



TRACETM
A S S O C I A T E S



Historical Spill Management Challenges at an Active 1950s Gas Plant

Presented by:

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TRACE™

Presentation Overview

Background

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Source Areas

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Challenges

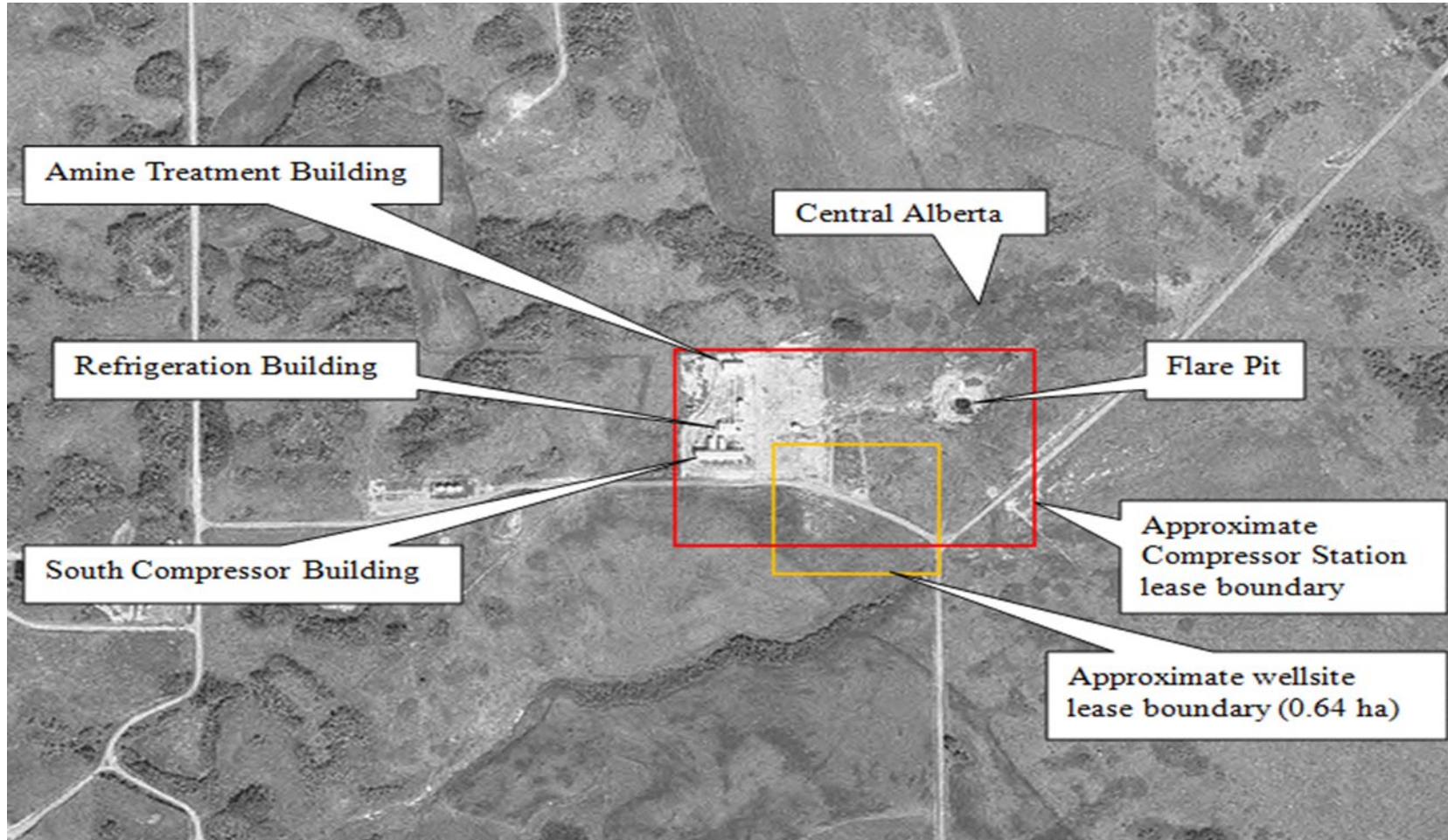
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Learnings

