LL7ss-023M-SO

Analyte	Result	Units	Qualifier
Aluminum	**12000**	mg/kg	
Arsenic	**14**	mg/kg	
Beryllium	0.92	mg/kg	
Cadmium	0.11	mg/kg	
Chromium	19	mg/kg	
Iron	**27000**	mg/kg	
Manganese	**610**	mg/kg	
Potassium	1100	mg/kg	
Vanadium	**23**	mg/kg	

LL7ss-018M-QA

Analyte	Result	Units	Qualifier
Aluminum	**12000**	mg/kg	
Arsenic	**8**	mg/kg	
Barium	110	mg/kg	
Beryllium	1.5	mg/kg	
Cadmium	0.44	mg/kg	
Calcium	49000	mg/kg	
Chromium	29	mg/kg	
Copper	20	mg/kg	
Iron	**15000**	mg/kg	
Lead	47	mg/kg	
Magnesium	5600	mg/kg	
Manganese	**990**	mg/kg	
Potassium	1300	mg/kg	
Sodium	400	mg/kg	
Vanadium	**15**	mg/kg	
Zinc	84	mg/kg	
Mercury	0.057	mg/kg	

LL7ss-018M-SO

Analyte	Result	Units	Qualifier
Aluminum	**13000**	mg/kg	
Arsenic	**7.9**	mg/kg	
Barium	120	mg/kg	
Beryllium	1.9	mg/kg	
Cadmium	0.4	mg/kg	
Calcium	51000	mg/kg	
Chromium	28	mg/kg	
Copper	88	mg/kg	
Iron	**16000**	mg/kg	
Lead	44	mg/kg	
Magnesium	6500	mg/kg	
Manganese	**1200**	mg/kg	
Potassium	1300	mg/kg	
Sodium	430	mg/kg	
Vanadium	**14**	mg/kg	
Zinc	77	mg/kg	
Mercury	0.073	mg/kg	

LL7ss-015M-SO

Analyte	Result	Units	Qualifier
Aluminum	**9400**	mg/kg	
Arsenic	**16**	mg/kg	
Cadmium	0.08	mg/kg	
Chromium	21	mg/kg	
Copper	20	mg/kg	
Iron	**22000**	mg/kg	
Lead	49	mg/kg	
Magnesium	3100	mg/kg	
Manganese	**660**	mg/kg	
Nickel	22	mg/kg	
Potassium	970	mg/kg	
Sodium	240	mg/kg	
Vanadium	**18**	mg/kg	
Zinc	110	mg/kg	

LL7ss-009M-SO

Analyte	Result	Units	Qualifier
Aluminum	**11000**	mg/kg	
Arsenic	**13**	mg/kg	
Cadmium	0.13	mg/kg	
Chromium	22	mg/kg	
Cobalt	11	mg/kg	
Copper	25	mg/kg	
Iron	**23000**	mg/kg	
Lead	45	mg/kg	
Magnesium	4400	mg/kg	
Manganese	**500**	mg/kg	
Nickel	29	mg/kg	
Potassium	1400	mg/kg	
Sodium	270	mg/kg	
Vanadium	**19**	mg/kg	
Zinc	91	mg/kg	

LL7ss-042M-SO

Analyte	Result	Units	Qualifier
Aluminum	**12000**	mg/kg	
Arsenic	**9.3**	mg/kg	
Barium	110	mg/kg	
Beryllium	0.89	mg/kg	
Chromium	21	mg/kg	
Cobalt	13	mg/kg	
Iron	**20000**	mg/kg	
Manganese	**1500**	mg/kg	
Potassium	980	mg/kg	
Sodium	290	mg/kg	
Vanadium	**23**	mg/kg	
Mercury	0.05	mg/kg	

LL7sd-029M-SD

Analyte	Result	Units	Qualifier
Arsenic	**13**	mg/kg	
Beryllium	0.86	mg/kg	
Cadmium	0.94	mg/kg	
Calcium	8200	mg/kg	
Iron	**20000**	mg/kg	
Lead	31	mg/kg	
Manganese	**740**	mg/kg	
Nickel	20	mg/kg	
Selenium	2.5	mg/kg	
Vanadium	**17**	mg/kg	

LL7ss-038M-SO

Analyte	Result	Units	Qualifier
Aluminum	**11000**	mg/kg	
Arsenic	**8.3**	mg/kg	
Barium	96	mg/kg	
Chromium	19	mg/kg	
Cobalt	12	mg/kg	
Iron	**17000**	mg/kg	
Manganese	**1300**	mg/kg	
Sodium	280	mg/kg	
Vanadium	**20**	mg/kg	
Mercury	0.067	mg/kg	
Thallium	0.26	mg/kg	

Legend

- Vegetation
- Road
- Streams / Ditches
- 10 ft Contour Lines
- Piping
- 2 ft Contour Lines
- Walkway
- Building
- Fence
- Surface Soil (0-1 ft) Multi-increment Sample Location
- Sediment Multi-increment Sample Location
- Steam Line Post

Notes:

If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style.
If Result = or > PRG, then the value is presented with a bold style.
Result < PRG & Background, then the value is presented with a normal style.
Mg/Kg - Milligrams per Kilogram (parts per millin - ppm)

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Ravenna Army Ammunition Plant

Ravenna, Ohio
Figure LL7-8C
Load Line 7
Soil and Sediment Sample Locations
Exceedences-Inorganics

Drawn By:	Checked By:	Date Drawn:	Project No.:
R. Haverkos	MGS	15 July 06	04-02-0030

0 75 150 300 Feet

N W E S

LL7ss-037M-SO

Analyte	Result	Units	Qualifier
Aluminum	**9600**	mg/kg	
Arsenic	**7.3**	mg/kg	
Iron	**14000**	mg/kg	
Manganese	**1000**	mg/kg	
Sodium	240	mg/kg	
Vanadium	**17**	mg/kg	
Mercury	0.049	mg/kg	

LL7ss-035M-SO

Analyte	Result	Units	Qualifier
Arsenic	**8.2**	mg/kg	
Iron	**14000**	mg/kg	
Lead	36	mg/kg	
Manganese	**760**	mg/kg	
Sodium	190	mg/kg	
Vanadium	**15**	mg/kg	

LL7ss-040M-SO

Analyte	Result	Units	Qualifier
Aluminum	**10000**	mg/kg	
Arsenic	**7.9**	mg/kg	
Iron	**15000**	mg/kg	
Lead	40	mg/kg	
Manganese	**1000**	mg/kg	
Sodium	240	mg/kg	
Vanadium	**19**	mg/kg	
Mercury	0.059	mg/kg	

LL7ss-034M-SO

Analyte	Result	Units	Qualifier
Aluminum	**10000**	mg/kg	
Arsenic	**8.3**	mg/kg	
Barium	110	mg/kg	
Iron	**16000**	mg/kg	
Lead	27	mg/kg	
Manganese	**1300**	mg/kg	
Sodium	270	mg/kg	
Vanadium	**20**	mg/kg	
Mercury	0.053	mg/kg	

LL7ss-039M-SO

Analyte	Result	Units	Qualifier
Aluminum	**12000**	mg/kg	
Arsenic	**8.8**	mg/kg	
Barium	110	mg/kg	
Beryllium	0.91	mg/kg	
Chromium	22	mg/kg	
Cobalt	13	mg/kg	
Iron	**19000**	mg/kg	
Lead	27	mg/kg	
Manganese	**1500**	mg/kg	
Sodium	310	mg/kg	
Vanadium	**23**	mg/kg	
Mercury	0.059	mg/kg	

LL7ss-036M-SO

Analyte	Result	Units	Qualifier
Aluminum	**11000**	mg/kg	
Arsenic	**7.5**	mg/kg	
Barium	100	mg/kg	
Cobalt	12	mg/kg	
Iron	**16000**	mg/kg	
Manganese	**1300**	mg/kg	
Sodium	260	mg/kg	
Vanadium	**20**	mg/kg	
Mercury	0.053	mg/kg	J

LL7ss-033M-SO

Analyte	Result	Units	Qualifier
Arsenic	**9.4**	mg/kg	
Iron	**16000**	mg/kg	
Manganese	**510**	mg/kg	
Sodium	190	mg/kg	
Vanadium	**15**	mg/kg	
Zinc	100	mg/kg	
Mercury	0.043	mg/kg	

Legend

- Vegetation
- Road
- Streams / Ditches
- 10 ft Contour Lines
- Piping
- 2 ft Contour Lines
- Walkway
- Building
- Fence
- Surface Soil (0-1 ft) Muti-increment Sample Location
- Sediment Multi-increment Sample Location
- Steam Line Post

Notes:

J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style.
If Result = or > PRG, then the value is presented with a bold style.
Result < PRG & Background, then the value is presented with a normal style.
Mg/Kg - Milligrams per Kilogram (parts per million - ppm)

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Ravenna Army Ammunition Plant

Ravenna, Ohio
Figure LL7-8D
Load Line 7
Soil and Sediment Sample Locations
Exceedences-Inorganics

Drawn By:	Checked By:	Date Drawn:	Project No.:
R. Haverkos	MGS	15 July 06	04-02-0030

0 75 150 300 Feet

N W E S

LL7ss-014M-SO

Analyte	Result	Units	Qualifier
RDX	**45**	mg/kg	

LL7ss-013M-SO

Analyte	Result	Units	Qualifier
Benzo(a)anthracene	**3.1**	mg/kg	
Benzo(a)pyrene	**2.3**	mg/kg	**J**
Benzo(b)fluoranthene	**3**	mg/kg	
Dibenzo(a,h)anthracene	**0.42**	mg/kg	
Indeno(1,2,3-cd)pyrene	**0.83**	mg/kg	

LL7ss-013M-DUP

Analyte	Result	Units	Qualifier
Benzo(a)anthracene	**3.6**	mg/kg	
Benzo(a)pyrene	**2.9**	mg/kg	
Benzo(b)fluoranthene	**3.4**	mg/kg	
Dibenzo(a,h)anthracene	**0.46**	mg/kg	
Indeno(1,2,3-cd)pyrene	**1**	mg/kg	

LL7ss-005M-SO

Analyte	Result	Units	Qualifier
Benzo(a)pyrene	**0.48**	mg/kg	

LL7ss-032M-SO

Analyte	Result	Units	Qualifier
Benzo(a)pyrene	**0.094**	mg/kg	

1120

Legend

- Vegetation
- Sreams / Ditches
- Piping
- Road
- 10 ft Contour Lines
- 2 ft Contour Lines
- Walkway
- Building
- Fence
- Surface Soil (0-1 ft) Multi-increment Sample Location
- Sediment Multi-increment Sample Location
- Steam Line Post

Notes:

J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style.
If Result = or > PRG, then the value is presented with a bold style.
Result < PRG & Background, then the value is presented with a normal style.
Mg/Kg - milligrams per Kilogram (parts per million - ppm)

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Ravenna Army Ammunition Plant

Ravenna, Ohio

Figure LL7-9

Load Line 7

Soil and Sediment Sample Locations
Exceedences-Organics

Drawn By:	Checked By:	Date Drawn:	Project No.:
R. Haverkos	MGS	15 July 06	04-02-0030

0 75 150 300 Feet

N W E S

LL7sw-011-SW

Analyte	Result	Units	Qualifier
Trichloroethene	**11**	ug/l	
Bis(2-ethylhexyl) phthalate	**12**	ug/l	**J**
RDX	**110**	ug/l	

LL7sw-011-SW

Analyte	Result	Units	Qualifier
Chromium	2.1	ug/l	
Copper	8.2	ug/l	
Iron	2600	ug/l	
Potassium	9300	ug/l	
Zinc	230	ug/l	
Antimony	3.3	ug/l	
Lead	7.1	ug/l	

LL7sd-012M-SD

Analyte	Result	Units	Qualifier
Aluminum	**14000**	mg/kg	**J**
Arsenic	**8.4**	mg/kg	
Barium	160	mg/kg	
Beryllium	2	mg/kg	J
Cadmium	**5.5**	mg/kg	**J**
Calcium	41000	mg/kg	J
Chromium	27	mg/kg	
Copper	51	mg/kg	
Iron	**34000**	mg/kg	**J**
Lead	**540**	mg/kg	
Magnesium	8300	mg/kg	J
Manganese	**1200**	mg/kg	**J**
Sodium	1400	mg/kg	J
Vanadium	**12**	mg/kg	**J**
Zinc	750	mg/kg	J

