NOTES

· Basemap source: ESRI National Geographic World Map

LEGEND

★ Approximate site location

Scale: 1" = 8 mi
NOTES
- Aerial photo source: ESRI World Imagery.
NOTES
- Aerial photo source: ESRI World Imagery.
NOTES
- GWL = groundwater elevation in feet above mean sea level (ft amsl).
- ClO₄⁻ = perchlorate concentration in micrograms per liter (µg/L).
- Depths to groundwater were measured on 12/15/2014.
- Wells were sampled for perchlorate from 10/10/2014 through 10/15/2014 unless denoted with an asterisk (*);
  these wells were sampled from 7/8/2014 through 7/15/2014.
- GWL = groundwater elevation in feet above mean sea level (ft amsl).
- ClO₄ = perchlorate concentration in micrograms per liter (µg/L).
- Depths to groundwater were measured on 12/15/2014.
- Wells were sampled for perchlorate from 10/10/2014 through 10/15/2014 unless denoted with an asterisk (*); these wells were sampled from 7/8/2014 through 7/15/2014.
### FORMER UNIVERSAL PROPULSION COMPANY, INC. FACILITY
PHOENIX, ARIZONA
CORRECTIVE MEASURES STUDY REPORT

#### LEGEND
- **Sedimentary unit** (semi-consolidated to consolidated)
- **Bedrock unit** (Proterozoic meta-volcanic, meta-sedimentary, and granitic units)
- **Potentiometric surface** (December 2014; dashed where inferred)
- **Direction of groundwater flow** (approximate)
- **Ground surface**
- **Wall casing/soil boring**

#### NOTES
- GWL = groundwater elevation in feet above mean sea level (ft amsl).
- CI\textsubscript{4} = perchlorate concentration in micrograms per liter (µg/L).
- Depths to groundwater were measured on 12/15/2014.
- Wells were sampled for perchlorate from 10/10/2014 through 10/15/2014 unless denoted with an asterisk (*); these wells were sampled from 7/8/2014 through 7/15/2014.

### Figure 6
**GEOLOGIC CROSS-SECTION E-B**

- **RW-1**
  - GWL = 1347.35
  - CI\textsubscript{4} = 3.5

- **GWL-1**
  - GWL = 1347.97
  - CI\textsubscript{4} = 265

- **EW-1**
  - GWL = 1347.9
  - CI\textsubscript{4} = 55.1

- **MW-1**
  - GWL = 1347.86
  - CI\textsubscript{4} = 24.5

- **MW-20**
  - GWL = 1347.79
  - CI\textsubscript{4} = 324

- **IW-3**
  - GWL = 1347.79
  - CI\textsubscript{4} = 36.0

- **MW-21**
  - GWL = 1347.83
  - CI\textsubscript{4} = 4.5

- **EW-2**
  - GWL = 1347.94
  - CI\textsubscript{4} = 52.5

- **IW-1**
  - GWL = 1347.84
  - CI\textsubscript{4} = 47600

- **MW-13**
  - GWL = 1347.84
  - CI\textsubcript{4} = 68.5

- **MW-19**
  - GWL = 1347.82
  - CI\textsubscript{4} = 21000

- **MW-4**
  - GWL = 1340.83
  - CI\textsubscript{4} = <3.0*

- **MW-8**
  - GWL = 1347.83
  - CI\textsubscript{4} = <3.0*

- **MW-12**
  - GWL = 1346.73
  - CI\textsubscript{4} = <3.0*
NOTES

- GWL = groundwater elevation in feet above mean sea level (ft amsl).
- ClO₄ = perchlorate concentration in micrograms per liter (µg/L).
- Depths to groundwater were measured on 12/15/2014.
- Wells were sampled for perchlorate from 10/10/2014 through 10/15/2014 unless denoted with an asterisk (*); these wells were sampled from 7/8/2014 through 7/15/2014.

LEGEND

- Sedimentary unit (semi-consolidated to consolidated)
- Bedrock unit (Proterozoic meta-volcanic, meta-sedimentary, and granitic units)
- Direction of groundwater flow (approximate)
- Potentiometric surface (December 2014; dashed where inferred)
- Ground surface
- Well casing/soil boring
- Wall screen

FORMER UNIVERSAL PROPULSION COMPANY, INC. FACILITY
PHOENIX, ARIZONA
CORRECTIVE MEASURES STUDY REPORT

GEOLOGIC CROSS-SECTION E-C

~ Scottsdale-AZ Project
~ UPJOE
~ GIS Projects
~ CMS report 03-2015
~ Figure 07 cross-section E-C 03-2015.mxd
~ 6/23/2015
NOTES

- Aerial photo source: ESRI World Imagery.
- Groundwater elevations are expressed in feet above mean sea level.
- * = well is not used in contouring.
- NM = not measured.
NOTES
- Aerial photo source: Google Earth Pro.
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
- ft bgs = feet below ground surface.
NOTES
- Aerial photo source: ESRI World Imagery.
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
LEGEND
- Soil sampling location
- Storage Magazine Area soil sampling location
- Historical soil sampling location
- Former storage magazine
- Inferred extent of perchlorate in soil above cleanup goal
- Approximate incident radius

NOTES
- Aerial photo source: ESRI World Imagery.
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
NOTES
- Aerial photo source: ESRI World Imagery.
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
NOTES

- Aerial photo source: ESRI World Imagery.
- Cleanup goal for lead is 400 milligrams per kilogram (mg/kg).
- Cleanup goal for arsenic is 10 mg/kg.
Groundwater monitoring wells with deeper screens, depicted in green, are not used in contouring.

(7) = concentration is from July 2014.