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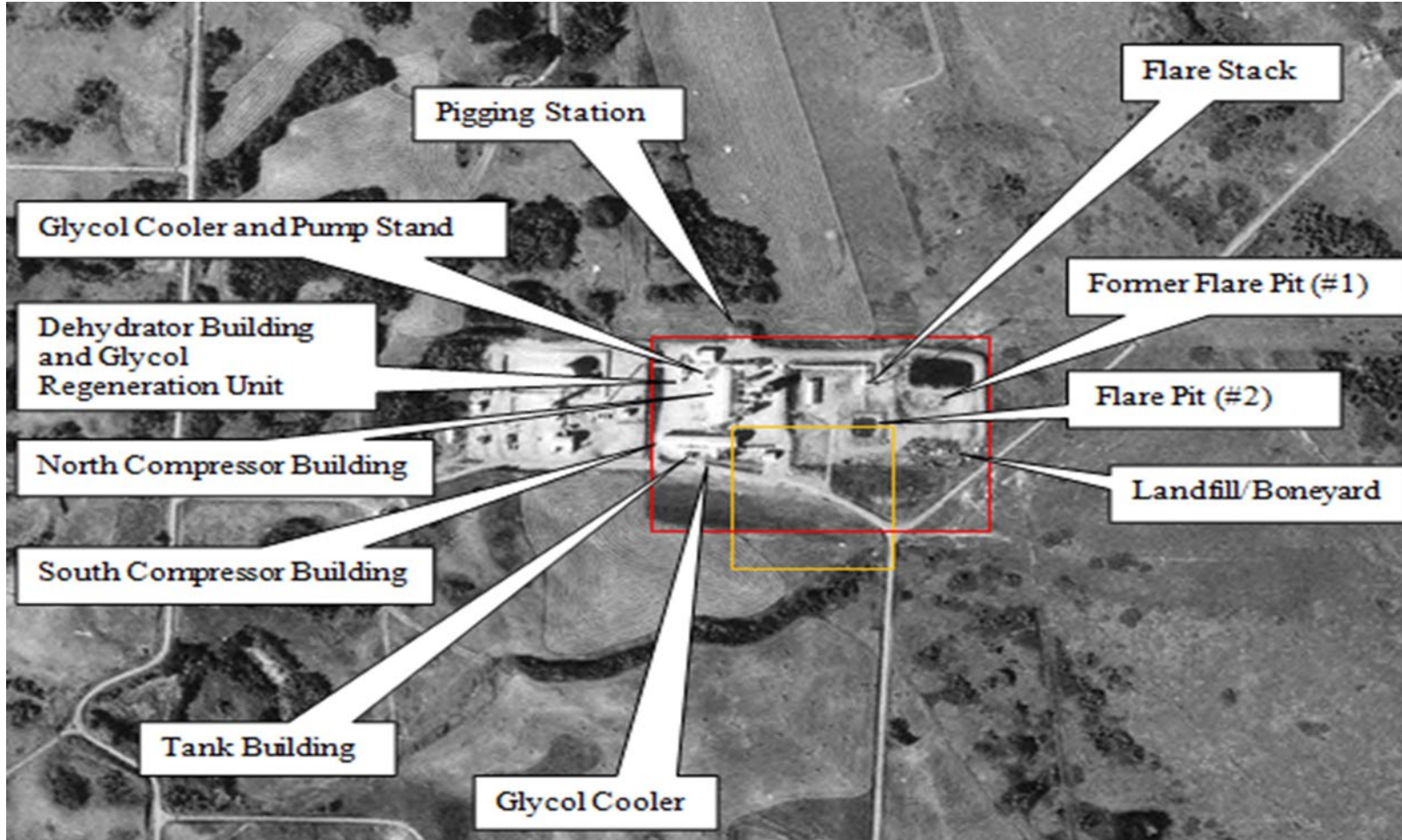
Background: 1956 Construction



Original Scale: 1:31,680

Base photo obtained from Alberta Sustainable Resource Development, Air Photo Distribution (1966)

Background: 1976



Original Scale: 1:31,680

Base photo obtained from Alberta Sustainable Resource Development , Air Photo Distribution (1976)

Background:

- 1970s – Amine treatment facility discontinued - large site expansion
- 1983 – Large fire
- 1990s – Dehydration process added
- Present – Gas compression activity
- Wide variety of source areas

Previous Work:

- **Objective:** To reduce liability
- **Prior to Trace:**
 - Groundwater monitoring program (1995)
 - Environmental liability assessment (1996)
 - Phase 1 & 2 environmental site assessments (ESAs) (2001)
 - Stormwater management program (2001)

