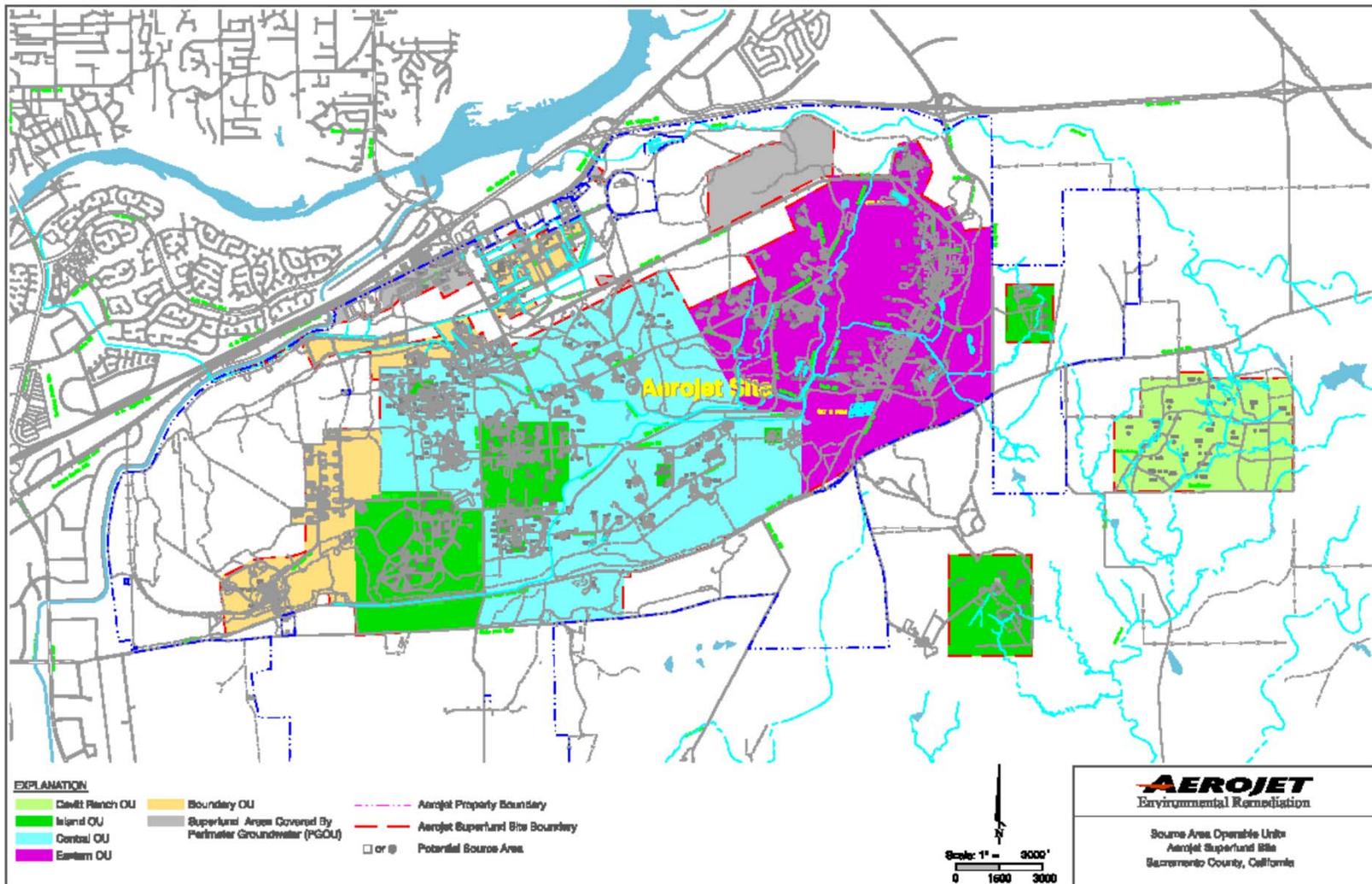


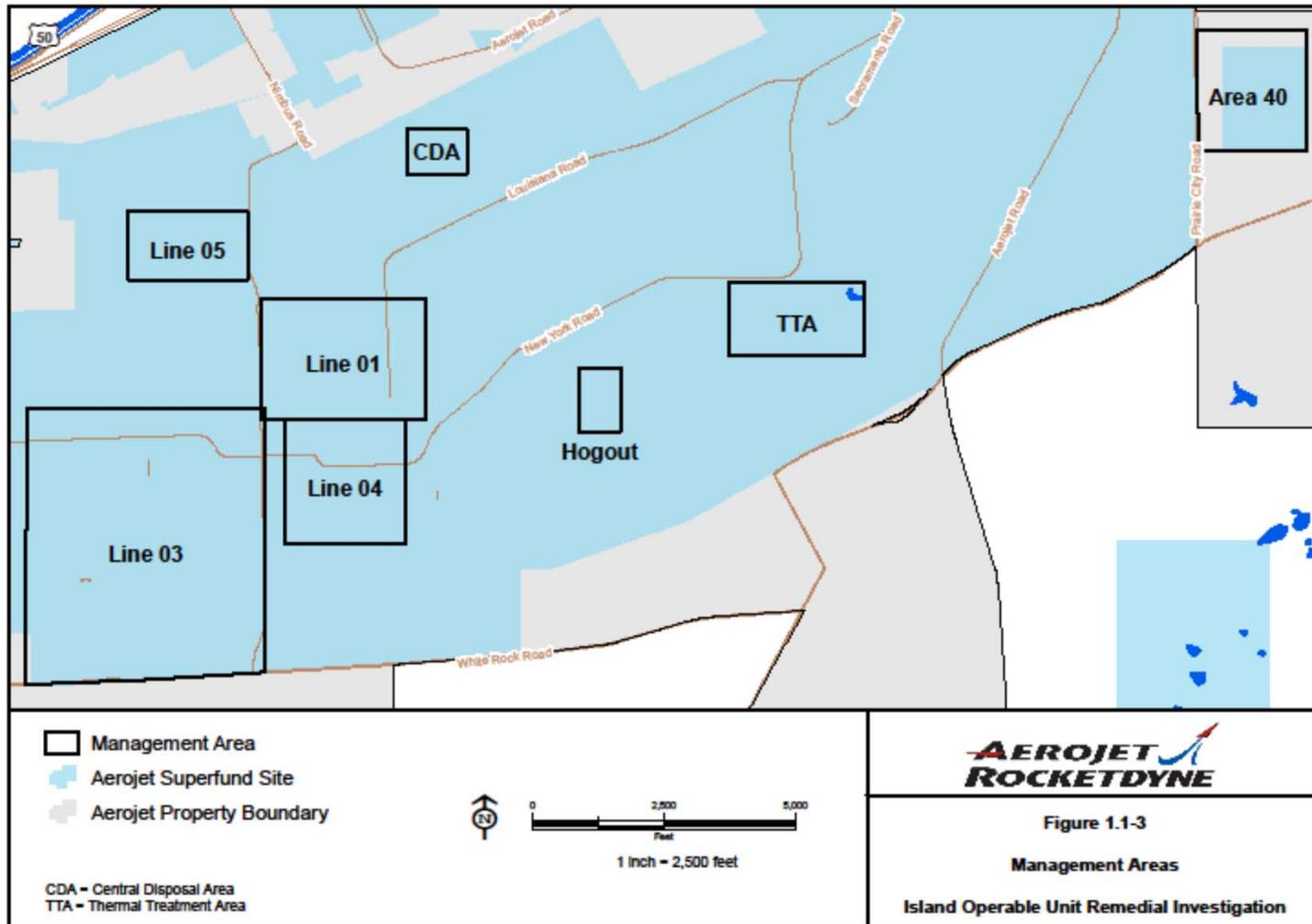
# Island Operable Unit (OU-7) Remedial Investigation Line 3

Chris Fennessy, P.E.  
Aerojet Rocketdyne  
November 19, 2014

# Operable Units



# OU-7 Management Areas



# History of OU-7

- Source Areas Identified in Partial Consent Decree
- Initial investigation conducted in mid-1980s to early-1990s – Stage 1 Remedial Investigation Report
- Program Plan Modification Report – 2004
  - Island OU – This OU contains potential source areas (59 areas) that have very high concentrations of VOCs in either groundwater or soil vapor and/or very high concentrations of perchlorate in soil.
- Priority Evaluation, Central OU Source Areas – 2006
  - Evaluated all Central OU source areas to determine if any contained concentrations of TCE or perchlorate that would warrant early evaluation in IOU. Seven source areas transferred to IOU (66 areas).
- Sampling and Analysis Plan – 2007
- Remedial Investigation field work – 2007 and 2008
- Area 39 (7 potential source areas) transferred to IOU following completion of BOU RI and RA
- Total of 73 source areas in IOU

