

 FHRA Property Boundary

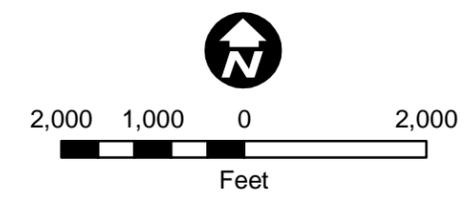
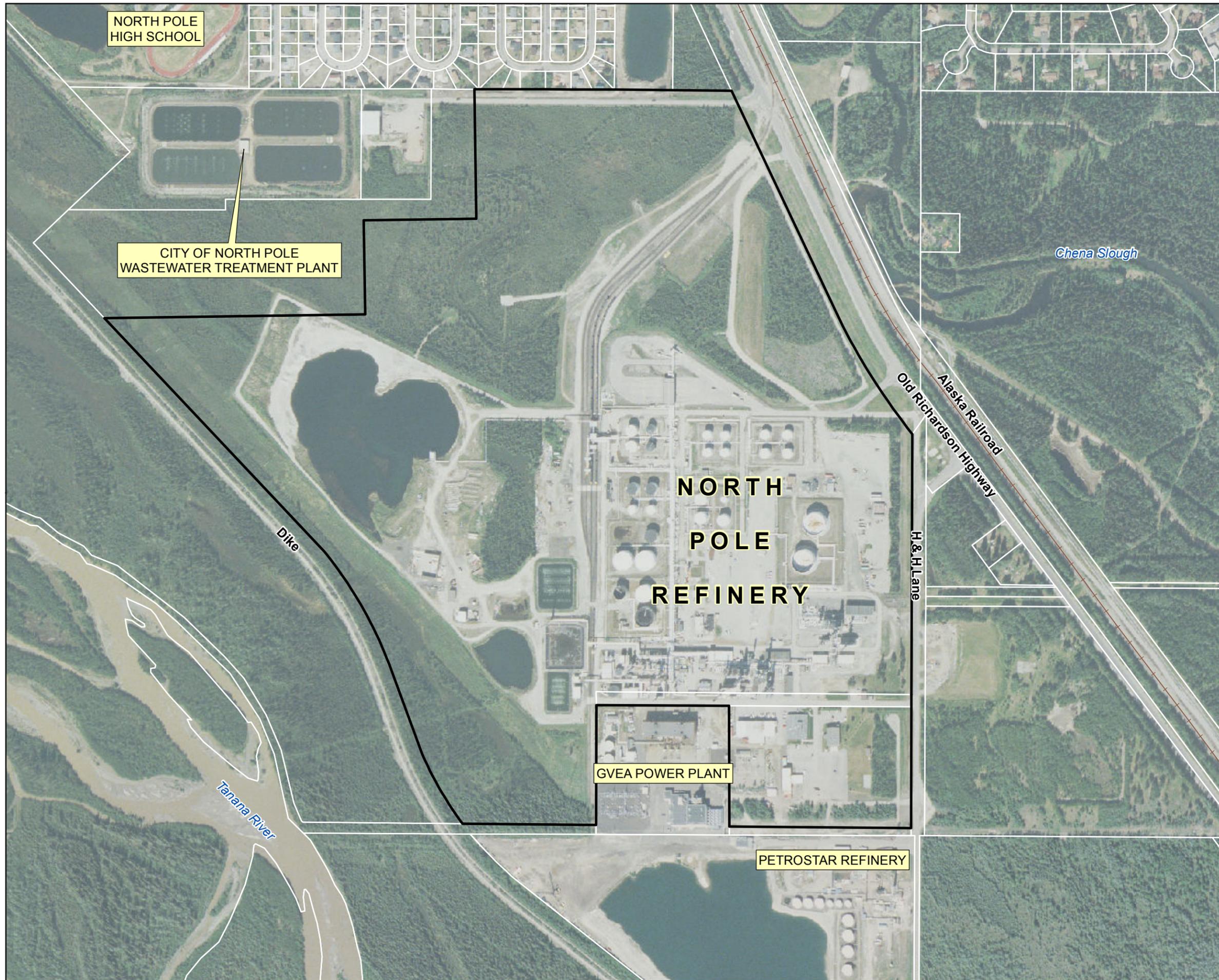