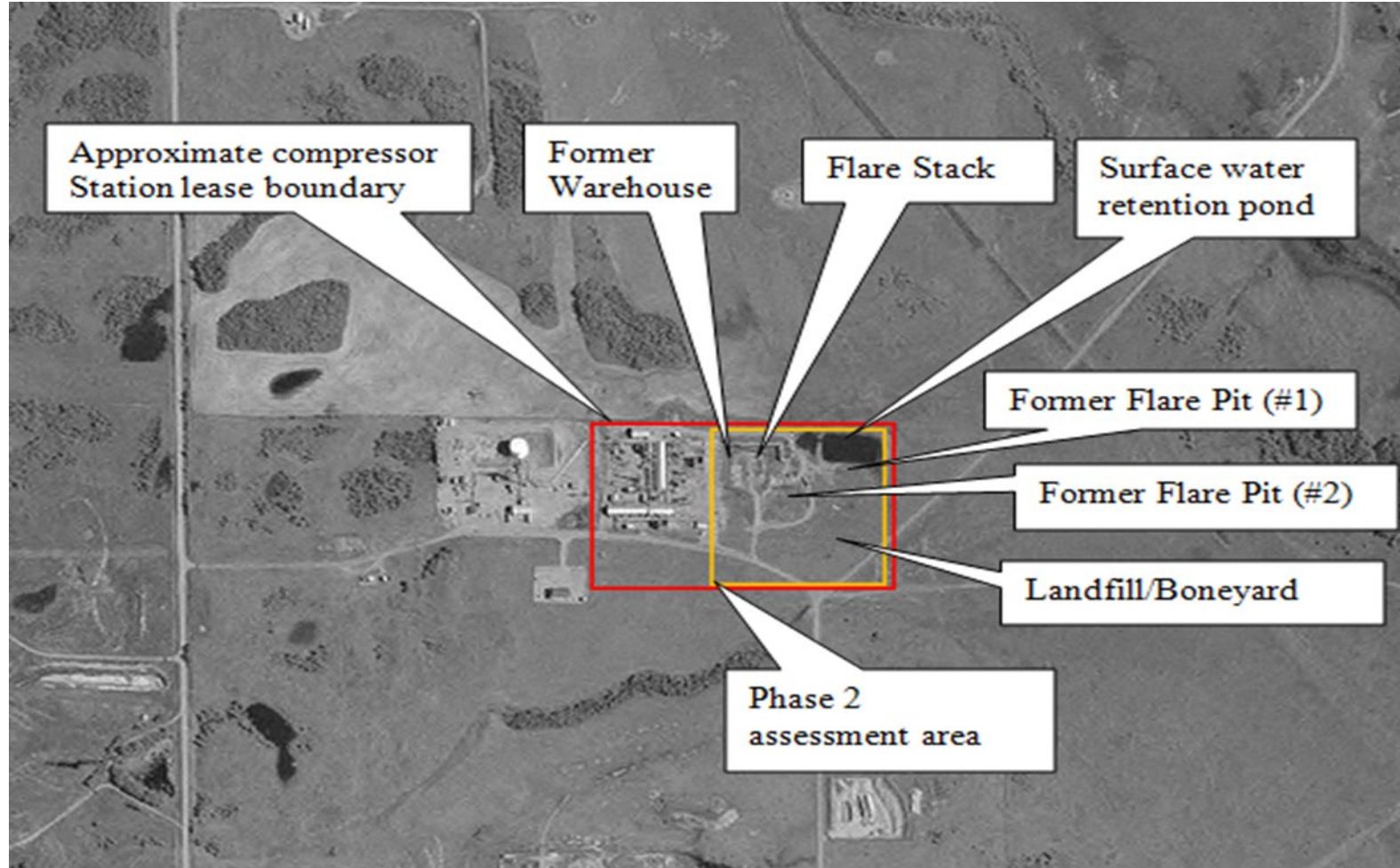


Assessment Activity: Trace (2009)