LL7sd-012M-DUP

Analyte	Result	Units	Qualifier
Aluminum	**18000**	mg/kg	
Arsenic	**7.5**	mg/kg	
Barium	180	mg/kg	
Beryllium	2.7	mg/kg	
Cadmium	**4.4**	mg/kg	
Calcium	69000	mg/kg	
Chromium	21	mg/kg	
Copper	37	mg/kg	
Iron	**22000**	mg/kg	
Lead	370	mg/kg	
Magnesium	12000	mg/kg	
Manganese	**1900**	mg/kg	
Sodium	700	mg/kg	
Vanadium	**10**	mg/kg	
Zinc	680	mg/kg	

LL7sw-009-SW

RDX	**3.8**	ug/l	

LL7sw-009-SW

Nickel	7.8	ug/l	
Lead	8.7	ug/l	

LL7sw-007-SW

Analyte	Result	Units	Qualifier
Benzo(a)anthracene	**1.4**	ug/l	
Benzo(a)pyrene	**1.8**	ug/l	
Benzo(b)fluoranthene	**2**	ug/l	
Benzo(k)fluoranthene	**1.2**	ug/l	
Dibenzo(a,h)anthracene	**0.42**	ug/l	
Indeno(1,2,3-cd)pyrene	**1**	ug/l	
RDX	**49**	ug/l	

LL7sw-007-SW

Analyte	Result	Units	Qualifier
Nickel	1	ug/l	

LL7sw-008-SW

Analyte	Result	Units	Qualifier
RDX	**54**	ug/l	

LL7sw-008-SW

Analyte	Result	Units	Qualifier
Nickel	2.2	ug/l	
Lead	7.4	ug/l	

LL7sw-003-SW

Analyte	Result	Units	Qualifier
RDX	**32**	ug/l	

LL7sw-003-DUP

Analyte	Result	Units	Qualifier
RDX	**34**	ug/l	

LL7sw-003-SW

Analyte	Result	Units	Qualifier
Nickel	1.1	ug/l	
Arsenic	**0.61**	ug/l	
Lead	8	ug/l	J

LL7sw-003-DUP

Analyte	Result	Units	Qualifier
Antimony	**47**	ug/l	
Arsenic	**1.1**	ug/l	
Lead	8.6	ug/l	

LL7sw-006-SW

Analyte	Result	Units	Qualifier
RDX	**37**	ug/l	

LL7sw-006-SW

Analyte	Result	Units	Qualifier
Lead	**39**	ug/l	

LL7sw-002-SW

Analyte	Result	Units	Qualifier
RDX	**26**	ug/l	

LL7sw-002-SW

Analyte	Result	Units	Qualifier
Calcium	44000	ug/l	

LL7sw-001-SW

Analyte	Result	Units	Qualifier
1,4-Dichlorobenzene	**0.52**	ug/l	**J**
RDX	**12**	ug/l	

LL7sw-001-SW

Analyte	Result	Units	Qualifier
Barium	140	ug/l	
Beryllium	0.55	ug/l	
Cadmium	1.3	ug/l	
Calcium	48000	ug/l	
Chromium	3	ug/l	
Cobalt	1.2	ug/l	
Copper	40	ug/l	
Iron	4400	ug/l	
Lead	**2200**	ug/l	
Manganese	**1400**	ug/l	
Nickel	30	ug/l	
Vanadium	7.9	ug/l	
Zinc	110	ug/l	
Mercury	0.32	ug/l	

1150

1140

Legend

- Vegetation
- Road
- Walkway
- Sediment/Surface Water Sewer Sample Locations
- Streams / Ditches
- 10 ft Contour Lines
- Building
- Sediment/Surface Water Sump Sample Locations
- Piping
- 2 ft Contour Lines
- Fence

Notes:

J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style.
If Result = or > PRG, then the value is presented with a bold style.
Result < PRG & Background, then the value is presented with a normal style.
Mg/Kg - Milligrams per Kilogram (parts per million - ppm)
Ug/L - Micrograms per Liter (parts per billion - ppb)

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Ravenna Army Ammunition Plant

Ravenna, Ohio

Figure LL7-10

Load Line 7

Surface Water and Sediment Sample Locations Exceedences

Drawn By:	Checked By:	Date Drawn:	Project No.:
R. Haverkos	MGS	15 July 06	04-02-0030

0 75 150 300 Feet

N W E S

LL7mw-006-GW

Analyte	Result	Units	Qualifier
Cadmium	0.36	ug/l	
Cobalt	2.6	ug/l	
Iron	3600	ug/l	
Manganese	**2000**	ug/l	
Mercury	0.16	ug/l	

LL7mw-005-GW

Analyte	Result	Units	Qualifier
Chromium	1.4	ug/l	
Cobalt	21	ug/l	
Manganese	**1700**	ug/l	
Silver	0.93	ug/l	
Vanadium	1.4	ug/l	

LL7mw-004-GW

Analyte	Result	Units	Qualifier
Cobalt	9.1	ug/l	
Iron	**20000**	ug/l	
Manganese	**1300**	ug/l	
Mercury	0.4	ug/l	

LL7mw-003-GW

Analyte	Result	Units	Qualifier
Cobalt	7.6	ug/l	
Iron	**17000**	ug/l	
Manganese	**1500**	ug/l	
Arsenic	**0.92**	ug/l	
Mercury	0.24	ug/l	

LL7mw-003-GW

Analyte	Result	Units	Qualifier
Cobalt	7.6	ug/l	
Iron	**17000**	ug/l	
Manganese	**1500**	ug/l	
Arsenic	**0.92**	ug/l	
Mercury	0.24	ug/l	

LL7mw-002-GW

Analyte	Result	Units	Qualifier
Cadmium	0.35	ug/l	
Cobalt	2.2	ug/l	
Iron	7900	ug/l	

LL7mw-001-GW

Analyte	Result	Units	Qualifier
Cadmium	0.25	ug/l	
Cobalt	4.9	ug/l	
Iron	5000	ug/l	

1120

Legend

Vegetation
Road
Walkway
Steam Line Post
Streams / Ditches
10 ft Contour Lines
Building
Monitoring Well Locations
Piping
2 ft Contour Lines
Fence

Notes:

If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style.
If Result = or > PRG, then the value is presented with a bold style.
Result < PRG & Background, then the value is presented with a normal style.
Ug/L - Micrograms per Liter (parts per billion - ppb)

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Ravenna Army Ammunition Plant

Ravenna, Ohio

Figure LL7-11

Load Line 7

Groundwater Sample Locations Exceedences

Drawn By:	Checked By:	Date Drawn:	Project No.:
R. Haverkos	MGS	15 July 06	04-02-0030

0 75 150 300 Feet

N W E S

LL7mw-006
1114.59

WH-61

1114

1B-1

1115

1116

1B-2

1B-12

1B-23

1B-3

1113

LL7mw-004
1113.65

LL7mw-005
1116.53

1B-4

1112

1B-13

1B-4PV1

LL7mw-003
1111.44

1116

1B-24

1B-22

1B-17

1B-7

1B-6

1B-5

1115

LL7mw-002
1114.88

1B-25

1B-6A

1B-18

1114

1113

1112

T-3410

LL7mw-001
1111.42

1B-9

1B-10

7-51

1120

WH-46

1150

Mapping Provided by: ARCADIS

Legend

- Monitoring Well Locations
- Potentiometric Surface
- Direction of GW Flow
- Piping
- Vegetation
- Steam Line Post
- Road
- Building
- Walkway
- Fence
- 10 ft Contour Line
- 2 ft Contour Line

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Stafford, TX 77477

Ravenna Army Ammunition Plant

Ravenna, Ohio

Figure LL7-12

Load Line 7

Potentiometric Suface Map A

(February 2005)

Drawn By:	Checked By:	Date Drawn:	Project No.:
R. Haverkos	MAL	30 June 05	04-09-0020

0 70 140 280 Feet

N W E S

WH-61
LL7mw-006
1115.91
1116
1B-1
1117
1115
1B-12
1B-23
1B-2
1B-3
LL7mw-005
1117.83
1114
LL7mw-004
1114.92
1B-4
1B-13
1B-4PV1
1113
LL7mw-003
1112.64
1B-24
1B-22
1117
1B-7
1B-17
1B-6
1B-5
LL7mw-002
1115.95
1B-25
1B-6A
1B-18
1116
1115
1114
1113
T-3410
LL7mw-001
1112.79
1B-9
1B-10
7-51
1120
WH-46
1150

Legend

- Monitoring Well Locations
- Potentiometric Surface
- Direction of GW Flow
- Piping
- Vegetation
- Steam Line Post
- Road
- Building
- Walkway
- Fence
- 10 ft Contour Line
- 2 ft Contour Line

Mapping Provided by: ARCADIS

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Ravenna Army Ammunition Plant

Ravenna, Ohio

Figure LL7-13

Load Line 7

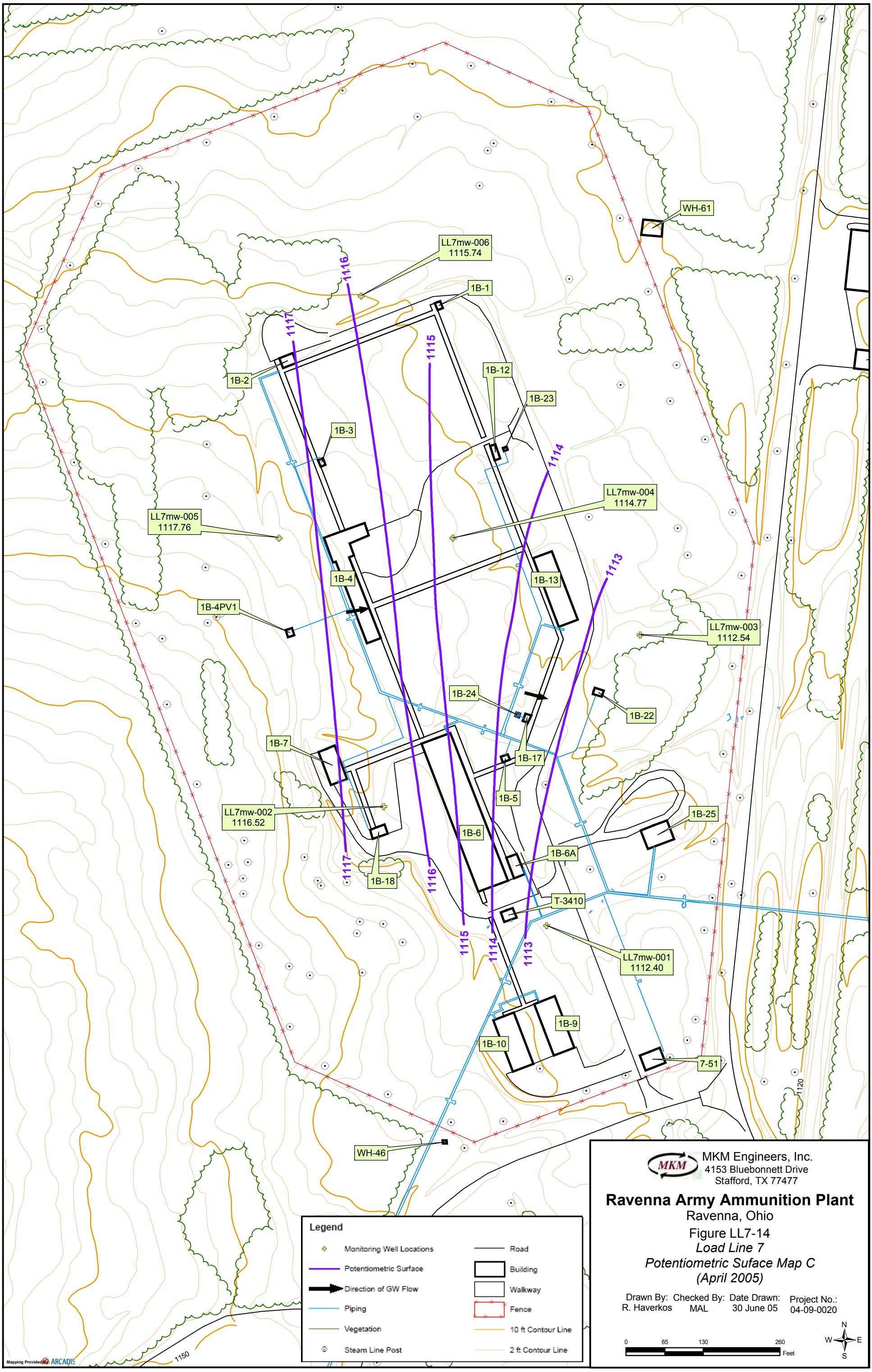
Potentiometric Suface Map B

(March 2005)