Figure 1
 SITE LOCATION
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



NORTH POLE
HIGH SCHOOL

CITY OF NORTH POLE
WASTEWATER TREATMENT PLANT

NORTH
POLE
REFINERY

GVEA POWER PLANT

PETROSTAR REFINERY

Dike

Tanana River

Chena Slough

Old Richardson Highway
Alaska Railroad

H & H Lane

-  Parcel Boundaries
-  FHRA Property Boundary

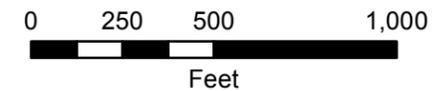
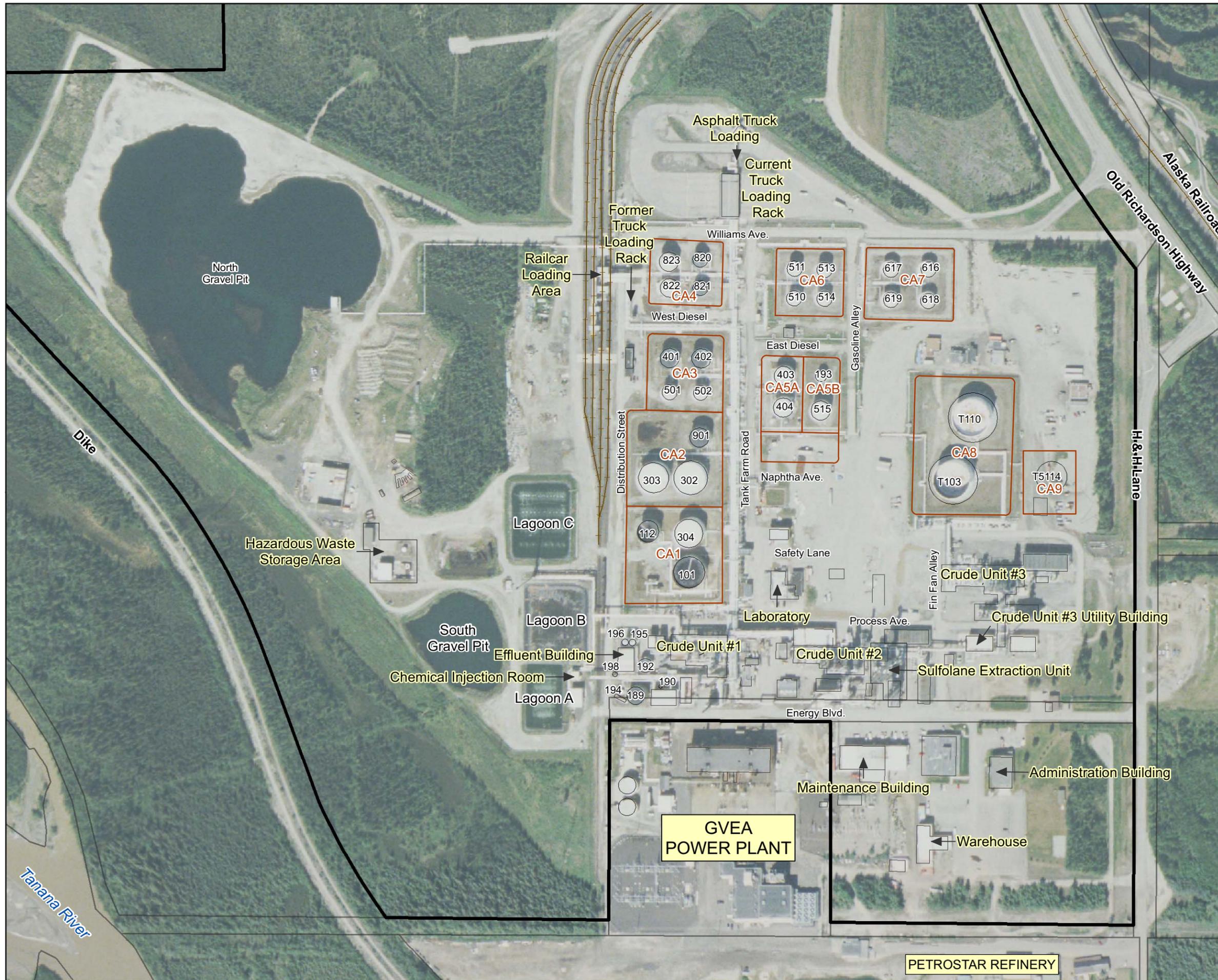