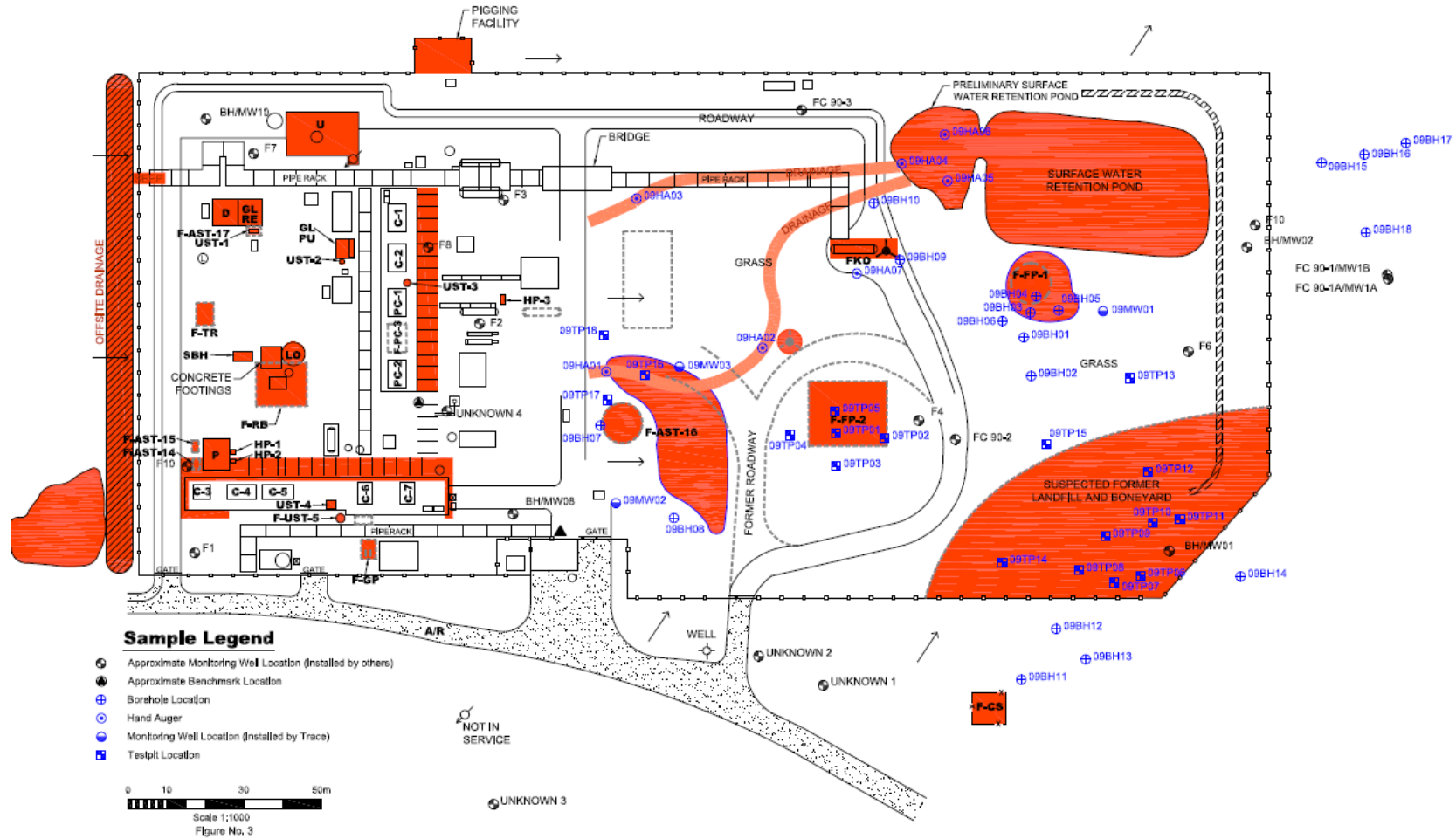
- Extensive Phase 1 and 2 ESAs
- Confirmed and delineated major source areas
- Confirmed groundwater quality



Phase 2 ESA:

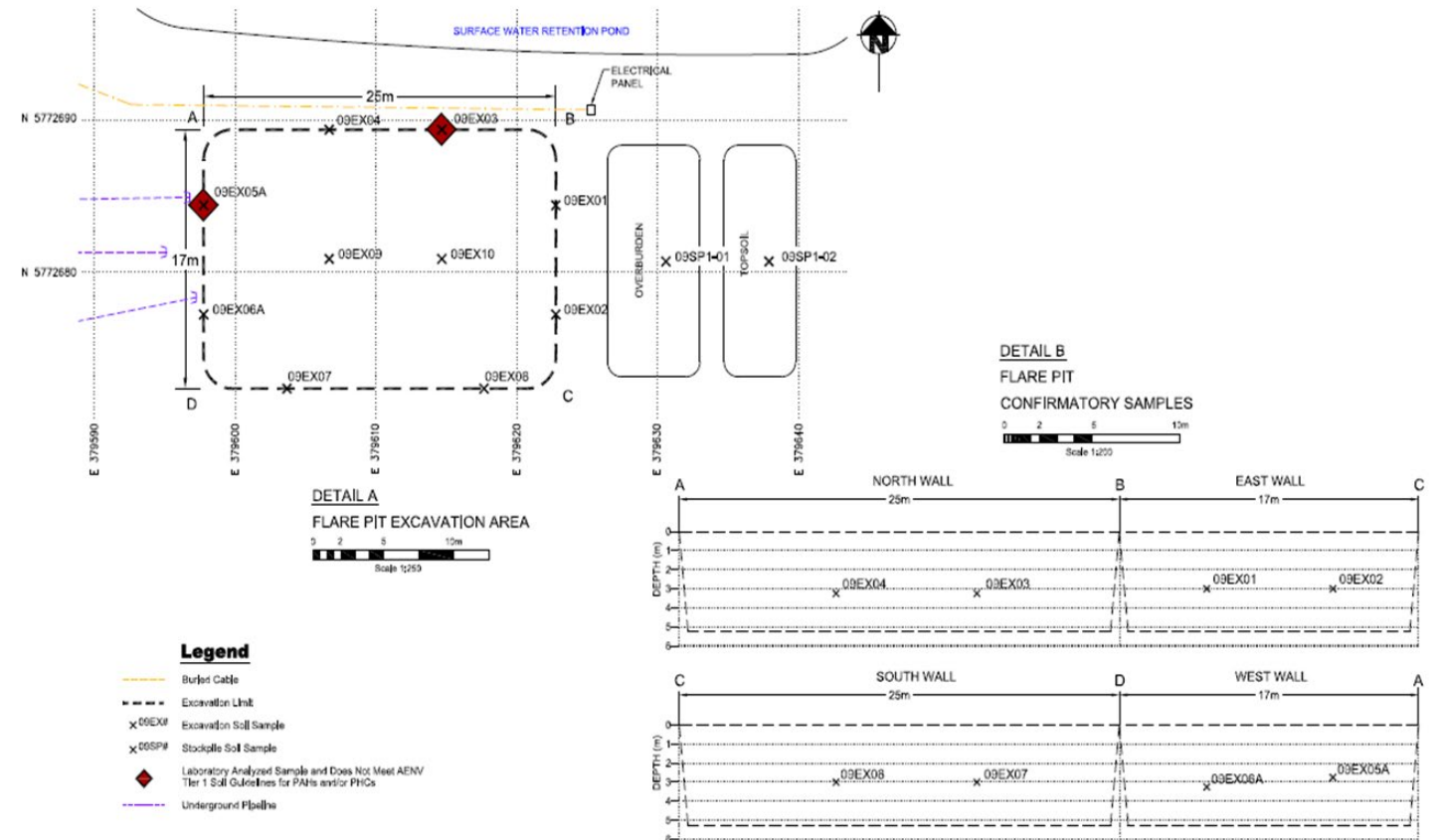


Phase 2 ESA:



Flare Pit Remediation:

- Winter 2009
- Challenges:
 - Underground facilities and the surface retention pond