Drawn By:	Checked By:	Date Drawn:	Project No.:
R. Haverkos	MAL	30 June 05	04-09-0020

0 65 130 260 Feet

N W E S


WH-61
LL7mw-006
1115.74
1B-1
1117
1116
1115
1B-2
1B-12
1B-23
1B-3
1114
LL7mw-004
1114.77
LL7mw-005
1117.76
1B-4
1B-13
1113
1B-4PV1
LL7mw-003
1112.54
1B-24
1B-22
1B-7
1B-17
1B-5
LL7mw-002
1116.52
1B-25
1B-6
1B-6A
1117
1B-18
1116
T-3410
1115
1114
1113
LL7mw-001
1112.40
1B-9
1B-10
7-51
1120
WH-46
1150
Legend
Monitoring Well Locations
Potentiometric Surface
Direction of GW Flow
Piping
Vegetation
Steam Line Post
Road
Building
Walkway
Fence
10 ft Contour Line
2 ft Contour Line
Mapping Provided by: ARCADIS
MKM Engineers, Inc.
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Stafford, TX 77477
Ravenna Army Ammunition Plant
Ravenna, Ohio
Figure LL7-14
Load Line 7
Potentiometric Suface Map C
(April 2005)
Drawn By: R. Haverkos
Checked By: MAL
Date Drawn: 30 June 05
Project No.: 04-09-0020
0
65
130
260
Feet
N
W
E
S

Table LL7-1
Load Line 7 Summary of Sampling and Analysis
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

SAMPLE PREFIX		VOC	SVOC	Explosives	Propellants	TAL Metals	Chrome +6	Pesticides	PCB	Cyanides	Nitrate	TOC	Geo-Tech	Grain	FIELD QA/QC SAMPLES					
LL7	SAMPLE ID	8260B	8270C	8330	3532/8330	6010/7000	7196A	8081A	8082B	9010A/9012A	EPA 353.2	EPA 415.1	Analysis (Various)	Size ASTM D422	Multi-Incremental QA	Duplicate Sample	Equipment Blank	Trip Blank	MS/MSD	USACE Split
MULTI-INCREMENTAL SOILS																				
Surface Soils	SS-001M			1	1	1					1									
	SS-002M			1		1					1									
	SS-003M			1	1	1					1									
	SS-004M			1		1					1					1				1
	SS-005M	1	1	1	1	1		1	1		1									
	SS-006M			1		1					1									
	SS-007M			1	1	1					1									
	SS-008M			1		1					1									
	SS-009M			1	1	1					1									
	SS-010M			1		1					1									
	SS-011M			1	1	1					1									
	SS-012M			1		1					1									
	SS-013M	1	1	1	1	1		1	1		1					1			1	1
	SS-014M			1		1					1									
	SS-015M			1	1	1					1									
	SS-016M			1		1					1									
	SS-017M			1	1	1					1									
	SS-018M			1		1					1				1					
Dry-Ditch Soils	SS-019M			1	1	1					1									
	SS-020M			1		1					1									
	SS-021M			1	1	1					1									
	SS-022M			1		1					1									
	SS-023M	1	1	1	1	1		1	1		1						1			
	SS-024M			1		1					1					1				1
	SS-025M			1	1	1					1									
	SS-026M			1		1					1								1	
	SS-027M			1		1					1									
	SS-028M			1	1	1					1									
(Taken as SD)	SS-029M			1		1					1	1		1						
	SS-030M			1	1	1					1									
	SS-031M			1		1					1									
	SS-032M	1	1	1	1	1		1	1		1									
Munition Bands	SS-033M			1		1					1					1				1
	SS-034M			1	1	1					1									
	SS-035M			1		1					1									
	SS-036M			1	1	1					1				1					
	SS-037M			1		1					1							1		
	SS-038M			1	1	1					1									
	SS-039M			1		1					1									
	SS-040M			1	1	1					1									
	SS-042M			1	1	1					1									
DISCRETE SOILS	SS-041	1																		
		5	4	41	21	41	0	4	4	0	41	1	0	1	2	4	1	0	3	0
GROUNDWATER	MW-001	1	1	1	1	1		1	1		1									
	MW-002	1	1	1	1	1		1	1		1									
	MW-003	1	1	1	1	1		1	1		1		1	1		1				1
	MW-004	1	1	1	1	1		1	1		1									
	MW-005	1	1	1	1	1		1	1		1		1	1						
	MW-006	1	1	1	1	1		1	1		1		1	1						
		6	6	6	6	6	0	6	6	0	6	0	3	3	0	1	0	0	0	0

Table LL7-1
Load Line 7 Summary of Sampling and Analysis
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

SAMPLE PREFIX		VOC	SVOC	Explosives	Propellants	TAL Metals	Chrome +6	Pesticides	PCB	Cyanides	Nitrate	TOC	Geo-Tech	Grain	FIELD QA/QC SAMPLES				
LL7	SAMPLE ID	8260B	8270C	8330	3532/8330	6010/7000	7196A	8081A	8082B	9010A/9012A	EPA 353.2	EPA 415.1	Analysis (Various)	Size ASTM D422	Multi-Incremental QA	Duplicate Sample	Equipment Blank	Trip Blank	MS/MSD	USACE Split
SURFACE WATER	SW-001	1	1	1	1	1		1	1		1									
Sanitary Sewers	SW-002	1	1	1	1	1		1	1		1									
	SW-003	1	1	1	1	1		1	1		1					1			1	
	SW-004	*No sample (no water)*																		
	SW-005	*No sample (no water)*																		
	SW-006	1	1	1	1	1		1	1		1									
	SW-007	1	1	1	1	1		1	1		1									
	SW-008	1	1	1	1	1		1	1		1									
	SW-009	1	1	1	1	1		1	1		1									
	SW-010	*Cannot locate*																		
Sumps/Basins	SW-011	1	1	1	1	1		1	1		1									
		8	8	8	8	8	0	8	8	0	8	0	0	0	0	1	0	0	1	0
SEDIMENT	SD-001	*No sample (no sediment)*																		
Sanitary Sewers	SD-002	*No sample (no sediment)*																		
	SD-003	*No sample (no sediment)*																		
	SD-004	*No sample (no sediment)*																		
	SD-005	*No sample (no sediment)*																		
	SD-006	*No sample (no sediment)*																		
	SD-007	*No sample (no sediment)*																		
	SD-008	*No sample (no sediment)*																		
	SD-009	*No sample (no sediment)*																		
	SD-010	*Cannot locate*																		
Sumps/Basins	SD-011	*No sample (no sediment)*																		
	SD-012M			1	1	1					1	1		1		1				1
		0	0	1	1	1	0	0	0	0	1	1	0	1	0	1	0	0	0	0

Notes:

Blank cell indicates that either the sample was not analyzed for that compound and/or the sample did not have a QC or Split sample associated with the regular sample

Discrete Sample is taken for VOCs only from Bldg 1B22 doorway

Geo-tech analysis consists of Moisture Content (ASTM D2216), Atterburg Limits (ASTM D4318), UCS (ASTM D2487), pH (EPA 150.1) & Specific Gravity (ASTM D854)

Grainsize and TOC are taken at "all major drainageway" sediments

All shelby tubes taken during MW installatinons will have full geo-tech and grainsize analyses

Table LL7-2
Load Line 7 Summary of Surface Soil (0-1 ft) Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-001M-SO	LL7ss-002M-SO	LL7ss-003M-DUP	LL7ss-003M-SO	LL7ss-004M-SO	LL7ss-005D-SO	LL7ss-005M-SO	LL7ss-006M-SO	LL7ss-007M-SO	LL7ss-008M-SO	LL7ss-009M-SO	LL7ss-010M-SO	LL7ss-011M-SO	LL7ss-012M-SO
						Sample Date:	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/9/2004	11/9/2004
						Sample Depth:	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
Metals	6010B	Aluminum	7614	nc	17700	mg/kg	**7900**	**18000**	**9500**	**9300**	**9500**		6900	5100	**8300**	**8000**	**11000**	**11000**	**8400**	6300
	6010B	Arsenic	0.39	ca	15.4	mg/kg	**9.6**	**9.1**	**13**	**15**	**8.2**		**9.2**	**7.9**	**13**	**12**	**13**	**10**	**9.5**	**8.3**
	6010B	Barium	538	nc	88.4	mg/kg	92	160	57	55	100		86	51	71	66	81	70	70	42
	6010B	Beryllium	15	nc	0.88	mg/kg	0.87	2.8	0.69	0.69	1.2		0.63	0.63	0.62	0.65	0.88	0.77	0.64	0.54
	6010B	Cadmium	3.7	nc	0.00	mg/kg	0.39	0.13			1.4		0.49	0.71			0.13	0.12	0.084	0.22
	6010B	Calcium	--[n]		15800	mg/kg	53000	77000	3300	3100	59000		46000	14000	2600	7100	12000	1100	1300	1900
	6010B	Chromium	30	ca	17.4	mg/kg	17	22	22	19	**33**		18	14	24	21	22	17	19	14
	6010B	Cobalt	30	ca	10.4	mg/kg	6.1	4.7	8.7	8.8	5.5		6	3.8	7.9	8	11	10	8.6	6.2
	6010B	Copper	313	nc	17.7	mg/kg	16	12	16	16	37		18	71	22	19	25	12	12	12
	6010B	Iron	2346	nc	23100	mg/kg	**17000**	**15000**	**21000**	**22000**	**14000**		**15000**	**12000**	**20000**	**20000**	**23000**	**22000**	**18000**	**17000**
	6010B	Lead	400	pbk	26.1	mg/kg	39	11	16	16	160		42	78	85	35	45	16	22	24
	6010B	Magnesium	--[n]		3030	mg/kg	3000	9700	2500	2500	4300		2000	1800	1900	2000	4400	2500	1800	1700
	6010B	Manganese	176	nc	1450	mg/kg	**580**	**1600**	**530**	**530**	**850**		**560**	**380**	**540**	**590**	**500**	**580**	**500**	**300**
	6010B	Nickel	156	nc	21.1	mg/kg	18	14	19	20	19		17	13	20	19	29	19	17	14
	6010B	Potassium	--[n]		927	mg/kg	1000	1500	930	890	770		990	520	840	840	1400	1000	860	670
	6010B	Selenium	39	nc	1.4	mg/kg	0.6	1.4	0.86	0.64	1.2		0.66	0.61	0.63	0.72	0.69	0.56	0.46	0.6
	6010B	Silver	39	nc	0.00	mg/kg														
	6010B	Sodium	--[n]		123	mg/kg	280	670	230	230	330		190		210	210	270			
	6010B	Vanadium	7.8	nc	31.1	mg/kg	**12**	**13**	**17**	**17**	**12**		**12**	**8.2**	**16**	**16**	**19**	**21**	**16**	**12**
	6010B	Zinc	2346	nc	61.8	mg/kg	82	38	53	53	120		83	180	85	76	91	0.72		
	7041	Antimony	3.1	nc	0.96	mg/kg			0.57	0.58								58	54	58
	7471A	Mercury	2.3	nc	0.04	mg/kg	0.076	0.03	0.035	0.034	0.4		0.034	0.027	0.037	0.046	0.037	0.025	0.034	0.025
	7841	Thallium	0.52	nc	0.00	mg/kg	0.24								0.31					
PCBs	8082	Aroclor 1254	0.22	ca	--	mg/kg							0.07							
VOCs	8260B	Acetone	1412	nc	--	mg/kg														
SVOCs	8270C	2-Methylnaphthalene	--		--	mg/kg							0.028 J							
	8270C	4-Methylphenol	31	nc	--	mg/kg														
	8270C	Acenaphthene	368	nc	--	mg/kg							0.11							
	8270C	Anthracene	2189	nc	--	mg/kg							0.31							
	8270C	Benzo(a)anthracene	0.62	ca	--	mg/kg							0.55							
	8270C	Benzo(a)pyrene	0.062	ca	--	mg/kg							**0.48**							
	8270C	Benzo(b)fluoranthene	0.62	ca	--	mg/kg							0.61							
	8270C	Benzo(g,h,i)perylene	--		--	mg/kg							0.25							
	8270C	Benzo(k)fluoranthene	6.2	ca	--	mg/kg							0.28							
	8270C	Benzyl alcohol	1833	nc	--	mg/kg														
	8270C	Carbazole	24	ca	--	mg/kg														
	8270C	Chrysene	62	ca	--	mg/kg							0.49							
	8270C	Dibenzo(a,h)anthracene	0.062	ca	--	mg/kg							0.061							
	8270C	Dibenzofuran	15	nc	--	mg/kg							0.06 J							
	8270C	Fluoranthene	229	nc	--	mg/kg							1.2							
	8270C	Fluorene	275	nc	--	mg/kg							0.12							
	8270C	Indeno(1,2,3-cd)pyrene	0.62	ca	--	mg/kg							0.2							
	8270C	Naphthalene	5.6	nc	--	mg/kg							0.024 J							
	8270C	Phenanthrene	--		--	mg/kg							1.2							