Figure 2
SITE VICINITY
North Pole Refinery
Flint Hills Resources Alaska, LLC



- Bermed Containment Areas (CA)
- FHRA Property Boundary
- Parcel Boundaries

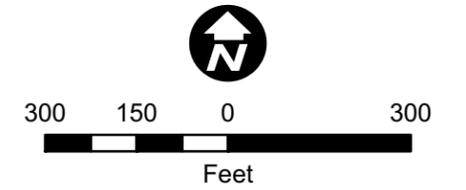
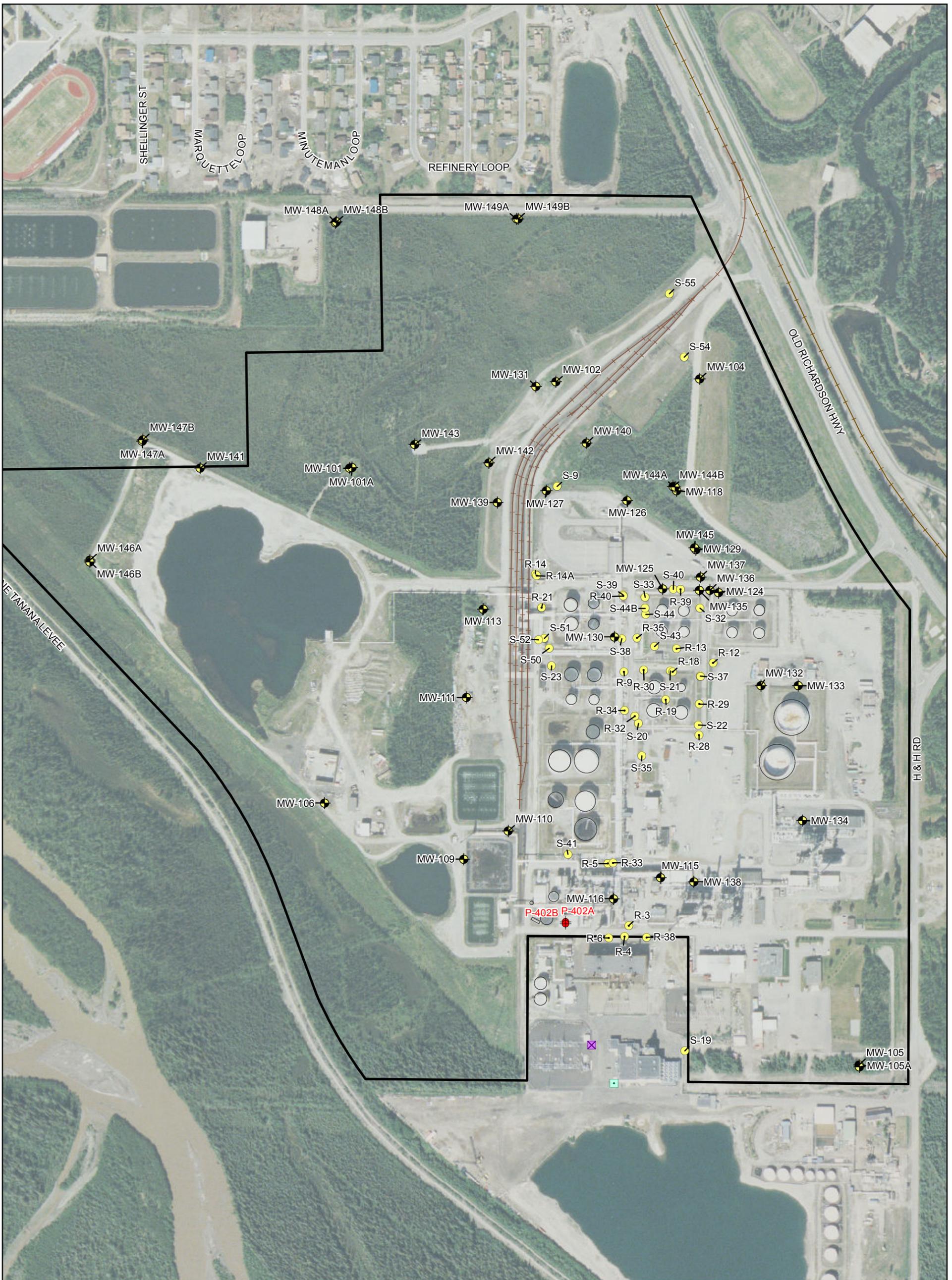