# OU-7 Field Sampling Plan

- Preparation
  - Historical Data Review
  - Aerial Photograph Research
  - Risk Management Decision Boundaries (RMDB)
  - Screening level determination
- Identified Goals
  - Nature and Extent of chemicals in soil, soil vapor, groundwater, surface water and sediment
  - Extent of RMDB
  - Evaluate releases and, if necessary, extent of chemicals in open space areas

# Line 3 FSP

- 24 Potential Source Areas, 7 Open Space Areas, 3 RCRA
- Former rocket motor manufacturing line
  - Fuel and liner preparation
  - Oxidizer preparation
  - Propellant mixing
  - Motor casting
  - Final assembly
  - Tool cleaning
  - Explosives storage
  - Paint booths
- Unconfined groundwater 75 feet below ground surface
- VOCs, perchlorate, D/F, metals, SVOC



SantaBarbara-01\Data\_P\GIS\SP0408\_Promote\Line 03\_HRRV\Fig5.4.6\_ConstructionWorker\_Soils\SV\_Img21\_R\_Line3\_HRRV.mxd 20141103



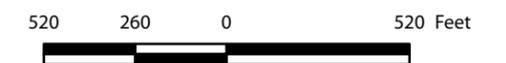
**Legend**

- △ Soil Vapor to Outdoor Air Sample Location
- Soil Sample Location
- Cancer Risk ≤ 1E-06
- Cancer Risk > 1E-06 and ≤ 1E-05
- Cancer Risk > 1E-05 and ≤ 1E-04
- Cancer Risk > 1E-04
- △ Shallow Non-Detect, Deep Cancer Risk > 1E-06
- △ Shallow Cancer Risk ≤ 1E-06, Deep Cancer Risk > 1E-06
- Region Boundary



**Notes**

- Hollow symbols indicate location not quantified: no COPCs identified; COPCs were non-detect; or metal COPC concentrations < background threshold value (BTV).
- Some symbols may overlap others.
- ft bgs = feet below ground surface



**Current/Future Construction Worker  
Soil (0-12 ft bgs) and Soil Vapor to Outdoor Air  
Incremental Lifetime Cancer Risk  
Line 03 — Island Operable Unit**  
Aerojet Environmental Remediation