Table LL7-2
Load Line 7 Summary of Surface Soil (0-1 ft) Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-001M-SO	LL7ss-002M-SO	LL7ss-003M-DUP	LL7ss-003M-SO	LL7ss-004M-SO	LL7ss-005D-SO	LL7ss-005M-SO	LL7ss-006M-SO	LL7ss-007M-SO	LL7ss-008M-SO	LL7ss-009M-SO	LL7ss-010M-SO	LL7ss-011M-SO	LL7ss-012M-SO
					Sample Date:	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/9/2004	11/9/2004
					Sample Depth:	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)	Surface Soil Background Criteria	Units														
	8270C	Pyrene	232 nc	--	mg/kg							1							
Explosives	8330	2,4,6-TNT	16 ca	--	mg/kg											0.89			
	8330	2,6-Dinitrotoluene	6.1 nc	--	mg/kg														
	8330	2-Amino-4,6-Dinitrotoluene	--	--	mg/kg														
	8330	2-Nitrotoluene	0.88 ca	--	mg/kg														
	8330	3-Nitrotoluene	73 nc	--	mg/kg														
	8330	HMX	306 nc	--	mg/kg													0.85	0.89
	8330	RDX	4.4 ca	--	mg/kg											0.53		0.084 J	0.44
Propellants	353.2 Modified	Nitrocellulose	--	--	mg/kg							9.4 J				156 J			
	8332	Nitroglycerine	35 ca	--	mg/kg											18			
Other Analytes	353.2	Nitrate as N (NO3-N)	NA	--	mg/kg			2.9	3.2	6.5		3.1	9.1		0.93	1.5	0.84	1.1	0.96

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analyte was a non-detect (with a "U" qualifier) or analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-2
Load Line 7 Summary of Surface Soil (0-1 ft) Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-013D-DUP	LL7ss-013D-SO	LL7ss-013M-DUP	LL7ss-013M-SO	LL7ss-014M-SO	LL7ss-015M-SO	LL7ss-016M-SO	LL7ss-017M-SO	LL7ss-018M-QA	LL7ss-018M-SO	LL7ss-019M-SO	LL7ss-020M-SO	LL7ss-021M-SO	LL7ss-022M-SO
						Sample Date:	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/8/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004
						Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
Metals	6010B	Aluminum	7614	nc	17700	mg/kg			**8800**	**8900**	**8900**	**9400**	7600	**15000**	**12000**	**13000**	**14000**	**13000**	**12000**	6900
	6010B	Arsenic	0.39	ca	15.4	mg/kg			**10**	**10**	**9**	16	**10**	**9.1**	**8**	**7.9**	**14**	**13**	**10**	**9.8**
	6010B	Barium	538	nc	88.4	mg/kg			62	63	56	76	52	130	110	120	63	89	72	46
	6010B	Beryllium	15	nc	0.88	mg/kg			0.73	0.71	0.75	0.84	0.65	2.1	1.5	1.9	0.76	0.89	0.7	0.62
	6010B	Cadmium	3.7	nc	0.00	mg/kg			0.3	0.36 J	0.2	0.08	0.19	0.95	0.44	0.4				0.22
	6010B	Calcium	--[n]		15800	mg/kg			3700	3200 J	11000	8300	2100	42000	49000	51000	3400	1500	1000	3200
	6010B	Chromium	30	ca	17.4	mg/kg			18	18	14	21	14	30	29	28	25	25	21	21
	6010B	Cobalt	30	ca	10.4	mg/kg			8.7	8.1	7.5	9.4	8.6	5.1	5.9	6.2	7.9	9.1	8.2	6.2
	6010B	Copper	313	nc	17.7	mg/kg			15	15	14	20	13	28	20	88	17	11	14	17
	6010B	Iron	2346	nc	23100	mg/kg			**19000**	**19000**	**16000**	**22000**	**18000**	**16000**	**15000**	**16000**	**26000**	**28000**	**22000**	**18000**
	6010B	Lead	400	pbk	26.1	mg/kg			43	64 J	15	49	26	59	47	44	19	20	17	34
	6010B	Magnesium	--[n]		3030	mg/kg			2100	2000	2800	3100	1700	7700	5600	6500	3100	2400	2300	1700
	6010B	Manganese	176	nc	1450	mg/kg			**510**	**490**	**490**	**660**	**520**	**1100**	**990**	**1200**	**370**	**800**	**440**	**290**
	6010B	Nickel	156	nc	21.1	mg/kg			16	17	14	22	14	18	17	17	21	18	20	17
	6010B	Potassium	--[n]		927	mg/kg			790	780 J	930	970	690	1300	1300	1300	1200	1200	930	760
	6010B	Selenium	39	nc	1.4	mg/kg			0.79	0.96	0.8	0.48	0.66	1.3	1.1	1.4	0.93	1	0.66	0.84
	6010B	Silver	39	nc	0.00	mg/kg					0.59									
	6010B	Sodium	--[n]		123	mg/kg					320	240		510	400	430	320	320	310	280
	6010B	Vanadium	7.8	nc	31.1	mg/kg			**17**	**17**	**14**	**18**	**16**	**15**	**15**	**14**	**24**	**28**	**23**	**13**
	6010B	Zinc	2346	nc	61.8	mg/kg			67	70	57	110	63	92	84	77	74	83	68	78
	7041	Antimony	3.1	nc	0.96	mg/kg			0.58	0.57 J										
	7471A	Mercury	2.3	nc	0.04	mg/kg			0.35	0.32	0.026	0.031	0.037		0.057	0.073	0.057	0.059	0.047	0.053
	7841	Thallium	0.52	nc	0.00	mg/kg														
PCBs	8082	Aroclor 1254	0.22	ca	--	mg/kg														
VOCs	8260B	Acetone	1412	nc	--	mg/kg														
SVOCs	8270C	2-Methylnaphthalene	--		--	mg/kg			0.1	0.088										
	8270C	4-Methylphenol	31	nc	--	mg/kg			0.014 J											
	8270C	Acenaphthene	368	nc	--	mg/kg			0.97	0.83										
	8270C	Anthracene	2189	nc	--	mg/kg			1.8	1.5										
	8270C	Benzo(a)anthracene	0.62	ca	--	mg/kg			**3.6**	**3.1**										
	8270C	Benzo(a)pyrene	0.062	ca	--	mg/kg			**2.9**	**2.3 J**										
	8270C	Benzo(b)fluoranthene	0.62	ca	--	mg/kg			**3.4**	**3**										
	8270C	Benzo(g,h,i)perylene	--		--	mg/kg			1.2	0.88										
	8270C	Benzo(k)fluoranthene	6.2	ca	--	mg/kg			2	1.9										
	8270C	Benzyl alcohol	1833	nc	--	mg/kg														
	8270C	Carbazole	24	ca	--	mg/kg			1	0.85										
	8270C	Chrysene	62	ca	--	mg/kg			4	3.3 J										
	8270C	Dibenzo(a,h)anthracene	0.062	ca	--	mg/kg			**0.46**	**0.42**										
	8270C	Dibenzofuran	15	nc	--	mg/kg			0.25	0.21										
	8270C	Fluoranthene	229	nc	--	mg/kg			9	8.2										
	8270C	Fluorene	275	nc	--	mg/kg			0.53	0.45										
	8270C	Indeno(1,2,3-cd)pyrene	0.62	ca	--	mg/kg			**1**	**0.83**										
	8270C	Naphthalene	5.6	nc	--	mg/kg			0.2	0.17										
	8270C	Phenanthrene	--		--	mg/kg			6.1	5.2										

Table LL7-2
Load Line 7 Summary of Surface Soil (0-1 ft) Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-013D-DUP	LL7ss-013D-SO	LL7ss-013M-DUP	LL7ss-013M-SO	LL7ss-014M-SO	LL7ss-015M-SO	LL7ss-016M-SO	LL7ss-017M-SO	LL7ss-018M-QA	LL7ss-018M-SO	LL7ss-019M-SO	LL7ss-020M-SO	LL7ss-021M-SO	LL7ss-022M-SO
					Sample Date:	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/8/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004
					Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units													
	8270C	Pyrene	232	nc	--	mg/kg			6.5	5.9									
Explosives	8330	2,4,6-TNT	16	ca	--	mg/kg					2.7			0.085 J					
	8330	2,6-Dinitrotoluene	6.1	nc	--	mg/kg			0.15 J	0.28									
	8330	2-Amino-4,6-Dinitrotoluene	--		--	mg/kg				0.1 J									
	8330	2-Nitrotoluene	0.88	ca	--	mg/kg			0.11 J										
	8330	3-Nitrotoluene	73	nc	--	mg/kg				0.13 J									
	8330	HMX	306	nc	--	mg/kg				0.15 J	7.9								
	8330	RDX	4.4	ca	--	mg/kg					**45**			4.4					
Propellants	353.2 Modified	Nitrocellulose	--		--	mg/kg								6.3 J					
	8332	Nitroglycerine	35	ca	--	mg/kg								2.9					
Other Analytes	353.2	Nitrate as N (NO3-N)	NA		--	mg/kg			2.2	1.4 J	0.71	0.65		4	5.3	4.4	1.3	0.92	0.86	0.84