Figure 3
 SITE FEATURES
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



- ◆ Monitoring Well
- Observation Well
- Recovery Well
- Production Wells
- ✕ GVEA Injection Well (Approximate)
- GVEA Production Well (Approximate)
- ▭ FHRA Property Boundary

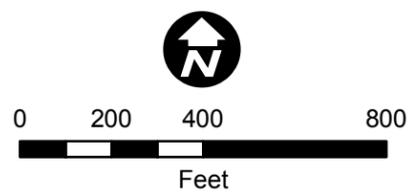
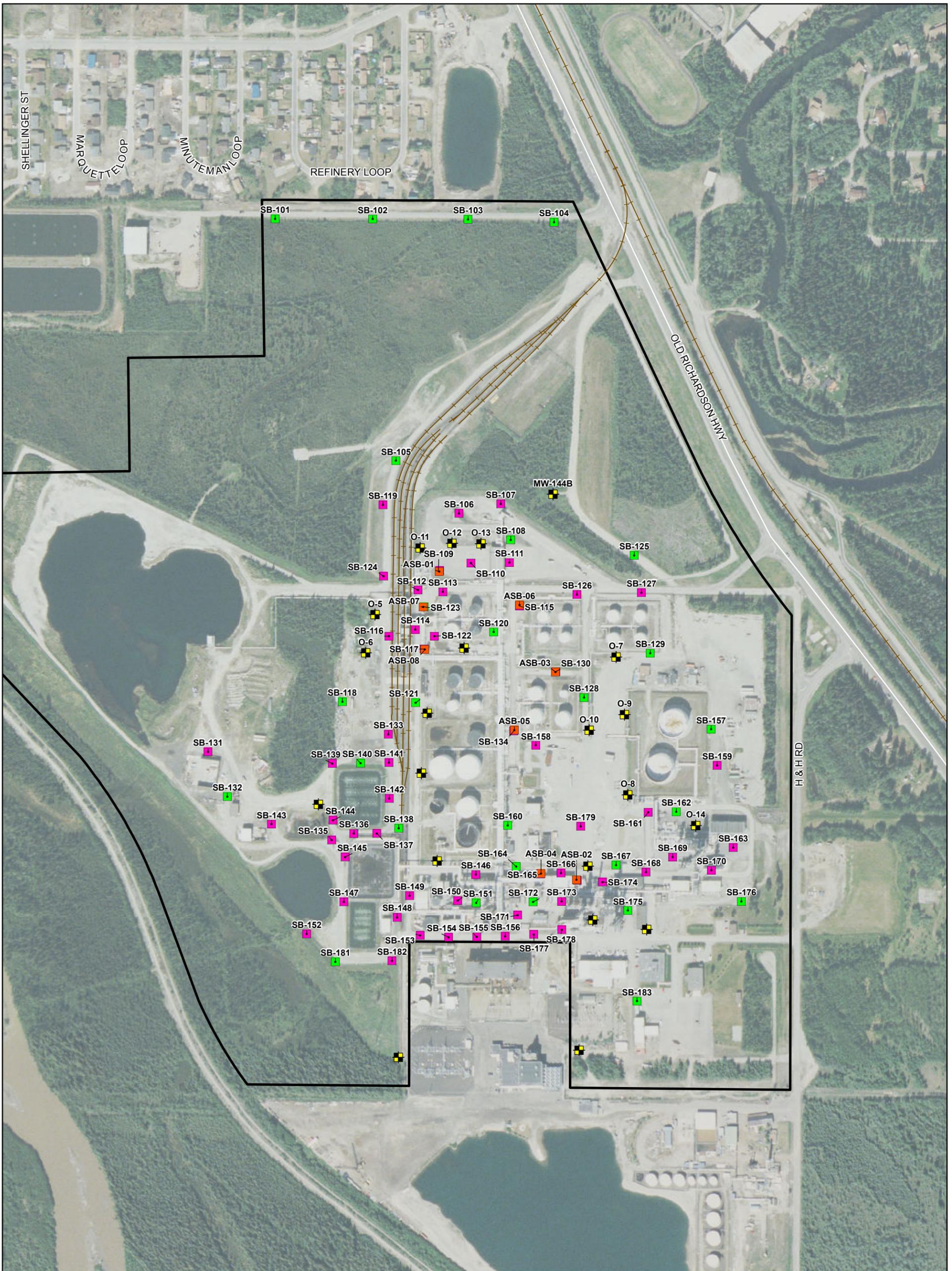