(10) = concentration is from October 2014.

NS = well was not sampled in 2014.

- Aerial photo source: ESRI World Imagery.
- Perchlorate concentrations are expressed in micrograms per liter (µg/L).
- Arizona Health Based Guidance Level (HBGL) for perchlorate (ClO₄⁻) = 14 µg/L.
- Groundwater monitoring wells with deeper screens, depicted in green, are not used in contouring.

NOTES
NOTES
- Clean-up goal for perchlorate is 14 µg/L.
- Non-detect values are graphed at the listed laboratory detection limit.
- µg/L = micrograms per liter
NOTES

- Aerial photo source: ESRI World Imagery.
- Extents of perchlorate and 1,4-dioxane in groundwater reflect data collected in October 2014 and are based on the Arizona Health Based Guidance Level (HBGL) for perchlorate of 14 micrograms per liter (14 µg/L) and the Arizona Department of Environmental Quality (ADEQ)-established cleanup goal for 1,4-dioxane of 3.5 µg/L.
- Cleanup goal for perchlorate in soil is 16 milligrams per kilogram (mg/kg).
- Cleanup goal for lead in soil is 400 mg/kg.
- Cleanup goal for arsenic in soil is 10 mg/kg.
NOTES

- Aerial photo source: ESRI World Imagery.
- Displayed perchlorate concentrations represent key results used to determine the extent of contamination above the cleanup goal.
- Sample depths are expressed in feet below ground surface (ft bgs).
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
- \(<\) = concentration is below indicated reporting limit.
- \(J\) = concentration is estimated.
- \(UJ\) = analyte not detected; detection limit is estimated.
NOTES

- Aerial photo source: ESRI World Imagery.
- Displayed perchlorate concentrations represent key results used to determine the extent of contamination above the cleanup goal.
- Sample depths are expressed in feet below ground surface (ft bgs).
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
- Corresponding data tables are presented in Appendix B.
- \( < \) = concentration is below indicated reporting limit.
- \( J \) = concentration is estimated.
NOTES

- Aerial photo source: ESRI World Imagery.
- Displayed perchlorate concentrations represent key results used to determine the extent of contamination above the cleanup goal.
- Sample depths are expressed in feet below ground surface (ft bgs).
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
- Corresponding data tables are presented in Appendix B.
- < = concentration is below indicated reporting limit.
- J = concentration is estimated.
### Table: 2015 Soil Borings

<table>
<thead>
<tr>
<th>Boring ID</th>
<th>Depth (ft bgs)</th>
<th>Perchlorate (mg/kg)</th>
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<td>NB-SB72</td>
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</table>

**NOTES**

- Aerial photo source: ESRI World Imagery.
- Displayed perchlorate concentrations represent key results used to determine the extent of contamination above the cleanup goal.
- Sample depths are expressed in feet below ground surface (ft bgs).
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
- Corresponding data tables are presented in Appendix B. 
  - = concentration is below indicated reporting limit.
  - J = concentration is estimated.
- Displayed perchlorate concentrations represent key results used to determine the extent of contamination above the cleanup goal.
- Sample depths are expressed in feet below ground surface (ft bgs).
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
- Corresponding data tables are presented in Appendix B. 
  - = concentration is below indicated reporting limit.
  - J = concentration is estimated.
NOTES

- Aerial photo source: ESRI World Imagery.
- Displayed arsenic and lead concentrations represent key results used to determine the extent of contamination above the cleanup goal.
- Sample depths are expressed in feet below ground surface (ft bgs).
- Cleanup goal for lead is 400 milligrams per kilogram (mg/kg).
- Cleanup goal for arsenic is 10 mg/kg.
- Corresponding data tables are presented in Appendix B.
- \(<\) = concentration is below indicated reporting limit.
- \(J\) = concentration is estimated.

LEGEND

- Soil sampling location (ARCADIS, 2014; see Appendix D for complete results)
- Old Burn Area soil sampling location (2004-2008; see Appendix D for complete results)
- Former D-Complex site facility
- 1-foot excavation area
- 2-foot excavation area
- 3-foot excavation area
- Inferred extent of lead in soil above cleanup goal
- Inferred extent of arsenic in soil above cleanup goal
- Ephemeral wash (approximate location)
- Sample depth/arsenic concentration (mg/kg)
- Sample depth/lead concentration (mg/kg)
**NOTES**

- Aerial photo source: ESRI World Imagery.
- Displayed perchlorate concentrations represent key results used to determine the extent of contamination above the cleanup goal.
- Sample depths are expressed in feet below ground surface (ft bgs).
- Cleanup goal for perchlorate is 16 milligrams per kilogram (mg/kg).
- Corresponding data tables are presented in Appendix B.
- Concentration is estimated.
- · J = concentration is below indicated reporting limit.
NOTES

- Aerial photo source: ESRI World Imagery.
- Perchlorate and 1,4-dioxane concentrations are expressed in micrograms per liter (µg/L).
- Arizona Health Based Guidance Level (HBGL) for perchlorate (ClO₄⁻) = 14 µg/L.
- Arizona Department of Environmental Quality (ADEQ)-established cleanup goal for 1,4-dioxane (1,4-D) = 3.5 µg/L.
NOTES

- Aerial photo source: ESRI World Imagery.
- Perchlorate and 1,4-dioxane concentrations are expressed in micrograms per liter (µg/L).
- Arizona Health Based Guidance Level (HBGL) for perchlorate (ClO₄⁻) = 14 µg/L.
- Arizona Department of Environmental Quality (ADEQ)-established cleanup goal for 1,4-dioxane (1,4-D) = 3.5 µg/L.