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analyte was a non-detect (with a "U" qualifier) or analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-2
Load Line 7 Summary of Surface Soil (0-1 ft) Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-023D-SO	LL7ss-023M-SO	LL7ss-024M-DUP	LL7ss-024M-SO	LL7ss-025M-SO	LL7ss-026M-SO	LL7ss-027M-SO	LL7ss-028M-SO	LL7ss-030M-SO	LL7ss-031M-SO	LL7ss-032D-SO	LL7ss-032M-SO	LL7ss-033M-DUP	LL7ss-033M-SO
						Sample Date:	11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/9/2004	11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/18/2004	11/18/2004
						Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
Metals	6010B	Aluminum	7614	nc	17700	mg/kg		**12000**	**13000**	**13000**	**12000**	**11000**	**8700**	**9100**	**11000**	**9300**		**14000**	**12000**	6900
	6010B	Arsenic	0.39	ca	15.4	mg/kg		**14**	**13**	**13**	**13**	**13 J**	**11**	**9**	**12**	**14**		**12**	**8.8**	**9.4**
	6010B	Barium	538	nc	88.4	mg/kg		86	78	80	67	100	66	87	52	66		83	120	50
	6010B	Beryllium	15	nc	0.88	mg/kg		0.92	0.8	0.81	0.71	0.9	0.79	1.7	0.59	0.7		0.88	0.82	0.47
	6010B	Cadmium	3.7	nc	0.00	mg/kg		0.11						0.47	0.18	0.19		0.11		
	6010B	Calcium	--[n]		15800	mg/kg		2900	1700	1700	1300	1700	3800	9300	5200	2000		3400	710	1000
	6010B	Chromium	30	ca	17.4	mg/kg		19	24	24	24	19	27	17	16	17		25	23	14
	6010B	Cobalt	30	ca	10.4	mg/kg		10	8.4	9.1	7.9	9.6	7.8	6.2	7	7.7		13	11	5.8
	6010B	Copper	313	nc	17.7	mg/kg		16	16	14	13	9.4	19	13	16	13		20	10	10
	6010B	Iron	2346	nc	23100	mg/kg		**27000**	**29000**	**29000**	**23000**	**25000**	**22000**	**15000**	**18000**	**22000**		**25000**	**20000**	**16000**
	6010B	Lead	400	pbk	26.1	mg/kg		19	19	20	15	20	21	18	19	20		20	22	23
	6010B	Magnesium	--[n]		3030	mg/kg		2300	2400	2400	2100	1700	2400	3200	2000	1900		3400	2200	1200
	6010B	Manganese	176	nc	1450	mg/kg		**610**	**530**	**620**	**620**	**1100**	**360**	**750**	**390**	**630**		**550**	**1400**	**510**
	6010B	Nickel	156	nc	21.1	mg/kg		20	19	19	16	14	23	21	15	16		25	20	12
	6010B	Potassium	--[n]		927	mg/kg		1100	1100	1100	1200	910 J	910	720	1100	760		1800	980	780
	6010B	Selenium	39	nc	1.4	mg/kg		0.8	1.2	1.1	0.89	0.82	0.82	0.8	0.51	0.88		0.82	0.91	0.63
	6010B	Silver	39	nc	0.00	mg/kg					1.6		**80**							
	6010B	Sodium	--[n]		123	mg/kg			370	360	330	310	310		320			380	290	190
	6010B	Vanadium	7.8	nc	31.1	mg/kg		**23**	**28**	**27**	**26**	**25**	**16**	**11**	**16**	**20**		**25**	**23**	**15**
	6010B	Zinc	2346	nc	61.8	mg/kg		60	100	94	66	56	70	85	55	81		110	59	100
	7041	Antimony	3.1	nc	0.96	mg/kg								0.53	0.48	0.6			0.54	
	7471A	Mercury	2.3	nc	0.04	mg/kg		0.022	0.054	0.049	0.039	0.051	0.072	0.02	0.028	0.043		0.04	0.05	0.043
	7841	Thallium	0.52	nc	0.00	mg/kg							0.27	0.25						
PCBs	8082	Aroclor 1254	0.22	ca	--	mg/kg														
VOCs	8260B	Acetone	1412	nc	--	mg/kg	0.011 J													
SVOCs	8270C	2-Methylnaphthalene	--		--	mg/kg														
	8270C	4-Methylphenol	31	nc	--	mg/kg														
	8270C	Acenaphthene	368	nc	--	mg/kg														
	8270C	Anthracene	2189	nc	--	mg/kg												0.019 J		
	8270C	Benzo(a)anthracene	0.62	ca	--	mg/kg		0.017 J										0.08		
	8270C	Benzo(a)pyrene	0.062	ca	--	mg/kg		0.029 J										**0.094**		
	8270C	Benzo(b)fluoranthene	0.62	ca	--	mg/kg		0.06										0.12		
	8270C	Benzo(g,h,i)perylene	--		--	mg/kg		0.022 J										0.045		
	8270C	Benzo(k)fluoranthene	6.2	ca	--	mg/kg		0.024 J										0.077		
	8270C	Benzyl alcohol	1833	nc	--	mg/kg		0.32 J										0.77		
	8270C	Carbazole	24	ca	--	mg/kg														
	8270C	Chrysene	62	ca	--	mg/kg		0.024 J										0.092		
	8270C	Dibenzo(a,h)anthracene	0.062	ca	--	mg/kg												0.014 J		
	8270C	Dibenzofuran	15	nc	--	mg/kg														
	8270C	Fluoranthene	229	nc	--	mg/kg		0.036										0.25		
	8270C	Fluorene	275	nc	--	mg/kg														
	8270C	Indeno(1,2,3-cd)pyrene	0.62	ca	--	mg/kg		0.011 J										0.048		
	8270C	Naphthalene	5.6	nc	--	mg/kg														
	8270C	Phenanthrene	--		--	mg/kg		0.018 J										0.096		

Table LL7-2
Load Line 7 Summary of Surface Soil (0-1 ft) Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-023D-SO	LL7ss-023M-SO	LL7ss-024M-DUP	LL7ss-024M-SO	LL7ss-025M-SO	LL7ss-026M-SO	LL7ss-027M-SO	LL7ss-028M-SO	LL7ss-030M-SO	LL7ss-031M-SO	LL7ss-032D-SO	LL7ss-032M-SO	LL7ss-033M-DUP	LL7ss-033M-SO
					Sample Date:	11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/9/2004	11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/18/2004	11/18/2004
					Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units													
	8270C	Pyrene	232	nc	--	mg/kg		0.027 J										0.11		
Explosives	8330	2,4,6-TNT	16	ca	--	mg/kg														
	8330	2,6-Dinitrotoluene	6.1	nc	--	mg/kg														
	8330	2-Amino-4,6-Dinitrotoluene	--		--	mg/kg														
	8330	2-Nitrotoluene	0.88	ca	--	mg/kg														
	8330	3-Nitrotoluene	73	nc	--	mg/kg														
	8330	HMX	306	nc	--	mg/kg														
	8330	RDX	4.4	ca	--	mg/kg														
Propellants	353.2 Modified	Nitrocellulose	--		--	mg/kg														
	8332	Nitroglycerine	35	ca	--	mg/kg														
Other Analytes	353.2	Nitrate as N (NO3-N)	NA		--	mg/kg		2	0.97	0.9	0.25	0.72 J	0.92	1.8		2.4		1.3	0.85	0.94

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analyte was a non-detect (with a "U" qualifier) or analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
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If Result < PRG & Background, then the value is presented with a normal style

Table LL7-2
Load Line 7 Summary of Surface Soil (0-1 ft) Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-034M-SO	LL7ss-035M-SO	LL7ss-036M-QA	LL7ss-036M-SO	LL7ss-037M-SO	LL7ss-038M-SO	LL7ss-039M-SO	LL7ss-040M-SO	LL7ss-041-SO	LL7ss-042M-SO
					Sample Date:	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/11/2004	11/18/2004
					Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)	Surface Soil Background Criteria	Units										
Metals	6010B	Aluminum	7614 nc	17700	mg/kg	**10000**	6700	**11000**	**11000**	**9600**	**11000**	**12000**	**10000**		**12000**
	6010B	Arsenic	0.39 ca	15.4	mg/kg	**8.3**	**8.2**	**7.1**	**7.5**	**7.3**	**8.3**	**8.8**	**7.9**		**9.3**
	6010B	Barium	538 nc	88.4	mg/kg	110	49	98	100	79	96	110	67		110
	6010B	Beryllium	15 nc	0.88	mg/kg	0.84	0.51	0.77	0.81	0.72	0.81	0.91	0.72		0.89
	6010B	Cadmium	3.7 nc	0.00	mg/kg										
	6010B	Calcium	–[n]	15800	mg/kg	520	640	370	400	230	340	380	260		360
	6010B	Chromium	30 ca	17.4	mg/kg	17	13	16	15	17	19	22	14		21
	6010B	Cobalt	30 ca	10.4	mg/kg	10	6.7	10	12	8.8	12	13	9.3		13
	6010B	Copper	313 nc	17.7	mg/kg	9.8	9.6	8.7	8.8	9	9.7	9.7	8.6		11
	6010B	Iron	2346 nc	23100	mg/kg	**16000**	**14000**	**16000**	**16000**	**14000**	**17000**	**19000**	**15000**		**20000**
	6010B	Lead	400 pbk	26.1	mg/kg	27	36	19	24	21	23	27	40		25
	6010B	Magnesium	--[n]	3030	mg/kg	1700	1200	1800	1800	1400	1900	2000	1500		2100
	6010B	Manganese	176 nc	1450	mg/kg	**1300**	**760**	**1100**	**1300**	**1000**	**1300**	**1500**	**1000**		**1500**
	6010B	Nickel	156 nc	21.1	mg/kg	16	9.9	16	16	16	18	20	14		20
	6010B	Potassium	--[n]	927	mg/kg	680	620	780	750 J	510	860	800	660		980
	6010B	Selenium	39 nc	1.4	mg/kg	0.98	0.76	0.59	0.9	0.64	0.88	1	0.85		0.64
	6010B	Silver	39 nc	0.00	mg/kg										
	6010B	Sodium	--[n]	123	mg/kg	270	190	260	260	240	280	310	240		290
	6010B	Vanadium	7.8 nc	31.1	mg/kg	**20**	**15**	**20**	**20**	**17**	**20**	**23**	**19**		**23**
	6010B	Zinc	2346 nc	61.8	mg/kg	56	37	50	56	48	54	61	49		58
	7041	Antimony	3.1 nc	0.96	mg/kg										0.64
	7471A	Mercury	2.3 nc	0.04	mg/kg	0.053	0.038	0.066	0.053 J	0.049	0.067	0.059	0.059		0.05
	7841	Thallium	0.52 nc	0.00	mg/kg						0.26				
PCBs	8082	Aroclor 1254	0.22 ca	--	mg/kg										
VOCs	8260B	Acetone	1412 nc	--	mg/kg										
SVOCs	8270C	2-Methylnaphthalene	--	--	mg/kg										
	8270C	4-Methylphenol	31 nc	--	mg/kg										
	8270C	Acenaphthene	368 nc	--	mg/kg										
	8270C	Anthracene	2189 nc	--	mg/kg										
	8270C	Benzo(a)anthracene	0.62 ca	--	mg/kg										
	8270C	Benzo(a)pyrene	0.062 ca	--	mg/kg										
	8270C	Benzo(b)fluoranthene	0.62 ca	--	mg/kg										
	8270C	Benzo(g,h,i)perylene	--	--	mg/kg										
	8270C	Benzo(k)fluoranthene	6.2 ca	--	mg/kg										
	8270C	Benzyl alcohol	1833 nc	--	mg/kg										
	8270C	Carbazole	24 ca	--	mg/kg										
	8270C	Chrysene	62 ca	--	mg/kg										
	8270C	Dibenzo(a,h)anthracene	0.062 ca	--	mg/kg										
	8270C	Dibenzofuran	15 nc	--	mg/kg										
	8270C	Fluoranthene	229 nc	--	mg/kg										
	8270C	Fluorene	275 nc	--	mg/kg										
	8270C	Indeno(1,2,3-cd)pyrene	0.62 ca	--	mg/kg										
	8270C	Naphthalene	5.6 nc	--	mg/kg										
	8270C	Phenanthrene	--	--	mg/kg										

Table LL7-2
Load Line 7 Summary of Surface Soil (0-1 ft) Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-034M-SO	LL7ss-035M-SO	LL7ss-036M-QA	LL7ss-036M-SO	LL7ss-037M-SO	LL7ss-038M-SO	LL7ss-039M-SO	LL7ss-040M-SO	LL7ss-041-SO	LL7ss-042M-SO
					Sample Date:	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/11/2004	11/18/2004
					Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)	Surface Soil Background Criteria	Units										
	8270C	Pyrene	232 nc	--	mg/kg										
Explosives	8330	2,4,6-TNT	16 ca	--	mg/kg										
	8330	2,6-Dinitrotoluene	6.1 nc	--	mg/kg										
	8330	2-Amino-4,6-Dinitrotoluene	--	--	mg/kg										
	8330	2-Nitrotoluene	0.88 ca	--	mg/kg										
	8330	3-Nitrotoluene	73 nc	--	mg/kg										
	8330	HMX	306 nc	--	mg/kg										
	8330	RDX	4.4 ca	--	mg/kg										
Propellants	353.2 Modified	Nitrocellulose	--	--	mg/kg										
	8332	Nitroglycerine	35 ca	--	mg/kg										
Other Analytes	353.2	Nitrate as N (NO3-N)	NA	--	mg/kg	3.9	0.59	1.2	1	2.8	0.95	1.3	1.9		1.2

