels). Destroyed by fire in 1941; not rebuilt.

1950's

Separation technology using centrifugal force. Strong interest results in dozens of exploration leases.

1964

Esso starts Cold Lake project; Great Canadian Oil Sands (GCOS) construction.

1967

First GCOS (Suncor) production; 32,000 barrels/day.

1978

First Syncrude production; 109,000 barrels/day.

1993

Truck and shovel technology adopted; key to revitalizing development outlook.

2001

First commercial SAGD (steam-assisted gravity drainage) in situ drilling project.

2004

Oil sands production reaches one million barrels/day.

2008

Syncrude granted first land reclamation certificate.

2010

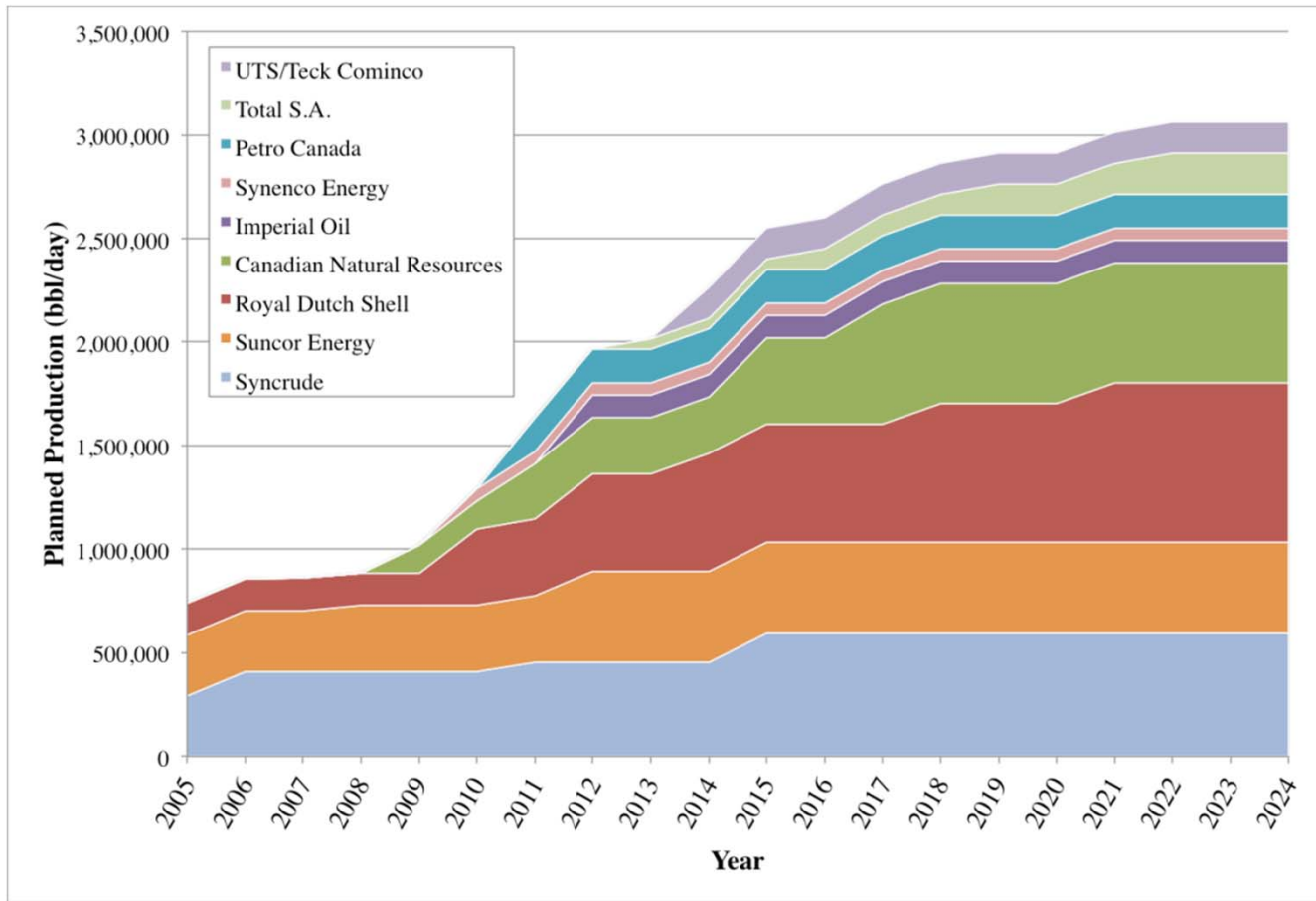
Suncor reclaims first tailings pond.