Figure 4
 WELL NETWORK PRIOR TO
 OCTOBER 2009
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



- COPC Soil Borings
- Standard Soil Borings
- LNAPL Mobility Assessment Soil Core Location
- New Well
- FHRA Property Boundary

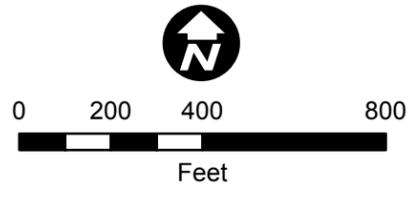
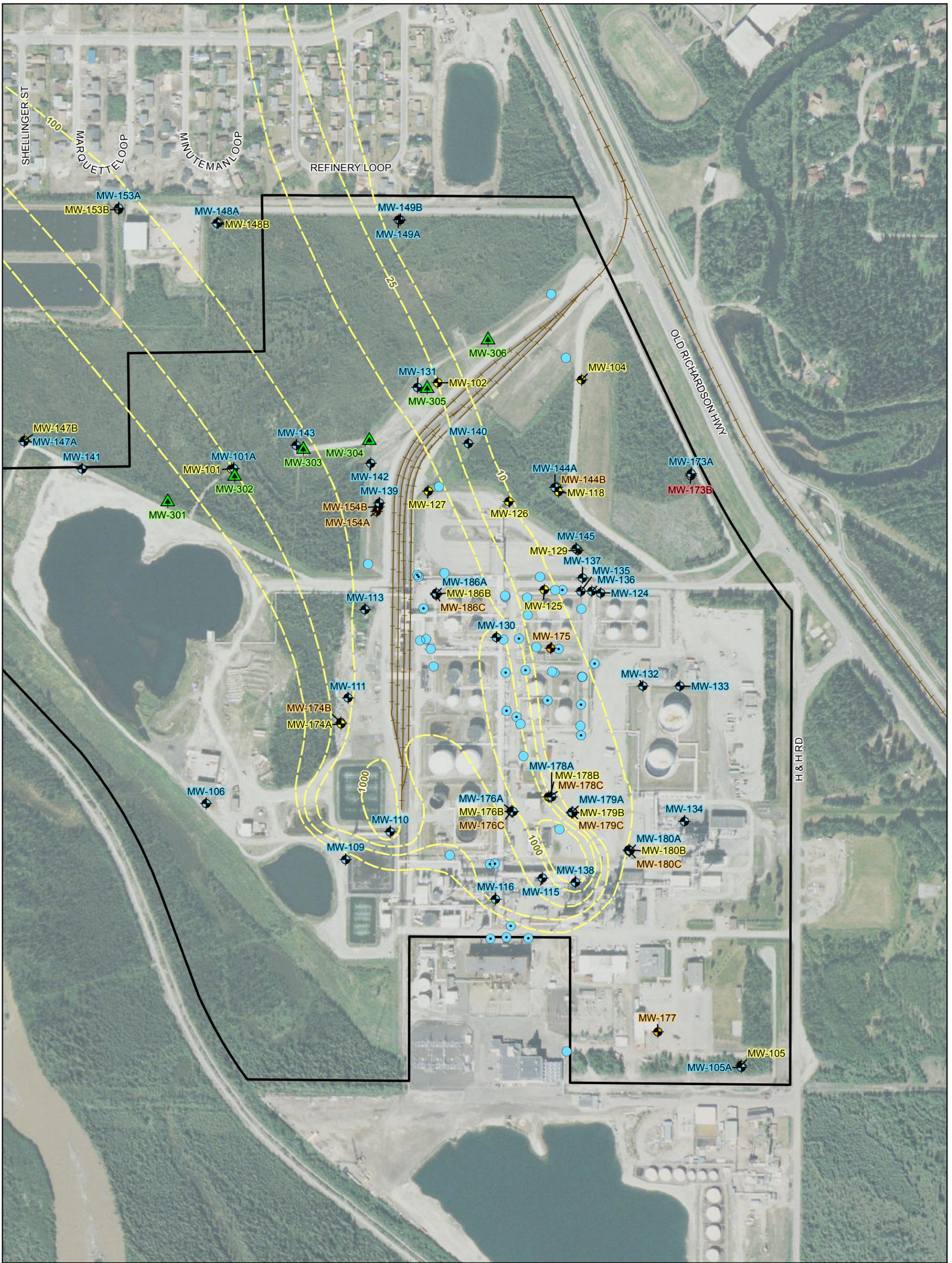


