

Facility Boundary

ATK Launch Systems Facility

North Plant Main Administration Building

Christensen Residence

Howell Dairy Farm

M-136

Autoliv Facility

Adam's Ranch

South Plant Main Administration Building

Town of Thatcher

Town of Penrose

M-225

Holmgren Ranch

Legend

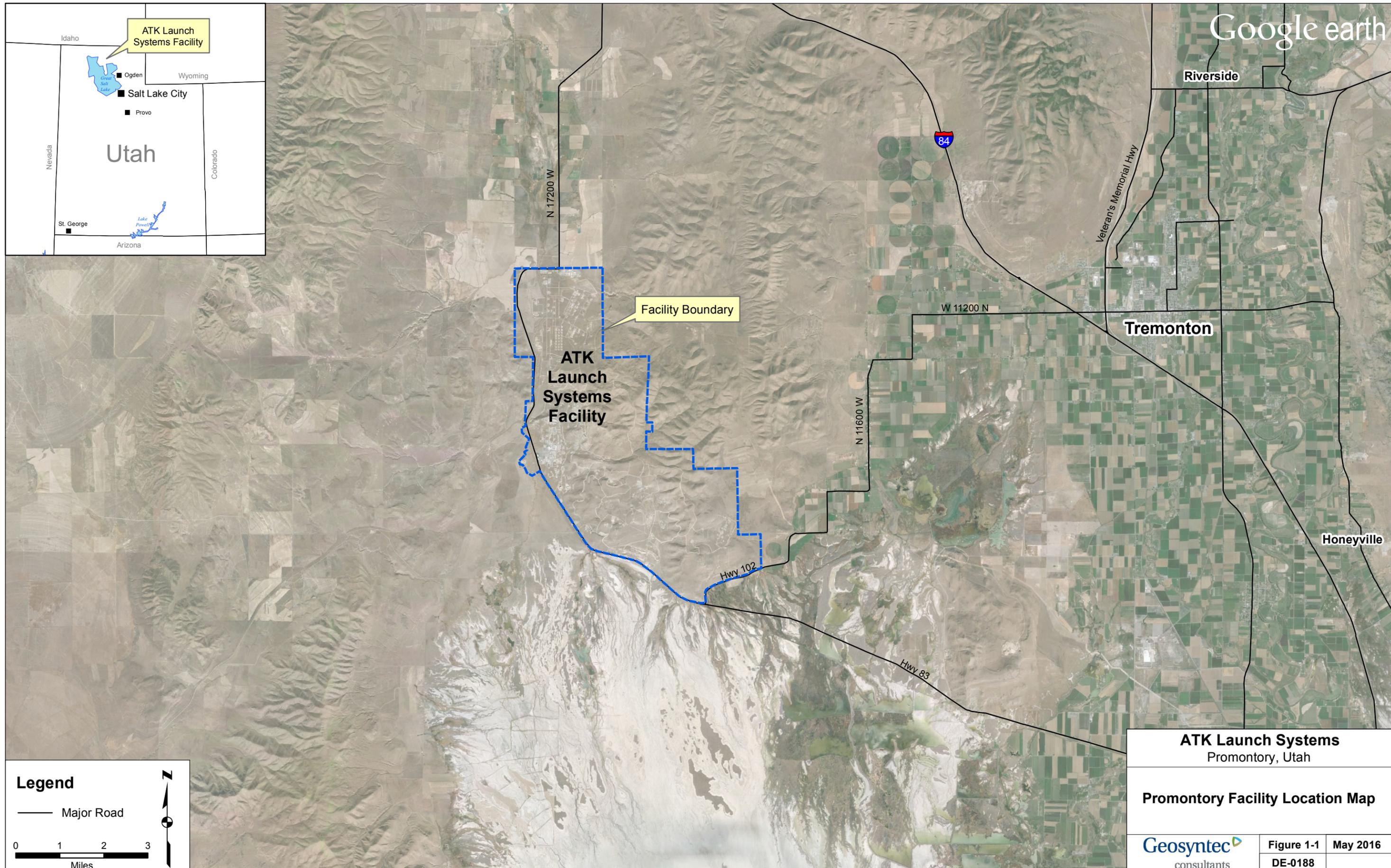
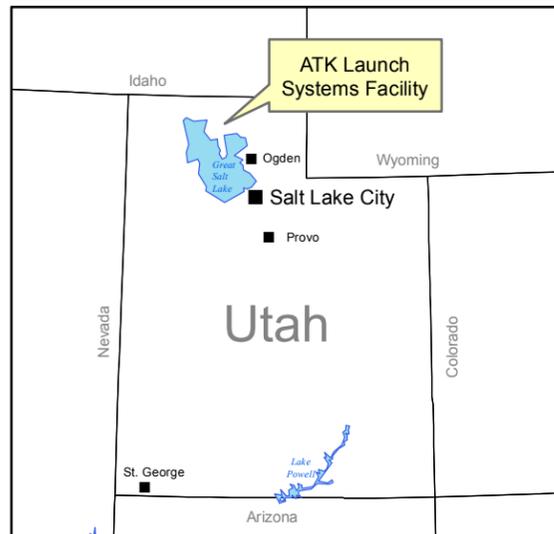
- Source Location
- Receptor Location