Historical Milestones



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Planned Oil Production



Major Players

5 COMPANIES CONTROL **78%** OF PRODUCTION

 **11%**
Canadian Natural


SUNCOR
ENERGY
33%

Synocrude
14%


11%

cenovus
ENERGY
9%



Recovery Process



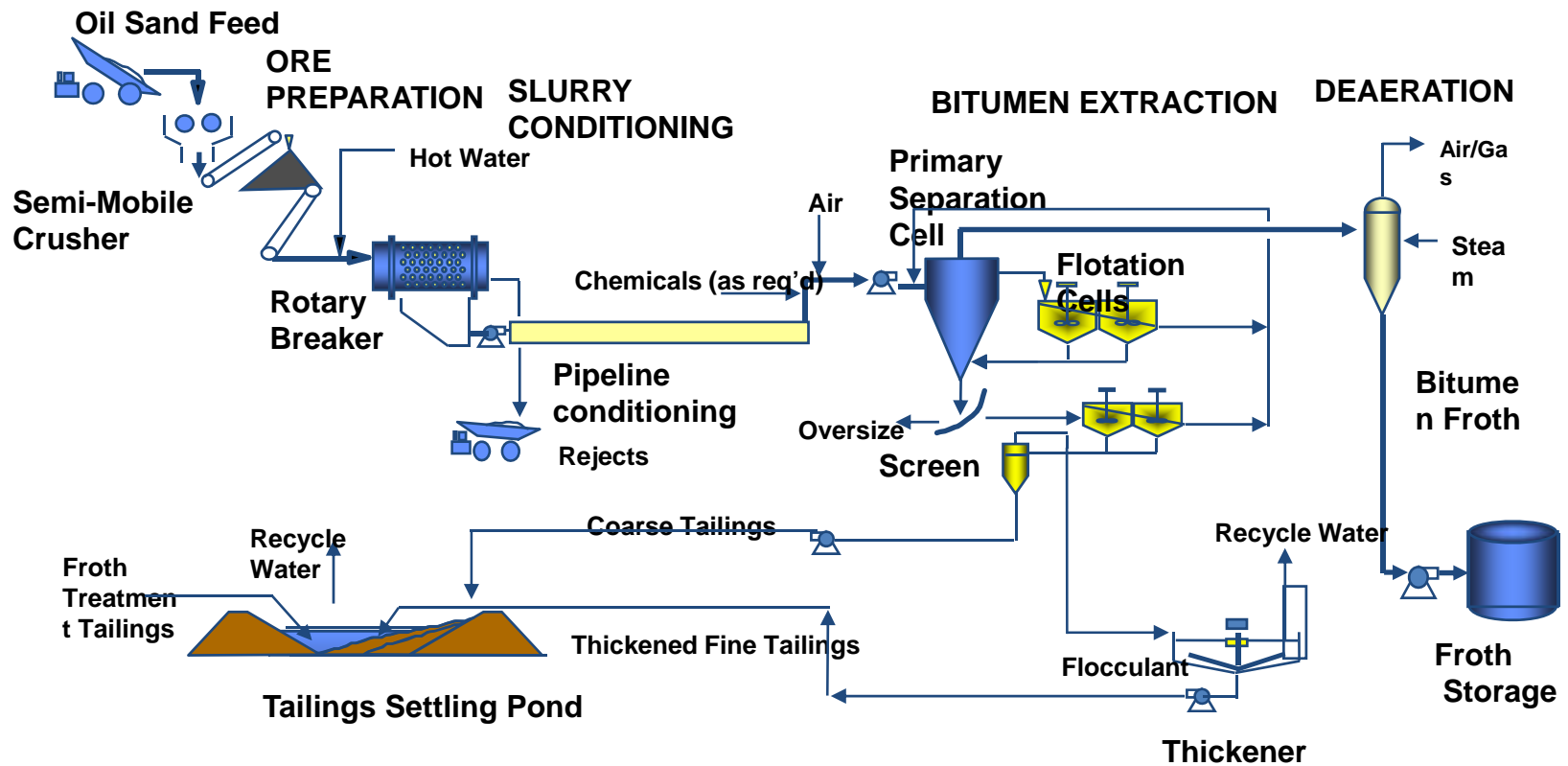
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Recovery Process