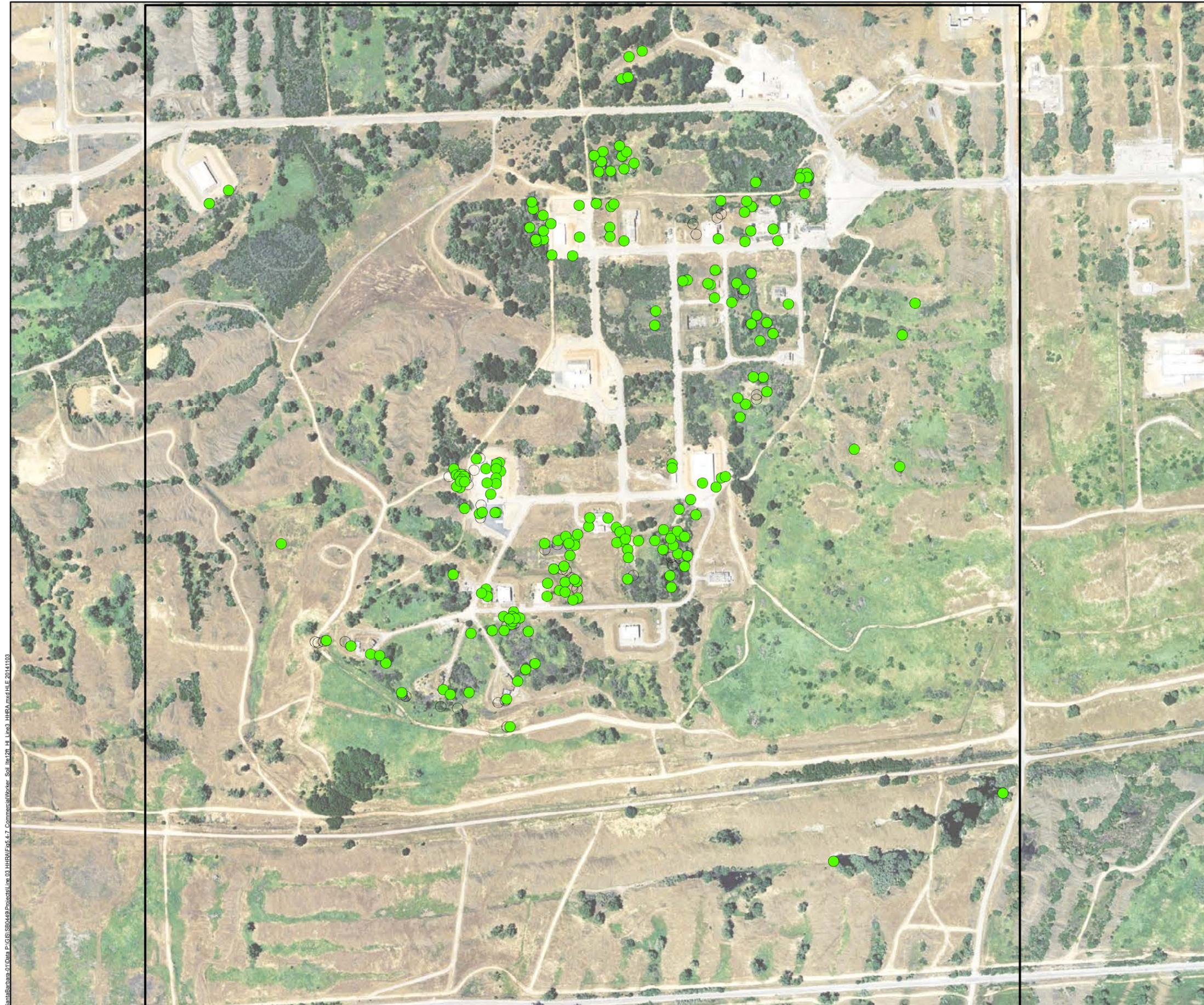


Figure

**5.4-6**

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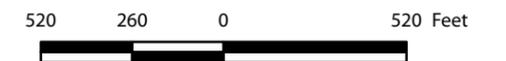
**Legend**

- Soil Sample Location
- Noncancer Hazard ≤ 1
- Noncancer Hazard > 1
- Region Boundary



**Notes**

- Hollow symbols indicate location not quantified: no COPCs identified; COPCs were non-detect; or metal COPC concentrations < background threshold value (BTV).
- Some symbols may overlap others.
- ft bgs = feet below ground surface



**Current/Future Commercial Worker  
Soil (0-12 ft bgs)  
Noncancer Hazard  
Line 03 — Island Operable Unit  
Aerojet Environmental Remediation**