0 1 2
Miles

ATK Launch Systems
Promontory, Utah

**Locations of Source Areas,
Off-site Residential/Farmer Receptors
and On-site Workers**

Geosyntec consultants	Figure ES-1 DE-0188	May 2016
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Legend

— Major Road

0 1 2 3
Miles

ATK Launch Systems
Promontory, Utah

Promontory Facility Location Map

	Figure 1-1	May 2016
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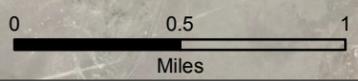


M-136

Facility Boundary

ATK
Launch
Systems
Facility

M-225



ATK Launch Systems Promontory, Utah		
M-136 and M-225 Location Map, Promontory Facility		
Geosyntec consultants	Figure 1-2 DE-0188	May 2016

- M136_A1_11
- M136_A1_10
- M136_A1_7
- M136_A1_4
- M136_A1_1
- M136_A1_8
- M136_B
- M136_A3
- M136_C14
- M136_C13
- M136_A2

ATK Launch Systems Facility



- M225_A
- M225_B

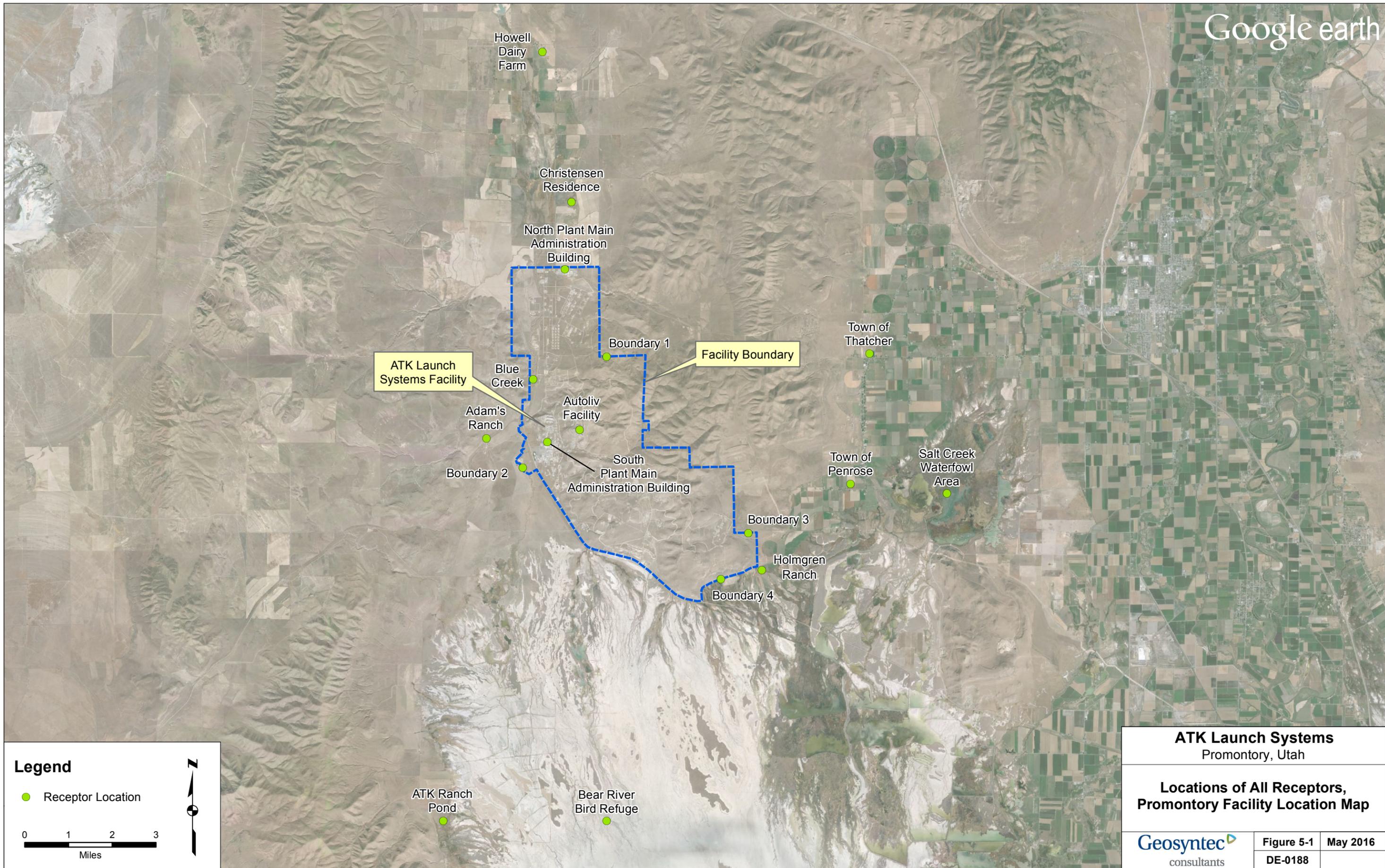
Legend

- Sub-Source Location

ATK Launch Systems
Promontory, Utah

Layout of Sub-Sources in M-136 and M-225, Promontory Facility Location Map

	Figure 1-3	May 2016
	DE-0188	



Legend

- Receptor Location

0 1 2 3
Miles

ATK Launch Systems
Promontory, Utah

**Locations of All Receptors,
Promontory Facility Location Map**

 Geosyntec consultants	Figure 5-1	May 2016
	DE-0188	



North Plant Main Building	
Hazard Index	Sources
2.0	All (Original Cr and Ni assumptions)
0.2	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

Bold = Exceeds one
 <0.25 = less than 0.25, an Index of one or less is acceptable

Facility Boundary

ATK Launch Systems Facility

AutoLiv Facility	
Hazard Index	Sources
4.3	All (Original Cr and Ni assumptions)
0.5	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

Bold = Exceeds one
 An Index of one or less is acceptable

South Plant Main Building	
Hazard Index	Sources
3.8	All (Original Cr and Ni assumptions)
0.5	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

Bold = Exceeds one
 An Index of one or less is acceptable

Legend

● Receptor Location



ATK Launch Systems Promontory, Utah

Short-Term (1-Hour) Air Hazard Indices for On-Site Receptors

Blue Creek	
Hazard Index	Sources
4.7	All (Original Cr and Ni assumptions)
0.6	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

Bold = Exceeds one
An Index of one or less is acceptable

Boundary 1	
Hazard Index	Sources
5.3	All (Original Cr and Ni assumptions)
0.7	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