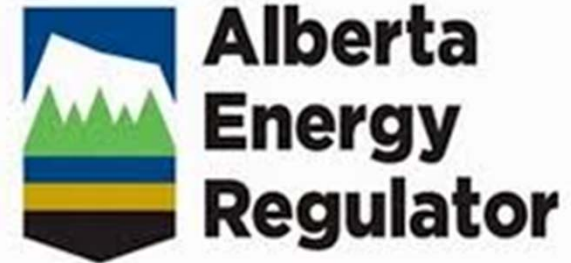


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Recovery Process



Directive 74



Compliance – deadlines

Reduction



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Dredging Equipment



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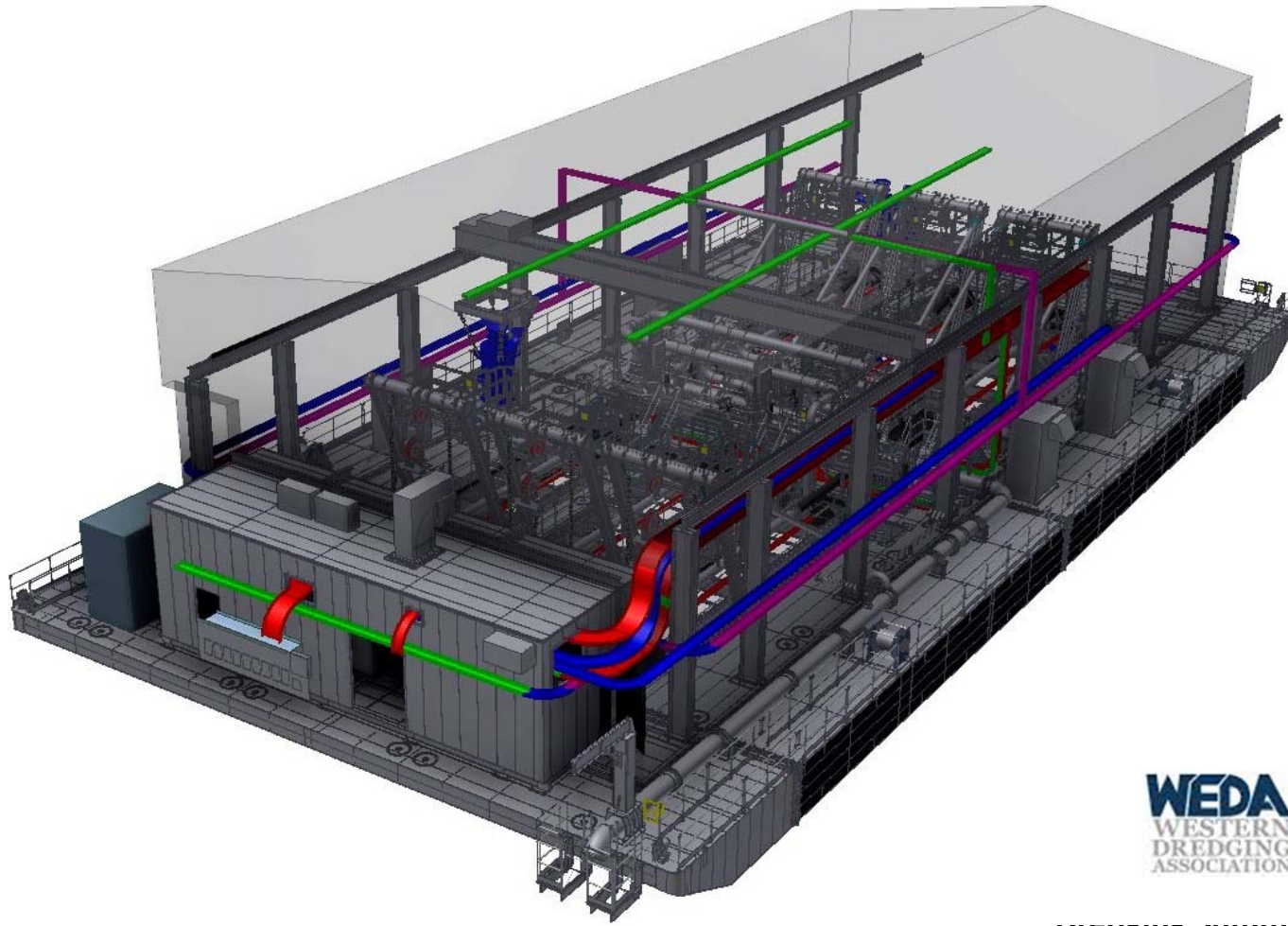
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Dredging Equipment



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