Figure 6
SOIL BORING LOCATIONS
North Pole Refinery
Flint Hills Resources Alaska, LLC



- ▲ Vertical Profiling Locations
- ◆ Monitoring Wells at the Water Table
- ◆ Monitoring Wells 10-55' Below the Water Table
- ◆ Monitoring Wells 55-90' Below the Water Table
- ◆ Monitoring Wells 90-160' Below the Water Table
- Observation Wells at the Water Table
- Recovery Wells at the Water Table
- Approximate Sulfolane Plume at the Water Table, 4th Quarter 2011

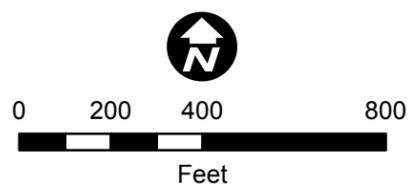


Figure 8
 VERTICAL PROFILING
 WELL CLUSTER LOCATIONS
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



- ◆ Monitoring Well Within 10 Feet of the Water Table
- ◆ Monitoring Well 10 to 55 Feet Below the Water Table
- ◆ Monitoring Well 55 to 90 Feet Below the Water Table
- ◆ Monitoring Well 90 to 160 Feet Below the Water Table
- Observation Well Within 10 Feet of the Water Table
- Recovery Well Within 10 Feet of the Water Table
- FHRA Property Boundary

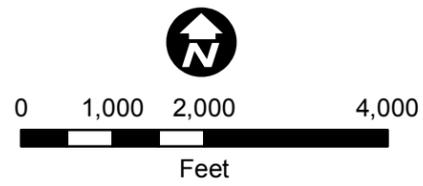
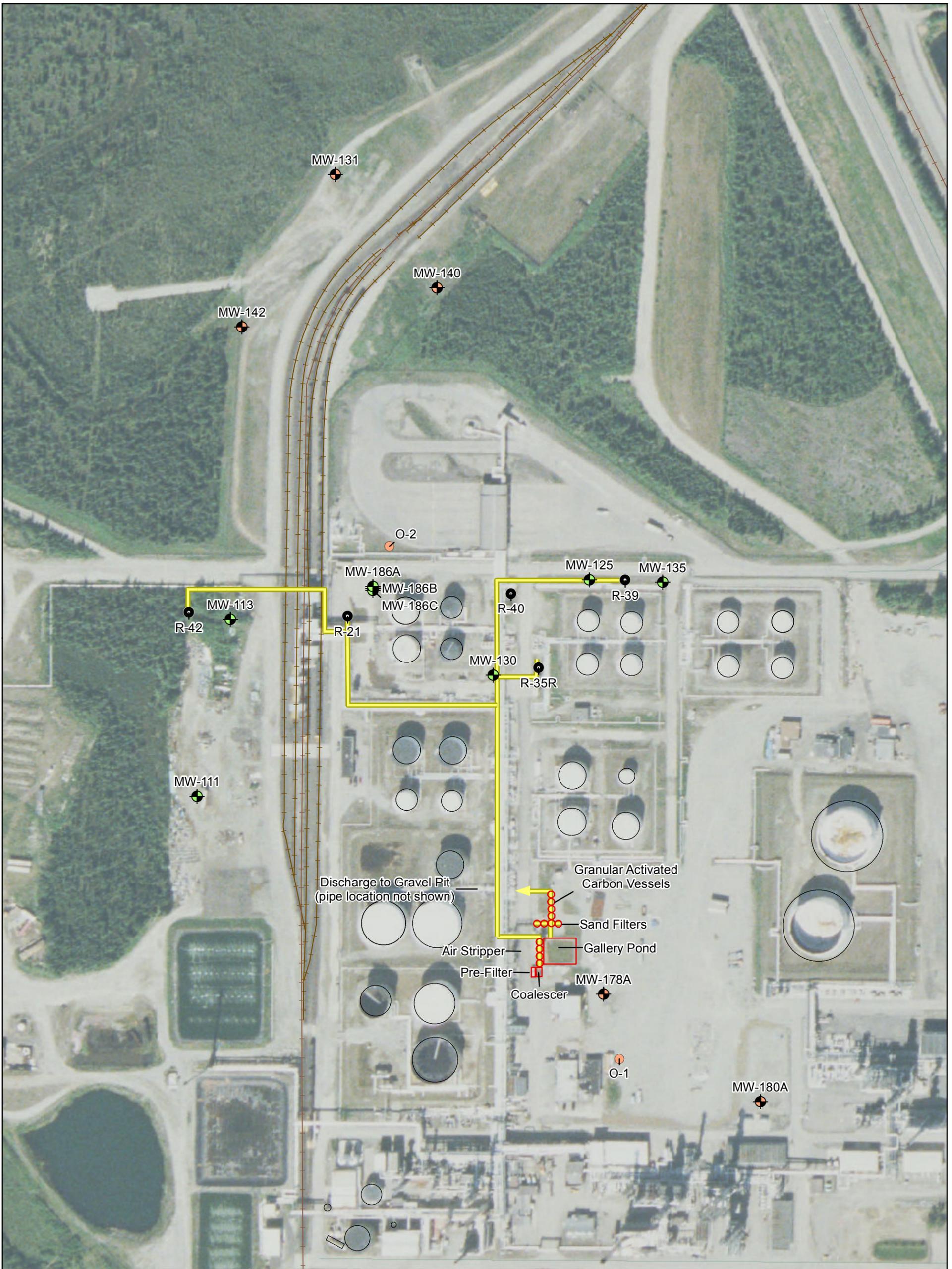