Bold = Exceeds one
An Index of one or less is acceptable

Boundary 2	
Hazard Index	Sources
2.3	All (Original Cr and Ni assumptions)
0.3	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

Bold = Exceeds one
An Index of one or less is acceptable

Boundary 3	
Hazard Index	Sources
0.7	All (Original Cr and Ni assumptions)
0.1	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

An Index of one or less is acceptable

Boundary 4	
Hazard Index	Sources
0.8	All (Original Cr and Ni assumptions)
0.1	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

An Index of one or less is acceptable

Facility Boundary

ATK Launch Systems Facility

ATK Ranch Pond	
Hazard Index	Sources
0.2	All (Original Cr and Ni assumptions)
2.9E-02	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

An Index of one or less is acceptable

Legend

● Receptor Location

ATK Launch Systems
Promontory, Utah

Short-Term (1-Hour) Air Hazard Indices for Boundary/Off-Site Receptors

Geosyntec consultants	Figure 9-2	May 2016
	DE-0188	

Howell Dairy	
Hazard Index	Sources
0.3	All (Original Cr and Ni assumptions)
3.6E-02	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)
An Index of one or less is acceptable	

Christensen Ranch	
Hazard Index	Sources
0.9	All (Original Cr and Ni assumptions)
0.1	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)
An Index of one or less is acceptable	

Thatcher	
Hazard Index	Sources
0.3	All (Original Cr and Ni assumptions)
4.0E-02	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)
An Index of one or less is acceptable	

Adams Ranch	
Hazard Index	Sources
2.8	All (Original Cr and Ni assumptions)
0.4	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)
Bold = Exceeds one	
An Index of one or less is acceptable	

Penrose	
Hazard Index	Sources
0.3	All (Original Cr and Ni assumptions)
3.0E-02	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)
An Index of one or less is acceptable	

Holmgren Ranch	
Hazard Index	Sources
0.5	All (Original Cr and Ni assumptions)
0.1	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)
An Index of one or less is acceptable	



ATK
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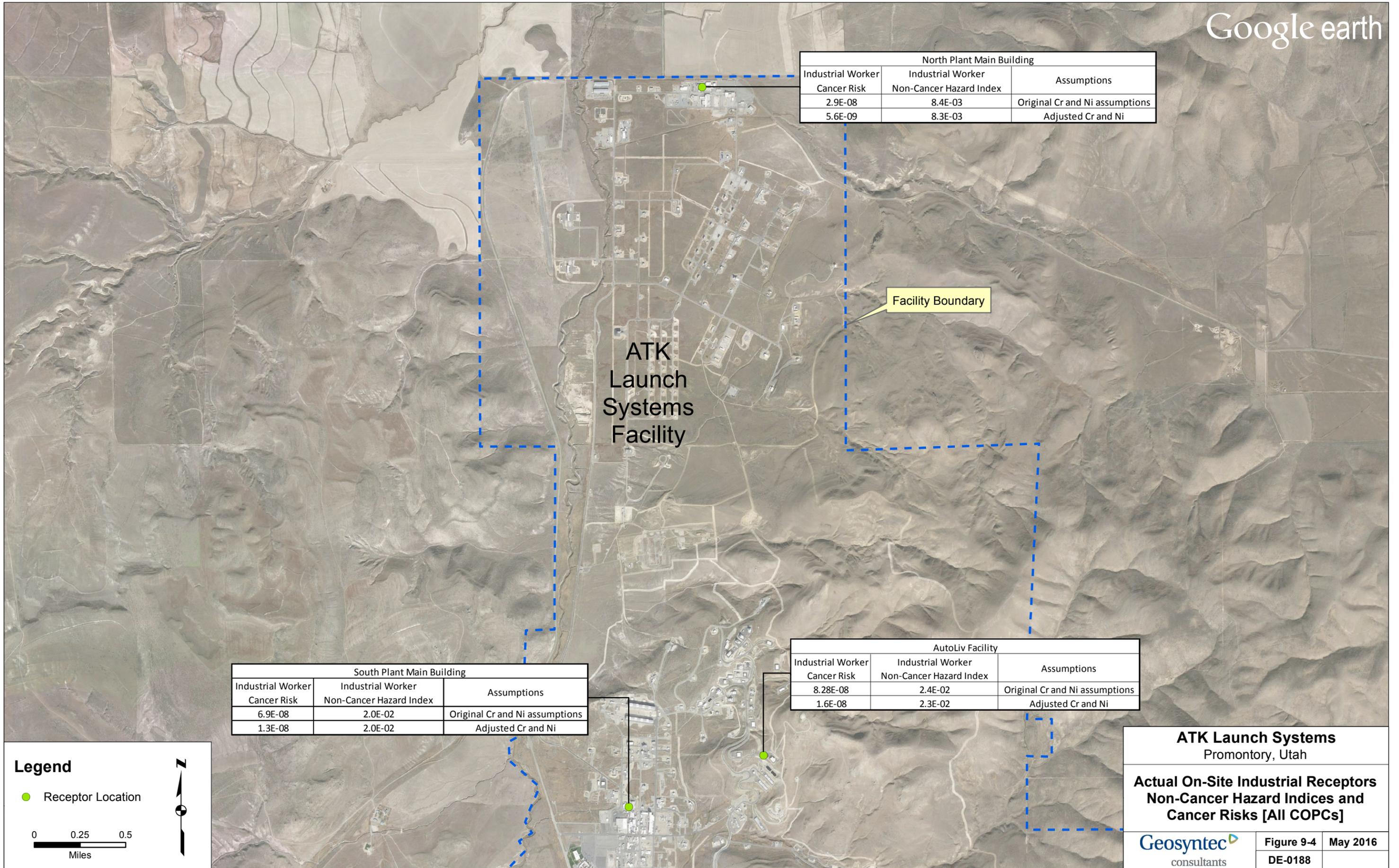
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● Receptor Location