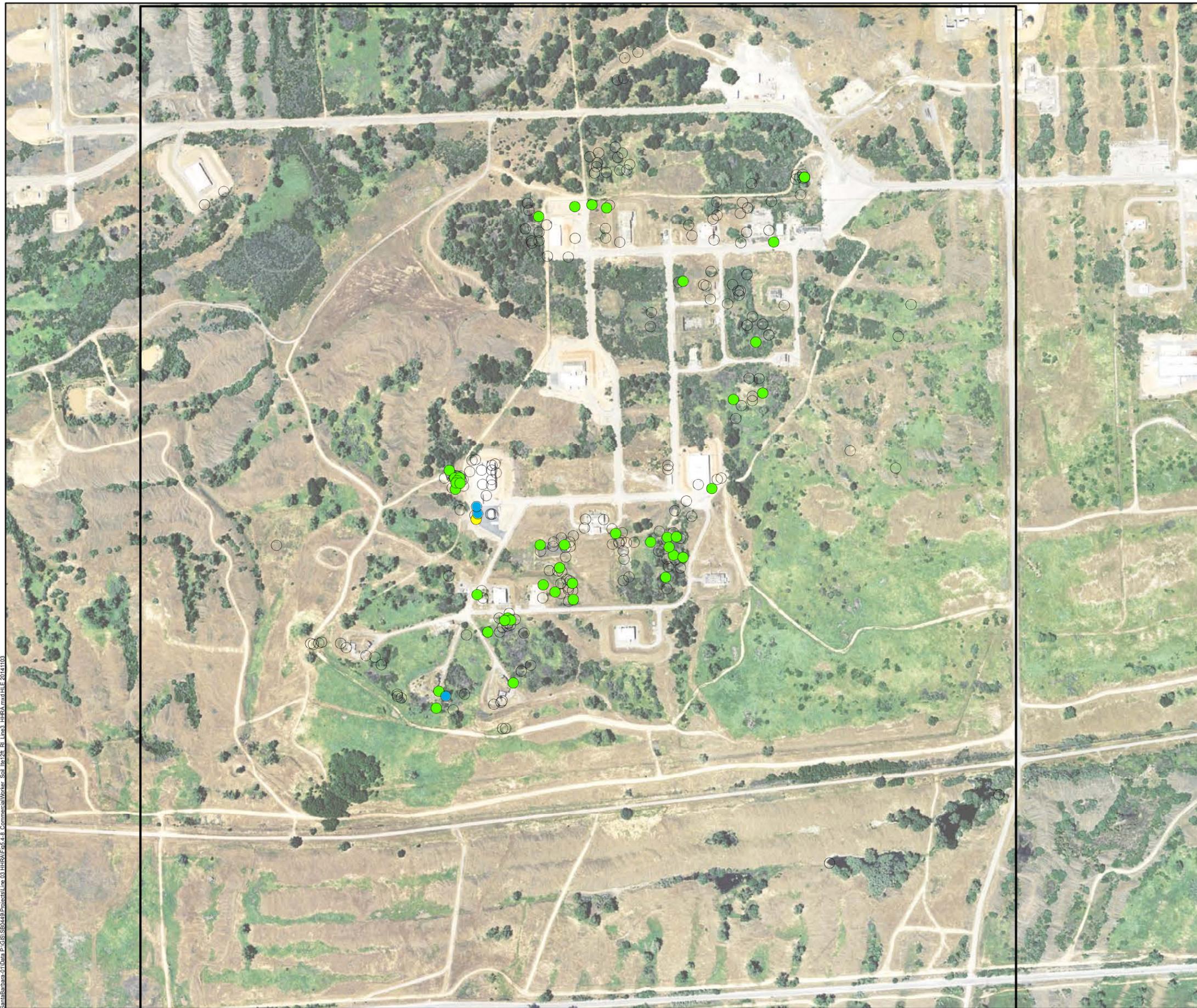
Figure

**5.4-7**

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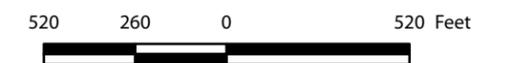
**Legend**

- Soil Sample Location
- Cancer Risk  $\leq 1E-06$
- Cancer Risk  $> 1E-06$  and  $\leq 1E-05$
- Cancer Risk  $> 1E-05$  and  $\leq 1E-04$
- Cancer Risk  $> 1E-04$
- Region Boundary



**Notes**

- Hollow symbols indicate location not quantified: no COPCs identified; COPCs were non-detect; or metal COPC concentrations  $<$  background threshold value (BTV).
- Some symbols may overlap others.
- ft bgs = feet below ground surface



**Current/Future Commercial Worker  
Soil (0-12 ft bgs)  
Incremental Lifetime Cancer Risk  
Line 03 — Island Operable Unit  
Aerojet Environmental Remediation**



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Figure

**5.4-8**



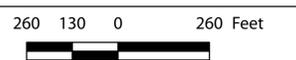


- Legend**
- △ Soil Vapor Sample Location (Indoor Air Pathway)
  - Groundwater Sample Location (Indoor Air Pathway)
  - Cancer Risk  $\leq 1E-06$
  - Cancer Risk  $> 1E-06$  and  $\leq 1E-05$
  - Cancer Risk  $> 1E-05$  and  $\leq 1E-04$
  - Cancer Risk  $> 1E-04$
  - △ Shallow Non-Detect, Deep Cancer Risk  $> 1E-06$
  - ▲ Shallow Cancer Risk  $\leq 1E-06$ , Deep Cancer Risk  $> 1E-06$
  - ▭ Region Boundary



**Notes**

- Hollow symbols indicate location not quantified: no COPCs identified.
- Some symbols may overlap others.



**Current/Future Commercial Worker  
Soil Vapor and Groundwater to Indoor Air  
Incremental Lifetime Cancer Risk  
Line 03 — Island Operable Unit**  
Aerojet Environmental Remediation