Figure 9
 GROUNDWATER ELEVATION
 MONITORING NETWORK
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



- Datalogger Locations
- Manual Measurement, Monitoring Well
- Manual Measurement, Observation Well
- Recovery Well
- Remediation System Piping

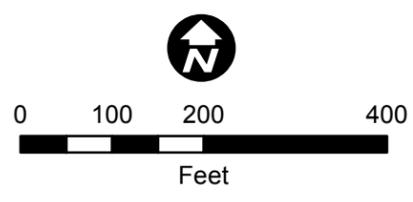


Figure 10
 RECOVERY WELL PUMPING
 TEST LAYOUT
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



Pumping Test Well Locations

- ◆ Monitoring Well Within 10 Feet of the Water Table
- ◆ Monitoring Well 10-55 Feet Below the Water Table
- ◆ Monitoring Well 55-90 Feet Below the Water Table
- ◆ Monitoring Well 90-160 Feet Below the Water Table
- Recovery Well Locations
- Remediation System Piping

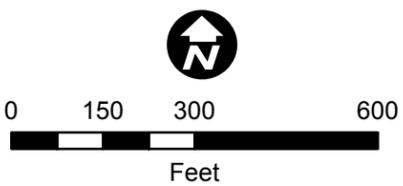


Figure 11
**SINGLE-WELL PUMPING
 LOCATIONS**
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



Pumping Test Well Locations

- ◆ Monitoring Well Within 10 Feet of the Water Table
- ◆ Monitoring Well 10-55 Feet Below the Water Table
- ◆ Monitoring Well 55-90 Feet Below the Water Table
- ◆ Monitoring Well 90-160 Feet Below the Water Table