ATK Launch Systems
Promontory, Utah

**Short-Term (1-Hour) Air Hazard
Indices for Off-Site Receptors**

Geosyntec consultants	Figure 9-3	May 2016
	DE-0188	



ATK Launch Systems Facility

Facility Boundary

Blue Creek				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
3.3E-02	3.3E-02	3.3E-02	3.3E-02	Original Cr and Ni assumptions
3.3E-02	3.3E-02	3.3E-02	3.3E-02	Adjusted Cr and Ni

Boundary 1				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
3.2E-02	3.2E-02	3.2E-02	3.2E-02	Original Cr and Ni assumptions
3.2E-02	3.2E-02	3.2E-02	3.2E-02	Adjusted Cr and Ni

Boundary 2				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
1.3E-02	1.3E-02	1.3E-02	1.3E-02	Original Cr and Ni assumptions
1.2E-02	1.2E-03	1.2E-02	1.2E-02	Adjusted Cr and Ni

Boundary 3				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
3.2E-03	3.2E-03	3.2E-03	3.3E-03	Original Cr and Ni assumptions
3.2E-03	3.2E-03	3.2E-03	3.2E-03	Adjusted Cr and Ni

Boundary 4				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
3.5E-03	3.5E-03	3.5E-03	3.5E-03	Original Cr and Ni assumptions
3.5E-03	3.5E-03	3.5E-03	3.5E-03	Adjusted Cr and Ni

ATK Ranch Pond				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
1.1E-03	1.1E-03	1.1E-03	1.1E-03	Original Cr and Ni assumptions
1.1E-03	1.1E-03	1.1E-03	1.1E-03	Adjusted Cr and Ni

Legend

- Receptor Location

ATK Launch Systems Promontory, Utah

Non-Cancer Hazard Indices for All COPCs: Hypothetical Boundary/Off-Site Resident and Farmer Receptors