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analyte was a non-detect (with a "U" qualifier) or analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-3
Load Line 7 Summary of Sediment Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7sd-012M-DUP		LL7sd-012M-SD		LL7sd-029M-SD	
					Sample Da	11/10/2004		11/10/2004		11/9/2004	
					Sample De	0-0.5 ft		0-0.5 ft		0-0.5 ft	
Group	Method	Parameter	Region 9 PRG (Res Soil)	Sediment Background Criteria	Units						
Metals	6010B	Aluminum	7614 nc	13900	mg/kg	**18000**		**14000**	J	6800	
	6010B	Arsenic	0.39 ca	19.5	mg/kg	**7.5**		**8.4**		**13**	
	6010B	Barium	538 nc	123	mg/kg	180		160		89	
	6010B	Beryllium	15 nc	0.38	mg/kg	2.7		2	J	0.86	
	6010B	Cadmium	3.7 nc	0.00	mg/kg	**4.4**		**5.5**	J	0.94	
	6010B	Calcium	--[n]	5510	mg/kg	69000		41000	J	8200	
	6010B	Chromium	30 ca	18.1	mg/kg	21		27		12	
	6010B	Cobalt	30 ca	9.1	mg/kg	3.7		5		7.3	
	6010B	Copper	313 nc	27.6	mg/kg	37		51		25	
	6010B	Iron	2346 nc	28200	mg/kg	**22000**		**34000**	J	**20000**	
	6010B	Lead	400 pbk	27.4	mg/kg	370		**540**		31	
	6010B	Magnesium	--[n]	2760	mg/kg	12000		8300	J	2200	
	6010B	Manganese	176 nc	1950	mg/kg	**1900**		**1200**	J	**740**	
	6010B	Nickel	156 nc	17.7	mg/kg	12		17	J	20	
	6010B	Potassium	--[n]	1950	mg/kg	1300		1200		1100	
	6010B	Selenium	39 nc	1.7	mg/kg	1.4		1.5		2.5	
	6010B	Sodium	--[n]	112	mg/kg	700		1400	J		
	6010B	Vanadium	7.8 nc	26.1	mg/kg	**10**		**12**	J	**17**	
	6010B	Zinc	2346 nc	532	mg/kg	680		750	J	260	
	7471A	Mercury	2.3 nc	0.06	mg/kg	0.023		0.024		0.033	
Other Analytes	353.2	Nitrate as N (NO3-N)	NA	--	mg/kg			1.2			

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analyte was a non-detect (with a "U" qualifier) or analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-4
Load Line 7 Summary of Surface Water Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7sw-001-SW	LL7sw-002-SW	LL7sw-003-DUP	LL7sw-003-SW	LL7sw-006-SW	LL7sw-007-SW	LL7sw-008-SW	LL7sw-009-SW	LL7sw-011-SW
					Sample Date:	11/22/2004	12/3/2004	12/2/2004	12/2/2004	12/3/2004	12/3/2004	12/2/2004	12/2/2004	11/10/2004
					Sample Depth:	20 ft	14.82 ft	15 ft	15 ft	10.8 ft	10.5 ft	10 ft	8 ft	surface
Group	Method	Parameter	Region 9 PRG (Tap Water)	Surface Water Background Criteria	Units									
Metals	6010B	Aluminum	36499 nc	3370	ug/l	2200	140	230	220	180	100	83	430	51
	6010B	Barium	2555 nc	47.5	ug/l	140	27	33	33	26	28	31	44	13
	6010B	Beryllium	73 nc	0.00	ug/l	0.55								
	6010B	Cadmium	18 nc	0.00	ug/l	1.3								
	6010B	Calcium	--[n]	41400	ug/l	48000	44000	24000	25000	22000	19000	21000	14000	6400
	6010B	Chromium	109 nc	0.00	ug/l	3								2.1
	6010B	Cobalt	730 nc	0.00	ug/l	1.2								
	6010B	Copper	1460 nc	7.9	ug/l	40							4.6	8.2
	6010B	Iron	10950 nc	2560	ug/l	4400	320	290	300	200	97	110	540	2600
	6010B	Lead	15 mcl	0.00	ug/l	**2200**								
	6010B	Magnesium	--[n]	10800	ug/l	8900	8100	5200	5200	4800	4500	4900	4300	650
	6010B	Manganese	876 nc	391	ug/l	**1400**	33	21	21	21	6.2	9.4	94	32
	6010B	Nickel	730 nc	0.00	ug/l	30			1.1		1	2.2	7.8	
	6010B	Potassium	--[n]	3170	ug/l	1700	1600	1600	1600	1600	1600	1800	1300	9300
	6010B	Sodium	--[n]	21300	ug/l	4000	3300	1900	1900	2000	2100	1900	2000	2900
	6010B	Vanadium	36 nc	0.00	ug/l	7.9								
	6010B	Zinc	10950 nc	42	ug/l	110	3.8	4.2	4.2	5.2	4.7	3.6	18	230
	7041	Antimony	15 nc	0.00	ug/l			47						3.3
	7060A	Arsenic	0.045 ca	3.2	ug/l	**0.74**		**1.1**	**0.61**					
	7421	Lead	15 mcl	0.00	ug/l			8.6	8 J	**39**		7.4	8.7	7.1
	7470A	Mercury	11 nc	0.00	ug/l	0.32								
VOCs	8260B	1,2-Dichloroethene (total)	120 nc	--	ug/l									9.2
	8260B	cis-1,2-Dichloroethene	61 nc	--	ug/l									9
	8260B	Trichloroethene	0.028 ca	--	ug/l									**11**
SVOCs	8270C	1,3-Dichlorobenzene	182 nc	--	ug/l						0.87 J			
	8270C	1,4-Dichlorobenzene	0.50 ca	--	ug/l	**0.52 J**								
	8270C	Anthracene	1825 nc	--	ug/l						0.39 J			
	8270C	Benzo(a)anthracene	0.092 ca	--	ug/l						**1.4**			
	8270C	Benzo(a)pyrene	0.0092 ca	--	ug/l						**1.8**			
	8270C	Benzo(b)fluoranthene	0.092 ca	--	ug/l						**2**			
	8270C	Benzo(g,h,i)perylene	--	--	ug/l						1.3			
	8270C	Benzo(k)fluoranthene	0.92 ca	--	ug/l						**1.2**			
	8270C	Bis(2-ethylhexyl) phthalate	4.8 ca	--	ug/l									**12 J**
	8270C	Butylbenzyl phthalate	7300 nc	--	ug/l									2.9
	8270C	Chrysene	9.2 ca	--	ug/l						1.6			
	8270C	Dibenzo(a,h)anthracene	0.0092 ca	--	ug/l						**0.42**			
	8270C	Fluoranthene	1460 nc	--	ug/l						2.9			
	8270C	Indeno(1,2,3-cd)pyrene	0.092 ca	--	ug/l						**1**			
	8270C	Phenanthrene	--	--	ug/l						1.7			
	8270C	Pyrene	182 nc	--	ug/l						2.3			

Table LL7-4
Load Line 7 Summary of Surface Water Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7sw-001-SW	LL7sw-002-SW	LL7sw-003-DUP	LL7sw-003-SW	LL7sw-006-SW	LL7sw-007-SW	LL7sw-008-SW	LL7sw-009-SW	LL7sw-011-SW
					Sample Date:	11/22/2004	12/3/2004	12/2/2004	12/2/2004	12/3/2004	12/3/2004	12/2/2004	12/2/2004	11/10/2004
					Sample Depth:	20 ft	14.82 ft	15 ft	15 ft	10.8 ft	10.5 ft	10 ft	8 ft	surface
Group	Method	Parameter	Region 9 PRG (Tap Water)		Surface Water Background Criteria	Units									
Explosives	8330	2,4,6-TNT	2.2	ca	--	ug/l									1.3
	8330	2,4-Dinitrotoluene	73	nc	--	ug/l									0.14 J
	8330	2-Amino-4,6-Dinitrotoluene	--		--	ug/l	0.36 J	0.33 J	0.48 J	0.47 J	0.48	0.63	0.81		7.6
	8330	4-Amino-2,6-Dinitrotoluene	--		--	ug/l	0.32 J	0.36 J	0.5 J	0.5	0.53	0.68	0.86		21
	8330	HMX	1825	nc	--	ug/l	4.9	8.2	12	12	11	14	20	2.3	1700
	8330	RDX	0.61	ca	--	ug/l	**12**	**26**	**34**	**32**	**37**	**49**	**54**	**3.8**	**110**
Other Analytes	353.2	Nitrate as N (NO3-N)	10000	nc	--	ug/l	590	760	650	660	710	660	580	240	1200

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analyte was a non-detect (with a "U" qualifier) or analysis was not performed
ug/l - means micrograms per Liter (parts per billion - ppb)
PRG - preliminary remediation goals (The screeing value for lead is the Maximum Contaminant level (MCL) from the safe Drinking Water Act)
nc - non-cancer basis
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-5
Load Line 7 Summary of Groundwater Detections
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7mw-001-GW	LL7mw-002-GW	LL7mw-003-DUP	LL7mw-003-GW	LL7mw-004-GW	LL7mw-005-GW	LL7mw-006-GW
					Sample Date:	1/24/2005	1/21/2005	1/25/2005	1/25/2005	1/24/2005	2/2/2005	1/25/2005
					Sample Depth:	26 ft	22 ft	27 ft	27 ft	26 ft	25 ft	22 ft
					Description	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered
Group	Method	Parameter	Region 9 PRG (Tap Water)	Consolidated Filtered Groundwater Background	Units							
Metals	6010B	Aluminum	36499 nc	--	ug/l	35	93	27	26			41
	6010B	Barium	2555 nc	256	ug/l	17	34	46	47	41	82	31
	6010B	Cadmium	18 nc	0.00	ug/l	0.25	0.35					0.36
	6010B	Calcium	--[n]	53100	ug/l	45000	19000	14000	13000	9400	11000	6800
	6010B	Chromium	109 nc	0.00	ug/l						1.4	
	6010B	Cobalt	730 nc	0.00	ug/l	4.9	2.2	7.5	7.6	9.1	21	2.6
	6010B	Iron	10950 nc	1430	ug/l	5000	7900	**17000**	**17000**	**20000**		3600
	6010B	Magnesium	--[n]	15000	ug/l	13000	6100	4800	4800	6100	3400	3800
	6010B	Manganese	876 nc	1340	ug/l	360	360	**1500**	**1500**	**1300**	**1700**	**2000**
	6010B	Nickel	730 nc	83.4	ug/l	7.6	6.5	12	11	8.5	24	8.8
	6010B	Potassium	--[n]	5770	ug/l	1100	1300	1300	1300	2300	2000	1300
	6010B	Silver	182 nc	0.00	ug/l						0.93	
	6010B	Sodium	--[n]	51400	ug/l	8500	2900	3500	3500	14000	2000	8700
	6010B	Vanadium	36 nc	0.00	ug/l						1.4	
	6010B	Zinc	10950 nc	52.3	ug/l	40	15	38	34	40	11	26
	7060A	Arsenic	0.045 ca	0.00	ug/l			**1.1**	**0.92**			
	7470A	Mercury	11 nc	0.00	ug/l				0.24	0.4		0.16
VOCs	8260B	1,1,1-Trichloroethane	3172 nc	--	ug/l	10						
	8260B	1,1-Dichloroethane	811 nc	--	ug/l	2.2						
	8260B	1,1-Dichloroethene	339 nc	--	ug/l	2.6						
Explosives	8330	RDX	0.61 ca	--	ug/l							0.25
Other Analytes	353.2	Nitrate as N (NO3-N)	10000 nc	--	ug/l		330			58		

