SELEX-Asp

Selective Extraction of Asphaltenes

SELEX-Asp is uniquely capable of cleanly removing asphaltenes from heavy oil fractions as solid granules.

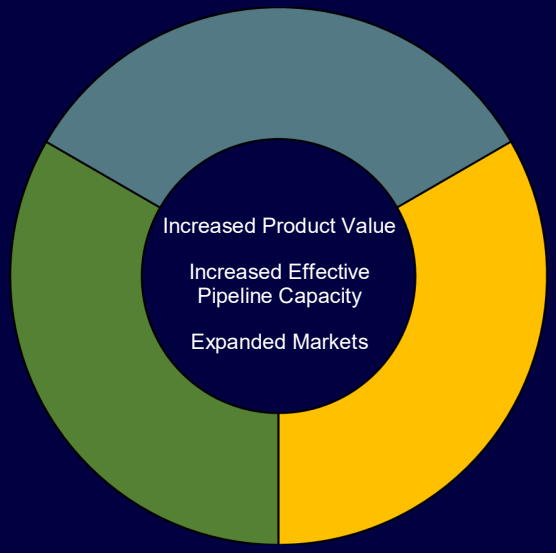
SELEX-Asp is the only viable process that addresses the current business drivers: low oil prices, low sulfur IMO fuel oil, low carbon emissions, low cost of investment, attractive rate of return, and diminishing market demand for petcoke.

INCREASED PRODUCT VALUE

Traditionally, asphaltenes are problematic because they cause refinery issues, such as equipment fouling and catalyst poisoning.

Refiners need expensive, specialized equipment to handle crudes with high asphaltenes content. Canadian bitumen is sold at a heavy discount to offset high processing costs.

Once asphaltenes are removed using the SELEX-Asp process, the remaining oil can be processed in conventional refineries and asphaltenes can be utilized for environmentally friendly non-combustion applications. As a result, processing costs dramatically decrease and the oil can be sold at a premium.



Well Resources Inc.

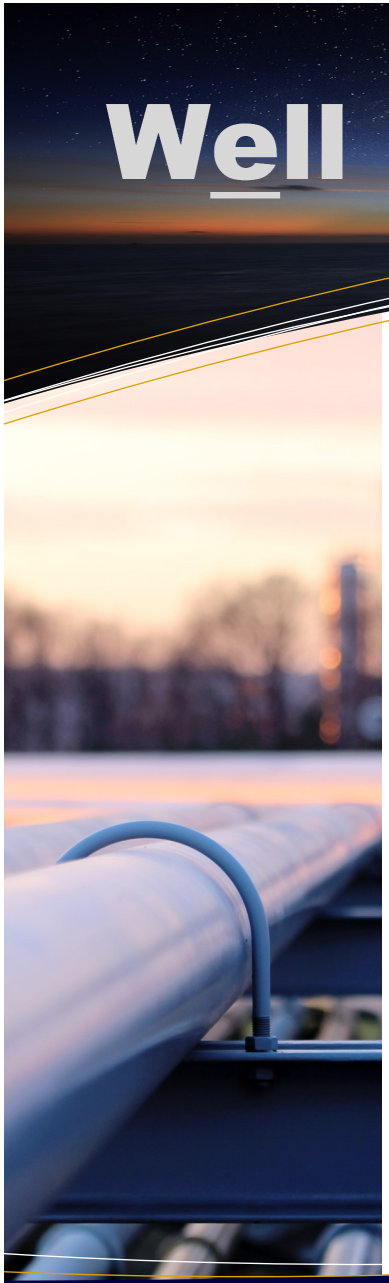
www.wellresources.ca

Phone:
+1 (780) 999-9966
+86 13810334755

Mail:
Attn: Well Resources Inc.
PO Box 52027 RPO Edmonton Trail
Calgary, Alberta
T2E 8K9

Email:
info@wellresources.ca

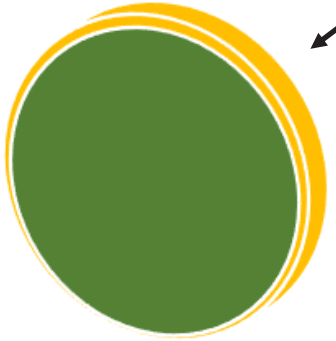
Well



INCREASED EFFECTIVE PIPELINE CAPACITY

Bitumen is a complex mixture of oil and asphaltenes. Asphaltenes make the oil sticky and difficult to flow.