Geosyntec consultants

Figure 9-5 May 2016
DE-0188

ATK Launch Systems Facility

Facility Boundary

Blue Creek				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
3.3E-07	1.4E-07	6.7E-07	2.4E-07	Original Cr and Ni assumptions
5.0E-08	2.0E-08	3.5E-07	1.2E-07	Adjusted Cr and Ni

Boundary 1				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
3.1E-07	1.3E-07	6.5E-07	2.3E-07	Original Cr and Ni assumptions
4.3E-08	1.9E-08	3.4E-07	1.1E-07	Adjusted Cr and Ni

Boundary 2				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
1.2E-07	5.2E-08	2.5E-07	8.9E-08	Original Cr and Ni assumptions
1.6E-08	7.5E-09	1.3E-07	4.4E-08	Adjusted Cr and Ni

Boundary 3				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
3.1E-08	1.3E-08	6.4E-08	2.3E-08	Original Cr and Ni assumptions
5.1E-09	1.9E-09	3.4E-08	1.1E-08	Adjusted Cr and Ni

Boundary 4				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
3.3E-08	1.4E-08	6.9E-08	2.4E-08	Original Cr and Ni assumptions
5.6E-09	2.0E-09	3.7E-08	1.2E-08	Adjusted Cr and Ni

ATK Ranch Pond				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
9.7E-09	4.1E-09	2.1E-08	7.5E-09	Original Cr and Ni assumptions
1.6E-09	6.5E-10	1.2E-08	4.0E-09	Adjusted Cr and Ni

Legend

● Receptor Location

0 0.5 1 2
Miles

ATK Launch Systems
Promontory, Utah

**Cancer Risks for All COPCs:
Hypothetical Boundary/Off-Site
Resident and Farmer Receptors**

	Figure 9-6	May 2016
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Howell Dairy				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
1.6E-08	7.0E-09	3.6E-08	1.3E-08	Original Cr and Ni assumptions
2.2E-09	4.3E-09	2.0E-08	6.6E-09	Adjusted Cr and Ni

Christensen Ranch				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
4.7E-08	2.0E-08	9.9E-08	3.5E-08	Original Cr and Ni assumptions
7.0E-09	3.0E-09	5.3E-08	1.8E-08	Adjusted Cr and Ni

Thatcher				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
1.7E-08	7.4E-09	3.7E-08	1.3E-08	Original Cr and Ni assumptions
2.3E-09	1.1E-09	2.0E-08	7.5E-09	Adjusted Cr and Ni

Adams Ranch				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
1.6E-07	7.0E-08	3.4E-07	1.2E-07	Original Cr and Ni assumptions
2.1E-08	1.0E-08	1.8E-07	6.0E-08	Adjusted Cr and Ni

Penrose				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
1.5E-08	6.3E-09	3.2E-08	1.1E-08	Original Cr and Ni assumptions
2.6E-09	9.6E-10	1.8E-08	5.8E-09	Adjusted Cr and Ni

Holmgren Ranch				
Resident Adult Chronic Cancer Risk	Resident Child Chronic Cancer Risk	Farmer Adult Chronic Cancer Risk	Farmer Child Chronic Cancer Risk	Assumptions
2.4E-08	1.0E-08	5.0E-08	1.8E-08	Original Cr and Ni assumptions
3.7E-09	1.5E-09	2.7E-08	9.0E-09	Adjusted Cr and Ni

ATK Launch Systems Facility

Facility Boundary

Legend

● Receptor Location



ATK Launch Systems Promontory, Utah

Cancer Risks for All COPCs: Actual Off-Site Resident and Farmer Receptors

Geosyntec consultants

Figure 9-7 DE-0188 May 2016

Howell Dairy				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
1.9E-03	1.9E-03	1.9E-03	1.9E-03	Original Cr and Ni assumptions
1.9E-03	1.9E-03	1.9E-03	1.9E-03	Adjusted Cr and Ni

Christensen Ranch				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
5.0E-03	5.0E-03	5.0E-03	5.0E-03	Original Cr and Ni assumptions
5.0E-03	5.0E-03	5.0E-03	5.0E-03	Adjusted Cr and Ni