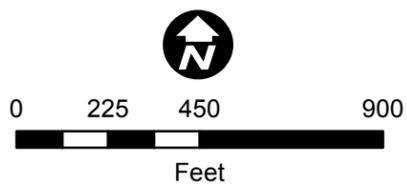
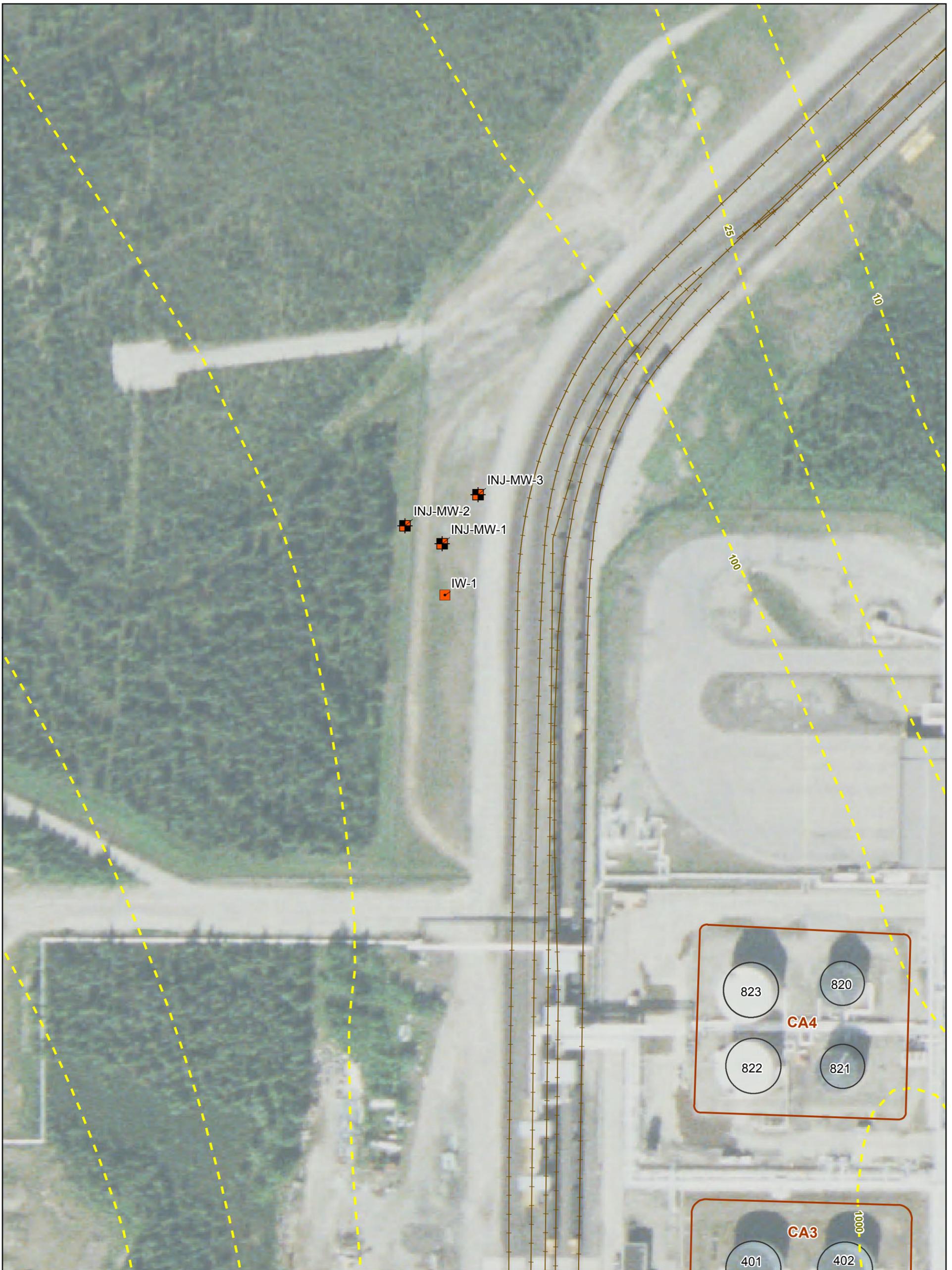


Figure 12
 TRACER TEST LOCATIONS
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



- Injection Well
- ⊠ Monitoring Well
- Sulfolane Isopleth in µg/L from 4th Quarter 2011
- Bermed Containment Areas

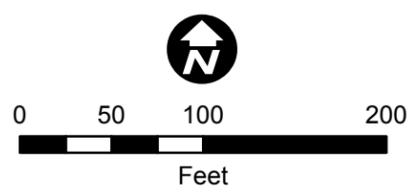


Figure 13
 INJECTION TEST LOCATIONS
 North Pole Refinery
 Flint Hills Resources Alaska, LLC



-  Sumps
-  Soil Boring
-  Monitoring Well
-  Observation Well

 FHRA Property Boundary

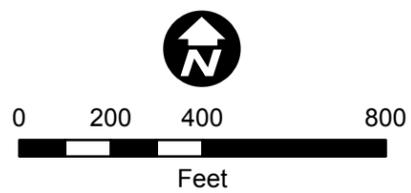


Figure 14
HISTORICAL SOIL SAMPLING LOCATIONS
North Pole Refinery
Flint Hills Resources Alaska, LLC