For bitumen to be transported by pipeline, it needs to be mixed with 30%-40% diluent.



Asphaltenes
Oil
Diluent

By selectively removing asphaltenes using the SELEX-Asp process, the remaining oil can be transported by pipeline using less than half the amount previously required.

The pipeline space previously occupied by asphaltenes and diluent can be used to transport additional valuable product.

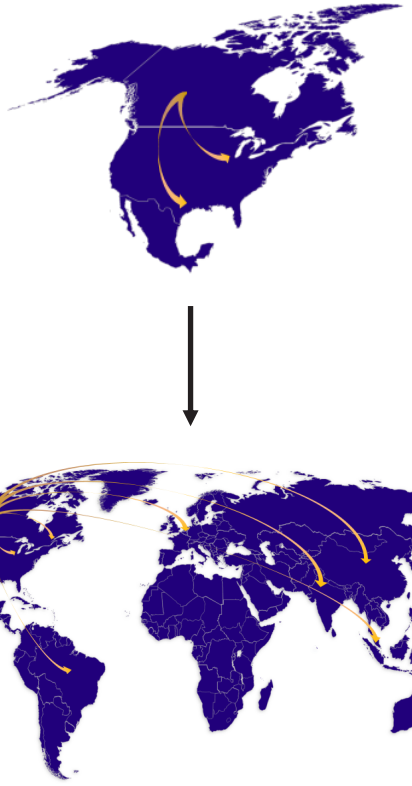
The result is that at least 25% more oil can be transported in already existing pipeline infrastructure.

EXPANDED MARKETS

Only select refineries in the U.S. Midwest and Gulf Coast are equipped to process Canadian bitumen.

By removing asphaltenes early in the value chain using the SELEX-Asp process, Canadian producers are no longer constrained in only exporting to refineries that have specialized equipment.

New markets are unlocked which allows Canadian crude to better compete in the open market.