Thatcher				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
1.8E-03	1.8E-03	1.9E-03	1.9E-03	Original Cr and Ni assumptions
1.8E-03	1.8E-03	1.8E-03	1.8E-03	Adjusted Cr and Ni

Adams Ranch				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
1.7E-02	1.7E-02	1.7E-02	1.7E-02	Original Cr and Ni assumptions
1.7E-02	1.7E-02	1.7E-02	1.7E-02	Adjusted Cr and Ni

Penrose				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
1.6E-03	1.6E-03	1.7E-03	1.7E-03	Original Cr and Ni assumptions
1.6E-03	1.6E-03	1.6E-03	1.6E-03	Adjusted Cr and Ni

Holmgren Ranch				
Resident Adult Chronic Hazard Index	Resident Child Chronic Hazard Index	Farmer Adult Chronic Hazard Index	Farmer Child Chronic Hazard Index	Assumptions
2.6E-03	2.6E-03	2.6E-03	2.6E-03	Original Cr and Ni assumptions
2.5E-03	2.5E-03	2.5E-03	2.5E-03	Adjusted Cr and Ni



ATK Launch Systems Facility

Legend

- Receptor Location

ATK Launch Systems Promontory, Utah

Non-Cancer Hazard Indices for All COPCs: Actual Off-Site Resident and Farmer Receptors

Geosyntec consultants

Figure 9-8 May 2016
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Summed Risks and Hazard Indices for All COPCs:					
Future Resident/Farmer					
Receptor Name	Resident Adult Chronic HI	Resident Child Chronic HI	Farmer Adult Chronic HI	Farmer Child Chronic HI	Assumptions
Maximum Off-site	4.9E-02	4.9E-02	4.9E-02	4.9E-02	Original Cr and Ni assumptions
	4.8E-02	4.8E-02	4.8E-02	4.8E-02	Adjusted Cr and Ni
Receptor Name	Resident Adult Chronic Risk	Resident Child Chronic Risk	Farmer Adult Chronic Risk	Farmer Child Chronic Risk	Assumptions
Maximum Off-site	4.8E-07	2.1E-07	9.8E-07	3.5E-07	Original Cr and Ni assumptions
	6.9E-08	2.9E-08	5.1E-07	1.7E-07	Adjusted Cr and Ni

Summed Risks and Hazards for All COPCs:			
Future On-site Worker			
Receptor Name	Industrial Worker Cancer Risk	Industrial Worker Non-cancer HI	Assumptions
Maximum On-site	1.2E-07	3.3E-02	Original Cr and Ni assumptions
	2.2E-08	3.3E-02	Adjusted Cr and Ni