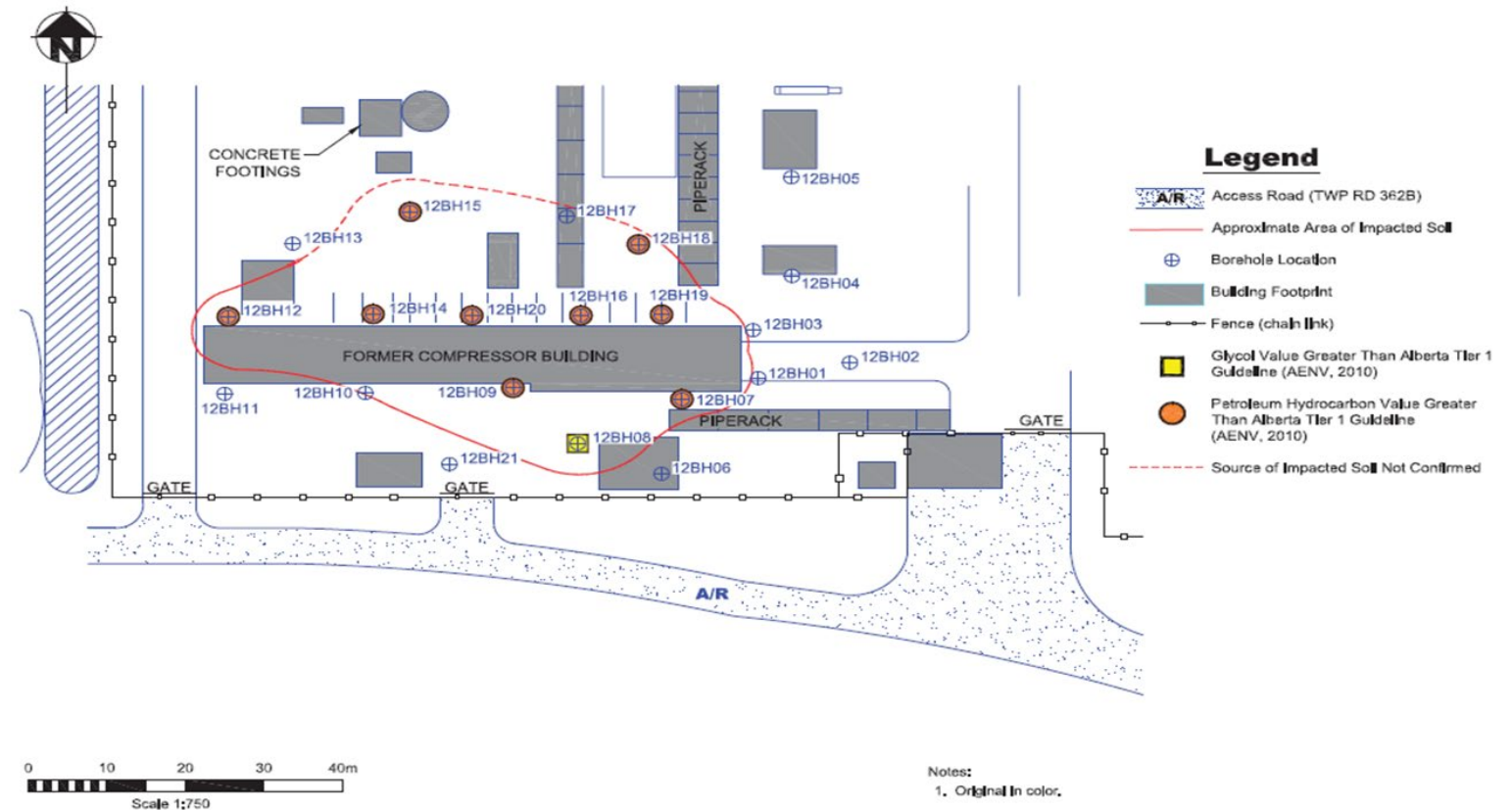
50 Year Release:

- Historical compressor oil/lube leakage from late 1950s to mid 2000s
- Limited free product recovery



Supplemental Phase 2 ESA:

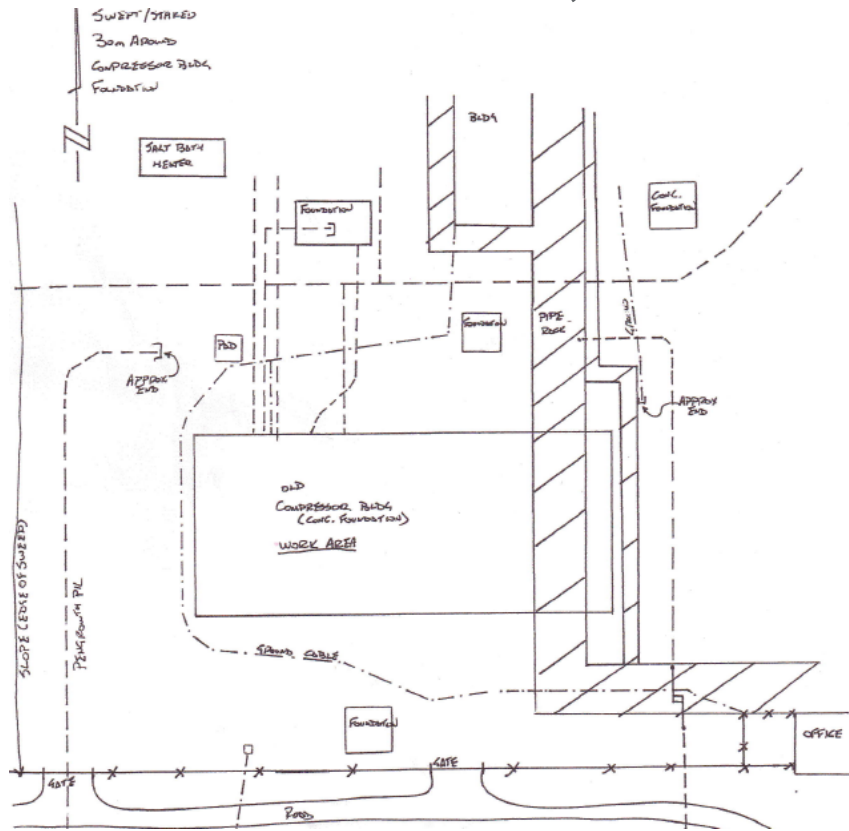
- Objective:
Delineate the historical release area and develop a remediation plan