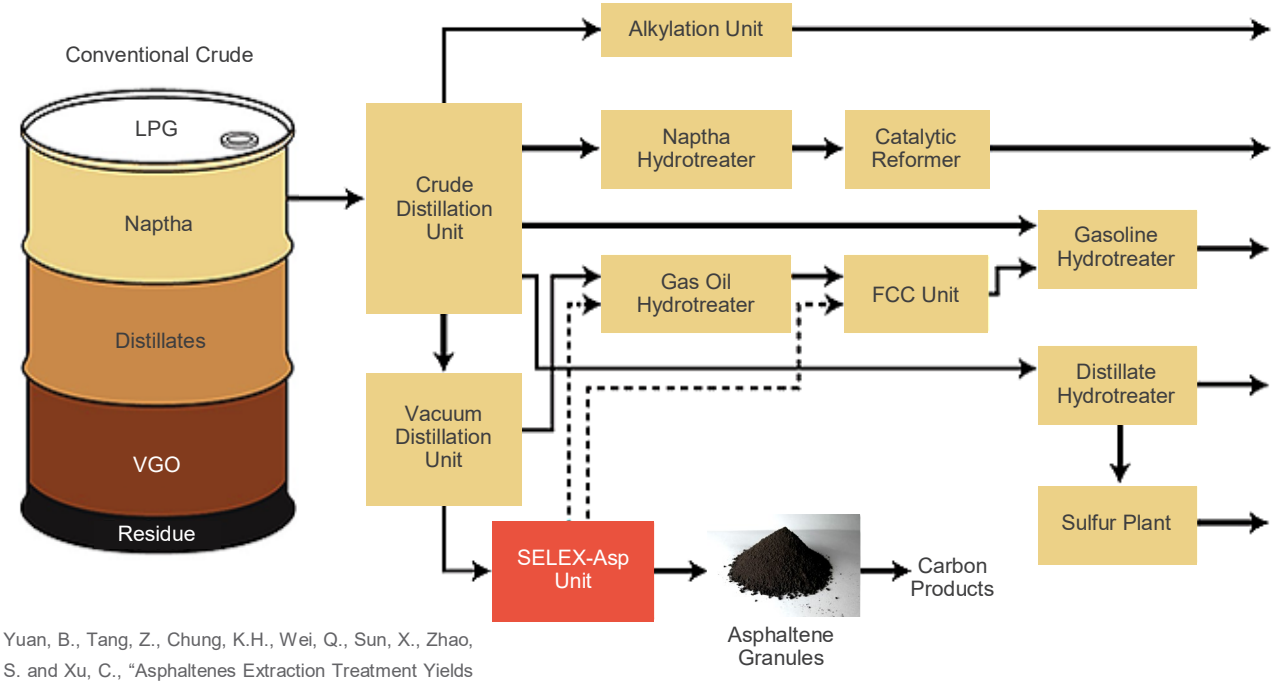


INTEGRITY. INNOVATION. IMPACT.

At Well, we are passionate about developing meaningful solutions to major issues in the oil and gas industry. We develop and license cost effective and commercially proven technologies based on 30+ years of research and development.

Well

SELEX-ASP IN A REFINERY



Yuan, B., Tang, Z., Chung, K.H., Wei, Q., Sun, X., Zhao, S. and Xu, C., "Asphaltenes Extraction Treatment Yields Advantaged Hydroprocessing Feedstock", Oil & Gas J., June 6, 2016, 70-77.

COMPLIANCE WITH IMO 2020

In January 2020, the International Maritime Organization (IMO) will enforce a new 0.5% global sulphur cap on fuel content, lowering it from the present 3.5% limit.

This will pressure refiners to reconfigure their operations or implement novel technologies in order to satisfy IMO requirements.

SELEX-Asp is a commercially proven low-cost refinery add-on for producing IMO low sulfur fuels.

It increases processing flexibility for refiners as it maximizes the yield and economics of producing deasphalted oil, which can then be sent to conventional refining processes to produce low sulfur consumer grade fuels.

Implementing SELEX-Asp in jurisdictions that produce large quantities of heavy sour crude will allow those jurisdictions to remain competitive in 2020 onwards.

LICENSING SELEX-ASP

Well is actively engaged in bringing the SELEX-Asp process to the greater market. Commercially operating and licensed SELEX-Asp units currently exist in Asia and North America. To explore licensing opportunities, contact us at info@wellresources.ca

Well

COMMERCIAL SELEX-ASP UNITS

Globally, there is 36,500 bpd of installed, operating SELEX-Asp processing capacity. The largest single unit has a capacity of 20,000 bpd. An additional 35,000 bpd of SELEX-Asp processing capacity has been licensed in North America.




INNOVATIVE BY-PRODUCT UTILIZATION

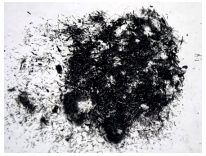
Traditional low-value petroleum residue by-products are turned into environmentally friendly and high value-added materials, which can dually serve as carbon capture mediums for the energy sector.

Virgin Asphaltene Granules

Planting Soil Matrix

Carbon Mat

Carbon Fibre



Carbon Filler

NON-COMBUSTION USES FOR PETROLEUM ASPHALTENES

Granular asphaltenes are easy to handle and transport, are an effective adsorption material and method for treating pollutants, and can also be used as feedstock for producing various carbon materials. Learn more at www.wellresources.ca