Facility Boundary

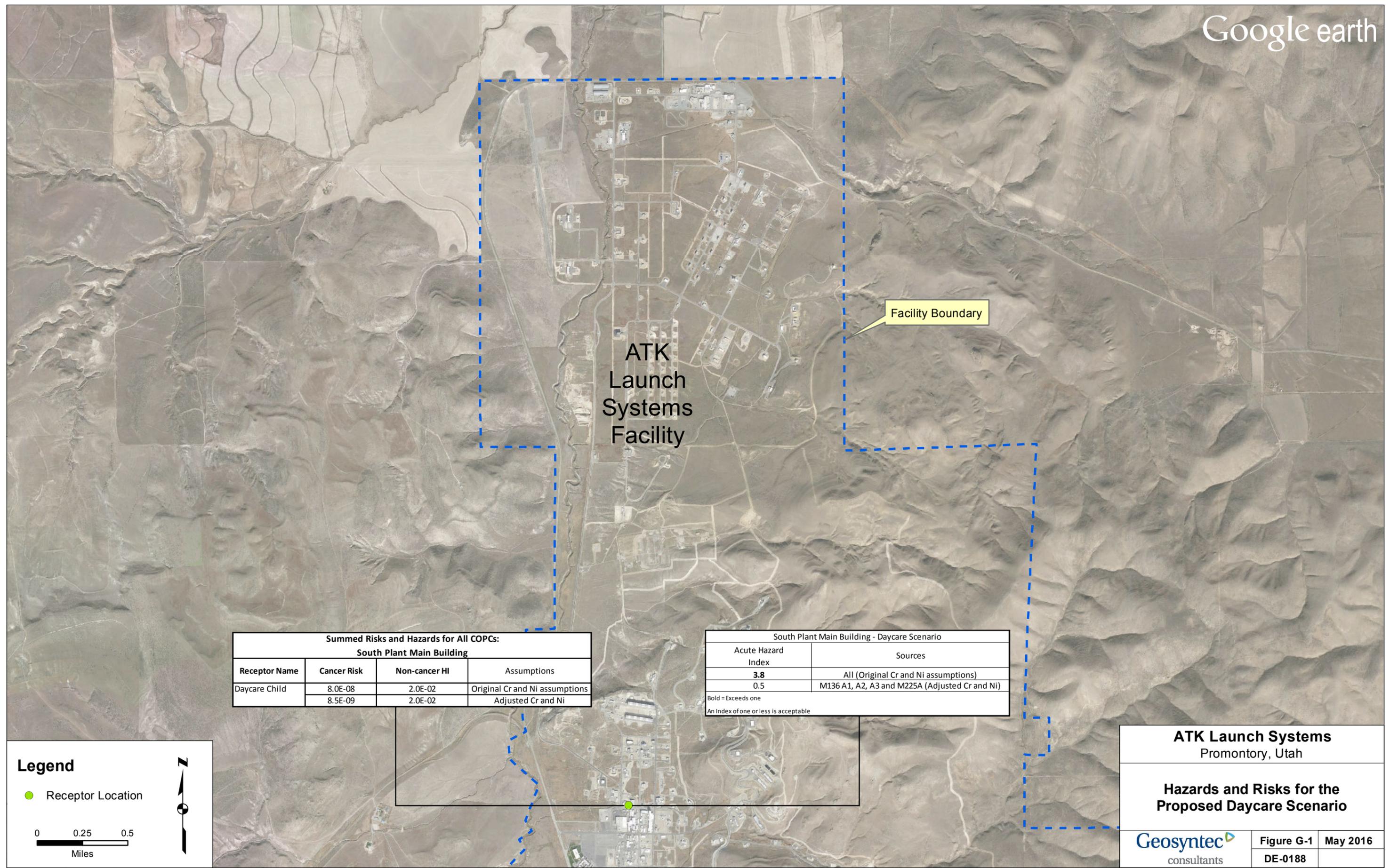
ATK Launch Systems Facility

Legend

● Index Location



ATK Launch Systems Promontory, Utah		
Summed Risks and Hazard Indices for All COPCs: Future Resident/Farmer at Point of Maximum Off-site Risk and Future Worker at Point of Maximum On-site Risk		
Geosyntec consultants	Figure 9-9 DE-0188	May 2016



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Facility Boundary

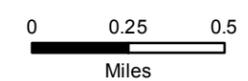
Summed Risks and Hazards for All COPCs: South Plant Main Building			
Receptor Name	Cancer Risk	Non-cancer HI	Assumptions
Daycare Child	8.0E-08	2.0E-02	Original Cr and Ni assumptions
	8.5E-09	2.0E-02	Adjusted Cr and Ni

South Plant Main Building - Daycare Scenario	
Acute Hazard Index	Sources
3.8	All (Original Cr and Ni assumptions)
0.5	M136 A1, A2, A3 and M225A (Adjusted Cr and Ni)

Bold = Exceeds one
An Index of one or less is acceptable

Legend

● Receptor Location



ATK Launch Systems
Promontory, Utah

**Hazards and Risks for the
Proposed Daycare Scenario**

Geosyntec
consultants

Figure G-1	May 2016
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