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analyte was a non-detect (with a "U" qualifier) or analysis was not performed
ug/l - means micrograms per Liter (parts per billion - ppb)
PRG - preliminary remediation goals
nc - non-cancer basis
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
UC/Filtered – GW sample was filtered for metals and taken from an unconsolidated MW
C/Filtered – GW sample was filtered for metals and taken from a consolidated (bedrock) MW
[n] - nutrient
U - analyte not detected
J - estimated value
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-001M-SO	LL7ss-002M-SO	LL7ss-003M-DUP	LL7ss-003M-SO	LL7ss-004M-SO	LL7ss-005D-SO	LL7ss-005M-SO	LL7ss-006M-SO	LL7ss-007M-SO	LL7ss-008M-SO	LL7ss-009M-SO	LL7ss-010M-SO	LL7ss-011M-SO	LL7ss-012M-SO
						Sample Date:	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/9/2004	11/9/2004
						Sample Depth:	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
Metals	6010B	Aluminum	7614	nc	17700	mg/kg	**7900**	**18000**	**9500**	**9300**	**9500**		6900	5100	**8300**	**8000**	**11000**	**11000**	**8400**	6300
	6010B	Arsenic	0.39	ca	15.4	mg/kg	**9.6**	**9.1**	**13**	**15**	**8.2**		**9.2**	**7.9**	**13**	**12**	**13**	**10**	**9.5**	**8.3**
	6010B	Barium	538	nc	88.4	mg/kg	92	160	57	55	100		86	51	71	66	81	70	70	42
	6010B	Beryllium	15	nc	0.88	mg/kg	0.87	2.8	0.69	0.69	1.2		0.63	0.63	0.62	0.65	0.88	0.77	0.64	0.54
	6010B	Cadmium	3.7	nc	0.00	mg/kg	0.39	0.13	0.135 U	0.135 U	1.4		0.49	0.71	0.125 U	0.135 U	0.13	0.12	0.084	0.22
	6010B	Calcium	--[n]		15800	mg/kg	53000	77000	3300	3100	59000		46000	14000	2600	7100	12000	1100	1300	1900
	6010B	Chromium	30	ca	17.4	mg/kg	17	22	22	19	**33**		18	14	24	21	22	17	19	14
	6010B	Cobalt	30	ca	10.4	mg/kg	6.1	4.7	8.7	8.8	5.5		6	3.8	7.9	8	11	10	8.6	6.2
	6010B	Copper	313	nc	17.7	mg/kg	16	12	16	16	37		18	71	22	19	25	12	12	12
	6010B	Iron	2346	nc	23100	mg/kg	**17000**	**15000**	**21000**	**22000**	**14000**		**15000**	**12000**	**20000**	**20000**	**23000**	**22000**	**18000**	**17000**
	6010B	Lead	400	pbk	26.1	mg/kg	39	11	16	16	160		42	78	85	35	45	16	22	24
	6010B	Magnesium	--[n]		3030	mg/kg	3000	9700	2500	2500	4500		2000	1800	1900	2000	4400	2500	1800	1700
	6010B	Manganese	176	nc	1450	mg/kg	**580**	**1600**	**530**	**530**	**850**		**560**	**380**	**540**	**590**	**500**	**580**	**500**	**300**
	6010B	Nickel	156	nc	21.1	mg/kg	18	14	19	20	19		17	13	20	19	29	19	17	14
	6010B	Potassium	--[n]		927	mg/kg	1000	1500	930	890	770		990	520	840	840	1400	1000	860	670
	6010B	Selenium	39	nc	1.4	mg/kg	0.6	1.4	0.86	0.64	1.2		0.66	0.61	0.63	0.72	0.69	0.56	0.46	0.6
	6010B	Silver	39	nc	0.00	mg/kg	0.5 U	0.5 U	0.55 U	0.55 U	0.55 U		0.5 U	0.55 U	0.5 U	0.55 U	0.485 U	0.5 U	0.5 U	0.5 U
	6010B	Sodium	--[n]		123	mg/kg	280	670	230	230	330		190	160 U	210	210	270	150 U	150 U	155 U
	6010B	Vanadium	7.8	nc	31.1	mg/kg	**12**	**13**	**17**	**17**	**12**		**12**	**8.2**	**16**	**16**	**19**	**21**	**16**	**12**
	6010B	Zinc	2346	nc	61.8	mg/kg	82	38	53	53	120		83	180	85	76	91	58	54	58
	7041	Antimony	3.1	nc	0.96	mg/kg	0.7 U	0.65 U	0.57	0.58	0.7 U		0.65 U	0.75 U	0.7 U	0.7 U	0.7 U	0.72	0.7 U	0.7 U
	7841	Thallium	0.52	nc	0.00	mg/kg	0.24	0.275 U	0.32 U	0.32 U	0.3 U		0.275 U	0.32 U	0.31	0.3 U	0.3 U	0.305 U	0.31 U	0.305 U
Pesticides	8081A	4,4'-DDD	2.4	ca	--	mg/kg							0.0085 U							
	8081A	4,4'-DDE	1.7	ca	--	mg/kg							0.01 U							
	8081A	4,4'-DDT	1.7	ca	--	mg/kg							0.0085 U							
	8081A	Aldrin	0.029	ca	--	mg/kg							0.0085 U							
	8081A	alpha-BHC	0.09	sat	--	mg/kg							0.0085 U							
	8081A	alpha-Chlordane	1.6	ca	--	mg/kg							0.0085 U							
	8081A	beta-BHC	0.32	ca	--	mg/kg							0.0085 U							
	8081A	delta-BHC	--		--	mg/kg							0.0085 U							
	8081A	Dieldrin	0.030	ca	--	mg/kg							0.0085 U							
	8081A	Endosulfan I	37	nc	--	mg/kg							0.0085 U							
	8081A	Endosulfan II	37	nc	--	mg/kg							0.0085 U							
	8081A	Endosulfan sulfate	37	nc	--	mg/kg							0.0085 U							
	8081A	Endrin	1.8	nc	--	mg/kg							0.0085 U							
	8081A	Endrin aldehyde	--		--	mg/kg							0.0085 U							
	8081A	Endrin ketone	--		--	mg/kg							0.0085 U							
	8081A	gamma-BHC	0.44	ca	--	mg/kg							0.0085 U							
	8081A	gamma-Chlordane	1.6	ca	--	mg/kg							0.0085 U							
	8081A	Heptachlor	0.11	ca	--	mg/kg							0.0085 U							
	8081A	Heptachlor epoxide	0.053	ca	--	mg/kg							0.0085 U							
	8081A	Methoxychlor	31	nc	--	mg/kg							0.041 U							
	8081A	Toxaphene	0.44	ca	--	mg/kg							0.085 U							

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-001M-SO	LL7ss-002M-SO	LL7ss-003M-DUP	LL7ss-003M-SO	LL7ss-004M-SO	LL7ss-005D-SO	LL7ss-005M-SO	LL7ss-006M-SO	LL7ss-007M-SO	LL7ss-008M-SO	LL7ss-009M-SO	LL7ss-010M-SO	LL7ss-011M-SO	LL7ss-012M-SO
						Sample Date:	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/9/2004	11/9/2004
						Sample Depth:	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
PCBs	8082	Aroclor 1016	0.39	nc	--	mg/kg							0.0165 U							
	8082	Aroclor 1221	0.22	ca	--	mg/kg							0.0165 U							
	8082	Aroclor 1232	0.22	ca	--	mg/kg							0.0085 U							
	8082	Aroclor 1242	0.22	ca	--	mg/kg							0.0165 U							
	8082	Aroclor 1248	0.22	ca	--	mg/kg							0.0085 U							
	8082	Aroclor 1254	0.22	ca	--	mg/kg							0.07							
	8082	Aroclor 1260	0.22	ca	--	mg/kg							0.0165 U							
VOCs	8260B	1,1,1-Trichloroethane	1200	sat	--	mg/kg						0.0032 U								
	8260B	1,1,2,2-Tetrachloroethane	0.41	ca	--	mg/kg						0.0032 U								
	8260B	1,1,2-Trichloroethane	0.73	ca	--	mg/kg						0.0032 U								
	8260B	1,1-Dichloroethane	51	nc	--	mg/kg						0.0032 U								
	8260B	1,1-Dichloroethene	12	nc	--	mg/kg						0.0032 U								
	8260B	1,2-Dibromoethane	0.032	ca	--	mg/kg						0.0032 U								
	8260B	1,2-Dichloroethane	0.28	ca	--	mg/kg						0.0032 U								
	8260B	1,2-Dichloroethene (total)	6.9	nc	--	mg/kg						0.0065 U								
	8260B	1,2-Dichloropropane	0.34	ca	--	mg/kg						0.0032 U								
	8260B	2-Butanone	2231	nc	--	mg/kg						0.0095 U								
	8260B	2-Hexanone	530	nc	--	mg/kg						0.0065 U								
	8260B	4-Methyl-2-pentanone	528	nc	--	mg/kg						0.0065 U								
	8260B	Acetone	1412	nc	--	mg/kg						0.0095 U								
	8260B	Benzene	0.64	ca	--	mg/kg						0.0032 U								
	8260B	Bromochloromethane	--		--	mg/kg						0.0032 U								
	8260B	Bromodichloromethane	0.82	ca	--	mg/kg						0.0032 U								
	8260B	Bromoform	62	ca	--	mg/kg						0.0032 U								
	8260B	Bromomethane	0.39	nc	--	mg/kg						0.0032 U								
	8260B	Carbon disulfide	36	nc	--	mg/kg						0.0032 U								
	8260B	Carbon tetrachloride	0.25	ca	--	mg/kg						0.0032 U								
	8260B	Chlorobenzene	15	nc	--	mg/kg						0.0032 U								
	8260B	Chloroethane	3.0	ca	--	mg/kg						0.0032 U								
	8260B	Chloroform	0.22	ca	--	mg/kg						0.0032 U								
	8260B	Chloromethane	4.7	nc	--	mg/kg						0.0032 U								
	8260B	cis-1,2-Dichloroethene	4.3	nc	--	mg/kg						0.0032 U								
	8260B	cis-1,3-Dichloropropene	0.78	ca	--	mg/kg						0.0032 U								
	8260B	Dibromochloromethane	1.1	ca	--	mg/kg						0.0032 U								
	8260B	Ethylbenzene	395	sat	--	mg/kg						0.0032 U								
	8260B	m&p-Xylenes	27	nc	--	mg/kg						0.0065 U								
	8260B	Methylene chloride	9.1	ca	--	mg/kg						0.0065 U								
	8260B	o-Xylene	27	nc	--	mg/kg						0.0032 U								
	8260B	Styrene	1700	sat	--	mg/kg						0.0032 U								
	8260B	Tetrachloroethene	0.48	ca	--	mg/kg						0.0032 U								
	8260B	Toluene	520	sat	--	mg/kg						0.0032 U								
	8260B	Total Xylenes	27	nc	--	mg/kg						0.0065 U								
	8260B	trans-1,2-Dichloroethene	6.9	nc	--	mg/kg						0.0032 U								
	8260B	trans-1,3-Dichloropropene	0.78	ca	--	mg/kg						0.0032 U								
	8260B	Trichloroethene	0.053	ca	--	mg/kg						0.0032 U								
	8260B	Vinyl chloride	0.079	ca	--	mg/kg						0.0032 U								

