



# Environmental Consulting



# Life Cycle Services – OilSands



## Pre-Development

### Environmental

- Mineral & Surface Land Acquisition
- First Nations Consultation
- Consultation (Public, Gov't)
- Regulatory Approvals
  - OSE Approvals
  - EIA
  - EAP & EFR
  - D056 & D023 Applications
  - SMP
  - TDL & PDL Approvals
  - SME (Borrow Pit)
- Pre-Development Assessments
- GIS Mapping
  - Site Selection Mapping
  - Drone (Aerial Data)
- Vegetation and Soil Assessments
- Environmental Site Assessments
- Wildlife, Aquatics Survey
- Rare Plant & Soil Survey
- Wetlands
- Geophysics
- Site selection Mapping

## Construction

### Environmental

- Stakeholder Management
- Spill Response
- Waste Management
  - On-Site Segregated Rig Bins
  - Cement Bins
- Monitoring:
  - Compliance
  - Construction
  - Surface Water
- Soil Salvage & Stockpile
- Wildlife, Aquatics Monitoring
- Geotechnical Evaluations
- Materials Testing, Concrete, Soil Compaction
- Groundwater & Surface Water Monitoring
- Wetland Monitoring

## Exploration / Extraction

### Environmental

- Stakeholder Management
- Spill Response
- Waste Management
  - On-Site Segregated Rig Bins
  - Cement Bins
- Monitoring & Compliance
  - Horizontal Directional Drilling Monitoring
- Soil Salvage & Stockpile
- Wildlife, Aquatics Monitoring
- Remote Sensing
- Groundwater & Surface Water Monitoring
- Wetland Monitoring

## Operations

### Environmental

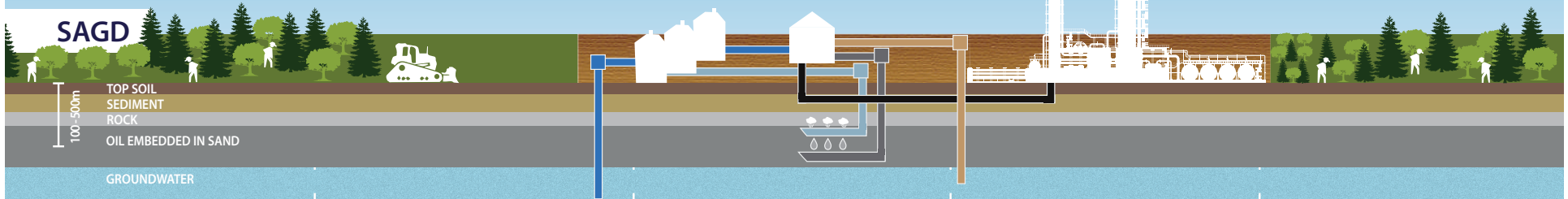
- Liability Management:
  - Due Diligence (A&D)
  - Risk Management
- Spill Response
- Waste Management
  - On-Site Segregated Rig Bins
  - Cement Bins
- Erosion & Sediment Control
- Geotechnical Slope Stability Monitoring
- Remote Sensing
- Environmental Site Assessments
- Soil Salvage Monitoring
- Vegetation Monitoring & Assessments

## Reclamation

### Environmental

- Assessment (Phase I & II)
- Insitu & Exsitu Remediation
- Geophysics (EM & ERT)
- Risk Management
- Facility Removal
- Wetland & Peatland Restoration / Reclamation
- Reclamation Planning, Assessment & Certification
- Vegetation Monitoring & Maintenance
- Surface & Groundwater Monitoring
- Erosion & Sediment Control

# Life Cycle Services – OilSands



## Pre-Development

### Environmental

- Regulatory Approvals
  - OSE Approvals
  - EIA
  - EAP & EFR
  - D056 & D023 Applications
  - SMP
  - TDL & PDL Approvals
  - SME (Borrow Pit)
- Pre-Development Assessments
- Wildlife Surveys
- Rare Plant & Soil Survey
- Wetlands
- Groundwater & Water Well
- Geophysics
- Drone (Aerial Data)
- Environmental Site Assessments
- GIS & Mapping Services
  - Constraint Mapping & Routing
- Forestry Assessments
- Vegetation & Soil Assessments

## Construction

### Environmental

- Monitoring & Compliance
- Horizontal Directional Drilling
- Monitoring
- Remote Sensing
- Stockpile Monitoring & Survey
  - Drone Support
- Hydrology (Surface Water)
- Wildlife Sweeps
- Wetland Monitoring
- Geophysics
- Waste Management
  - On-Site Segregated Rig Bins
  - Cement Bins
- Geotechnical Engineering
- Materials Testing, Concrete, Soil Compaction
- Leak Detection & Repair
- Aquatic Services
  - Crossings & Approvals
- Weed Management
- Spill Response
- Drilling Waste Management
- Groundwater & Surface Water Monitoring

## Exploration / Extraction

### Environmental

- Stakeholder Management
- Spill Response
- Hydrogeology
- Waste Management
  - On-Site Segregated Rig Bins
  - Cement Bins
- Monitoring & Compliance
- Horizontal Directional Drilling
- Monitoring
- Soil Salvage & Stockpile
- Wildlife, Aquatics Monitoring
- Drilling Waste Management
- Groundwater & Surface Water Monitoring
- Wetland Monitoring
- Aquatic Services
  - Monitoring & Frac Response

## Operations

### Environmental

- Liability Management:
  - Due Diligence (A&D)
  - Hydrogeology & Groundwater
  - Risk Management
- Spill Response
- Erosion & Sediment Control
- Environmental Site Assessments
- Hydrogeology & Groundwater Services
- LLR/LMR Compliance
- Leak Detection & Repair (LDAR)
- Air Services
  - Emission & GHG
  - Surface Case Vent Flow (SCVF)
  - Gas Migration (GM)

## Decommissioning

### Environmental

- Assessment (Phase I & II)
- Insitu & Exsitu Remediation
- Groundwater monitoring
- Geophysics
  - EM/ERT
- Risk Management
- Facility & Pile Decommissioning
- Well Abandonment (Downhole)
- Wetland & Peatland Restoration
- Borrow Pit Reclamation
- Restoration/Reclamation
- Reclamation Certification
  - OSE, Pads, Pipelines & Facilities
- Vegetation Monitoring
- Remote Sensing
- Erosion & Sediment Control