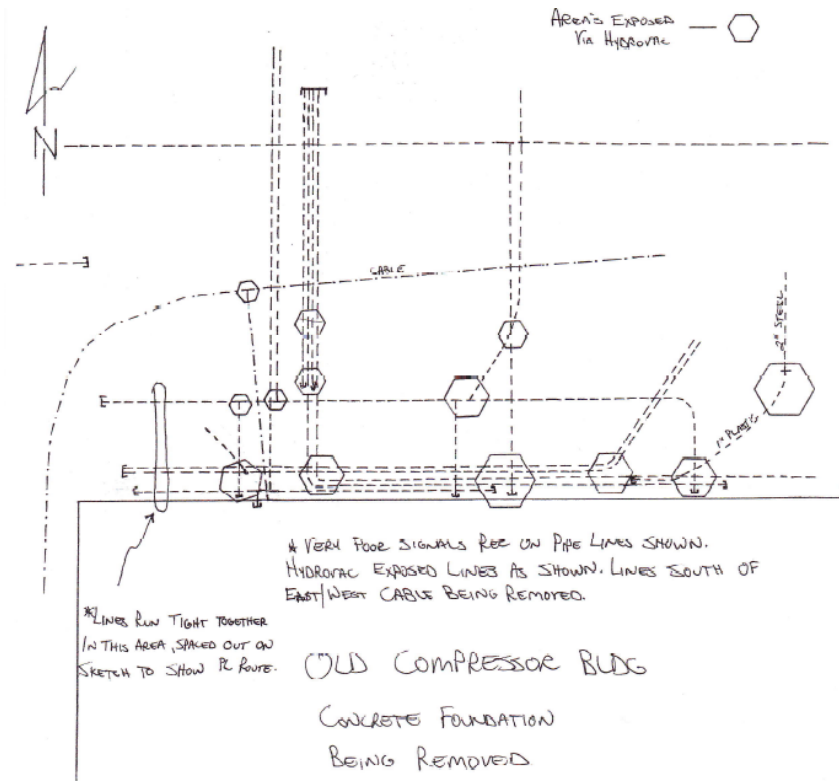
Trace Supplemental Phase 2 ESA - 2013

Ground Disturbance:

Initial – October 29, 2012



Updated – November 2, 2012



Decommissioning:



Fall 2012/2013:

- Verified underground facilities were inactive
- Decommissioned underground facilities
- Concrete foundation was decommissioned
- 1,483 tonnes of concrete and associated debris were removed from the site



Fall 2012/2013:

- Testpits were advanced within the former compressor building area
- Petroleum hydrocarbons (PHCs) > Tier 1 guidelines
- Soil > Class II landfill criteria
- Constructed berm to limit surface water infiltration



Remediation: Fall 2014



PHC-impacted soil and concrete:
Class II landfill disposal



Impacted water: Treatment, recovery, and
disposal facility

Remediation: Fall 2014



Backfilling activities: west view



Backfilling activities completed: east view

Challenges: Multiple Source Areas



Challenges: Spill Pathways



Challenges: Active Facilities



Challenges: Unknown Buried Facilities



Challenges: Water Management



Surface water



Groundwater

Learnings:

- Planning matters
- Staged approach is critical
- Rebar interference
- Water management
- Contractor consistency



Questions? We are here to help.



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