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-001M-SO	LL7ss-002M-SO	LL7ss-003M-DUP	LL7ss-003M-SO	LL7ss-004M-SO	LL7ss-005D-SO	LL7ss-005M-SO	LL7ss-006M-SO	LL7ss-007M-SO	LL7ss-008M-SO	LL7ss-009M-SO	LL7ss-010M-SO	LL7ss-011M-SO	LL7ss-012M-SO
					Sample Date:		11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/9/2004	11/9/2004
					Sample Depth:		0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
SVOCs	8270C	1,2,4-Trichlorobenzene	6.2	nc	--	mg/kg							0.085 U							
	8270C	1,2-Dichlorobenzene	600	sat	--	mg/kg							0.085 U							
	8270C	1,3-Dichlorobenzene	53	nc	--	mg/kg							0.085 U							
	8270C	1,4-Dichlorobenzene	3.4	ca	--	mg/kg							0.085 U							
	8270C	2,2-oxybis (1-chloropropane)	2.9	ca	--	mg/kg							0.085 U							
	8270C	2,4,5-Trichlorophenol	611	nc	--	mg/kg							0.165 U							
	8270C	2,4,6-Trichlorophenol	0.61	nc	--	mg/kg							0.085 U							
	8270C	2,4-Dichlorophenol	18	nc	--	mg/kg							0.165 U							
	8270C	2,4-Dimethylphenol	122	nc	--	mg/kg							0.165 U							
	8270C	2,4-Dinitrophenol	12	nc	--	mg/kg							- R							
	8270C	2,4-Dinitrotoluene	12	nc	--	mg/kg							0.0165 U							
	8270C	2,6-Dinitrotoluene	6.1	nc	--	mg/kg							0.0165 U							
	8270C	2-Chloronaphthalene	494	nc	--	mg/kg							0.085 U							
	8270C	2-Chlorophenol	6.3	nc	--	mg/kg							0.085 U							
	8270C	2-Methylnaphthalene	--		--	mg/kg							0.028 J							
	8270C	2-Methylphenol	306	nc	--	mg/kg							0.0335 U							
	8270C	2-Nitroaniline	18.3	nc	--	mg/kg							0.085 U							
	8270C	2-Nitrophenol	--		--	mg/kg							0.165 U							
	8270C	3,3'-Dichlorobenzidine	1.1	ca	--	mg/kg							0.085 UJ							
	8270C	3-Nitroaniline	1.8	nc	--	mg/kg							0.335 UJ							
	8270C	4,6-Dinitro-2-methylphenol	0.61	nc	--	mg/kg							0.335 UJ							
	8270C	4-Bromophenyl phenyl ether	--		--	mg/kg							0.085 U							
	8270C	4-Chloro-3-methylphenol	--		--	mg/kg							0.165 U							
	8270C	4-Chloroaniline	24	nc	--	mg/kg							0.335 UJ							
	8270C	4-Chlorophenyl phenyl ether	--		--	mg/kg							0.085 U							
	8270C	4-Methylphenol	31	nc	--	mg/kg							0.0335 U							
	8270C	4-Nitroaniline	23	ca	--	mg/kg							0.335 U							
	8270C	4-Nitrophenol	--		--	mg/kg							0.335 U							
	8270C	Acenaphthene	368	nc	--	mg/kg							0.11							
	8270C	Acenaphthylene	--		--	mg/kg							0.0165 U							
	8270C	Anthracene	2189	nc	--	mg/kg							0.31							
	8270C	Benzo(a)anthracene	0.62	ca	--	mg/kg							0.55							
	8270C	Benzo(a)pyrene	0.062	ca	--	mg/kg							**0.48**							
	8270C	Benzo(b)fluoranthene	0.62	ca	--	mg/kg							0.61							
	8270C	Benzo(g,h,i)perylene	--		--	mg/kg							0.25							
	8270C	Benzo(k)fluoranthene	6.2	ca	--	mg/kg							0.28							
	8270C	Benzoic acid	100000	max	--	mg/kg							- R							
	8270C	Benzyl alcohol	1833	nc	--	mg/kg							0.335 U							
	8270C	Bis(2-chloroethoxy)methane	--		--	mg/kg							0.0335 U							
	8270C	Bis(2-chloroethyl) ether	0.22	ca	--	mg/kg							0.0335 U							
	8270C	Bis(2-ethylhexyl) phthalate	35	ca	--	mg/kg							0.085 U							
	8270C	Butylbenzyl phthalate	1222	nc	--	mg/kg							0.0335 U							
	8270C	Carbazole	24	ca	--	mg/kg							0.085 U							
	8270C	Chrysene	62	ca	--	mg/kg							0.49							
	8270C	Dibenzo(a,h)anthracene	0.062	ca	--	mg/kg							0.061							
	8270C	Dibenzofuran	15	nc	--	mg/kg							0.06 J							
	8270C	Diethyl phthalate	4888	nc	--	mg/kg							0.0335 U							
	8270C	Dimethyl phthalate	100000	max	--	mg/kg							0.0335 U							
	8270C	Di-n-butyl phthalate	611	nc	--	mg/kg							0.085 U							
	8270C	Di-n-octyl phthalate	244	nc	--	mg/kg							0.165 U							
	8270C	Fluoranthene	229	nc	--	mg/kg							1.2							

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-001M-SO	LL7ss-002M-SO	LL7ss-002M-DUP	LL7ss-003M-SO	LL7ss-004M-SO	LL7ss-005D-SO	LL7ss-005M-SO	LL7ss-006M-SO	LL7ss-007M-SO	LL7ss-008M-SO	LL7ss-009M-SO	LL7ss-010M-SO	LL7ss-011M-SO	LL7ss-012M-SO
						Sample Date:	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/8/2004	11/8/2004	11/8/2004	11/9/2004	11/9/2004	11/9/2004
						Sample Depth:	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
	8270C	Fluorene	275	nc	--	mg/kg							0.12							
	8270C	Hexachlorobenzene	0.30	ca	--	mg/kg							0.0165 U							
	8270C	Hexachlorobutadiene	6.2	ca	--	mg/kg							0.085 U							
	8270C	Hexachlorocyclopentadiene	37	nc	--	mg/kg							0.5 UJ							
	8270C	Hexachloroethane	35	ca	--	mg/kg							0.085 UJ							
	8270C	Indeno(1,2,3-cd)pyrene	0.62	ca	--	mg/kg							0.2							
	8270C	Isophorone	512	ca	--	mg/kg							0.085 U							
	8270C	Naphthalene	5.6	nc	--	mg/kg							0.024 J							
	8270C	Nitrobenzene	2	nc	--	mg/kg							0.0165 U							
	8270C	n-Nitroso-di-n-propylamine	0.069	ca	--	mg/kg							0.0335 U							
	8270C	n-Nitrosodiphenylamine	99	ca	--	mg/kg							0.0165 U							
	8270C	Pentachlorophenol	3.0	ca	--	mg/kg							0.165 UJ							
	8270C	Phenanthrene	--		--	mg/kg							1.2							
	8270C	Phenol	1833	nc	--	mg/kg							0.085 U							
	8270C	Pyrene	232	nc	--	mg/kg							1							
Explosives	8330	1,3,5-Trinitrobenzene	183	nc	--	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.0495 U		0.0495 U	0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.0495 U	0.05 U
	8330	1,3-Dinitrobenzene	0.61	nc	--	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.0495 U		0.0495 U	0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.0495 U	0.05 U
	8330	2,4,6-TNT	16	ca	--	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.0495 U		0.0495 U	0.05 U	0.049 U	0.05 U	0.89	0.05 U	0.0495 U	0.05 U
	8330	2,4-Dinitrotoluene	12	nc	--	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.0495 U		0.0495 U	0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.0495 U	0.05 U
	8330	2,6-Dinitrotoluene	6.1	nc	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	2-Amino-4,6-Dinitrotoluene	--		--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	2-Nitrotoluene	0.88	ca	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	3-Nitrotoluene	73	nc	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	4-Amino-2,6-Dinitrotoluene	--		--	mg/kg	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U		0.15 U	0.15 U	0.145 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
	8330	4-Nitrotoluene	12	ca	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	HMX	306	nc	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.85	0.89
	8330	Nitrobenzene	2	nc	--	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.0495 U		0.0495 U	0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.0495 U	0.05 U
	8330	RDX	4.4	ca	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.53	0.1 U	0.084 J	0.44
	8330	Tetryl	61	nc	--	mg/kg	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.195 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Propellants	353.2 Modified	Nitrocellulose	--		--	mg/kg	1 U		0.85 U	0.85 U			9.4 J		1.2 U		156 J		0.8 U	
	8332	Nitroglycerine	35	ca	--	mg/kg	0.25 U		0.25 U	0.25 U			0.245 U		0.25 U		18		0.25 U	
	SW8330 Modified	Nitroguanidine	611	nc	--	mg/kg	0.125 U		0.125 U	0.125 U			0.125 U		0.125 U		0.125 U		0.125 U	
Other Analytes	353.2	Nitrate as N (NO3-N)	NA		--	mg/kg	0.95 U	1.05 U	2.9	3.2	6.5		3.1	9.1	0.95 U	0.93	1.5	0.84	1.1	0.96

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
R - result rejected during ADR validation
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style.
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style.

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-013D-DUP	LL7ss-013D-SO	LL7ss-013M-DUP	LL7ss-013M-SO	LL7ss-014M-SO	LL7ss-015M-SO	LL7ss-016M-SO	LL7ss-017M-SO	LL7ss-018M-QA	LL7ss-018M-SO	LL7ss-019M-SO	LL7ss-020M-SO	LL7ss-021M-SO	LL7ss-022M-SO
						Sample Date:	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/8/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004
						Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
Metals	6010B	Aluminum	7614	nc	17700	mg/kg			**8800**	**8900**	**8900**	**9400**	7600	**15000**	**12000**	**13000**	**14000**	**13000**	**12000**	6900
	6010B	Arsenic	0.39	ca	15.4	mg/kg			**10**	**10**	**9**	**16**	**10**	**9.1**	**8**	**7.9**	**14**	**13**	**10**	**9.8**
	6010B	Barium	538	nc	88.4	mg/kg			62	63	56	76	52	130	110	120	63	89	72	46
	6010B	Beryllium	15	nc	0.88	mg/kg			0.73	0.71	0.75	0.84	0.65	2.1	1.5	1.9	0.76	0.89	0.7	0.62
	6010B	Cadmium	3.7	nc	0.00	mg/kg			0.3	0.36 J	0.2	0.08	0.19	0.95	0.44	0.4	0.125 U	0.135 U	0.135 U	0.22
	6010B	Calcium	--[n]		15800	mg/kg			3700	3200 J	11000	8300	2100	42000	49000	51000	3400	1500	1000	3200
	6010B	Chromium	30	ca	17.4	mg/kg			18	18	14	21	14	30	29	28	25	25	21	21
	6010B	Cobalt	30	ca	10.4	mg/kg			8.7	8.1	7.5	9.4	8.6	5.1	5.9	6.2	7.9	9.1	8.2	6.2
	6010B	Copper	313	nc	17.7	mg/kg			15	15	14	20	13	28	20	88	17	11	14	17
	6010B	Iron	2346	nc	23100	mg/kg			**19000**	**19000**	**16000**	**22000**	**18000**	**16000**	**15000**	**16000**	**26000**	**28000**	**22000**	**18000**
	6010B	Lead	400	pbk	26.1	mg/kg			43	64 J	15	49	26	59	47	44	19	20	17	34
	6010B	Magnesium	--[n]		3030	mg/kg			2100	2000	2800	3100	1700	7700	5600	6500	3100	2400	2300	1700
	6010B	Manganese	176	nc	1450	mg/kg			**510**	**490**	**490**	**660**	**520**	**1100**	**990**	**1200**	**370**	**800**	**440**	**290**
	6010B	Nickel	156	nc	21.1	mg/kg			16	17	14	22	14	18	17	17	21	18	20	17
	6010B	Potassium	--[n]		927	mg/kg			790	780 J	930	970	690	1300	1300	1300	1200	1200	930	760
	6010B	Selenium	39	nc	1.4	mg/kg			0.79	0.96	0.8	0.48	0.66	1.3	1.1	1.4	0.93	1	0.66	0.84
	6010B	Silver	39	nc	0.00	mg/kg			0.55 U	0.49 U	0.59	0.455 U	0.47 U	0.55 U	0.55 U	0.55 U	0.5 U	0.55 U	0.55 U	0.48 U
	6010B	Sodium	--[n]		123	mg/kg			160 U	145 U	320	240	140 U	510	400	450	320	320	310	280
	6010B	Vanadium	7.8	nc	31.1	mg/kg			**17**	**17**	**14**	**18**	**16**	**15**	**15**	**14**	**24**	**28**	**23**	**13**
	6010B	Zinc	2346	nc	61.8	mg/kg			67	70	57	110	63	92	84	77	74	83	68	78
	7041	Antimony	3.1	nc	0.96	mg/kg			0.58	0.57 J	0.65 U	0.7 U	0.7 U	0.75 U	0.75 U	0.8 U	0.75 U	0.75 U	0.75 U	0.7 U
	7841	Thallium	0.52	nc	0.00	mg/kg			0.315 U	0.32 U	0.275 U	0.29 U	0.29 U	0.315 U	0.33 U	0.335 U	0.315 U	0.33 U	0.315 U	0.29 U
Pesticides	8081A	4,4'-DDD	2.4	ca	--	mg/kg			0.0009 U	0.009 U										
	8081A	4,4'-DDE	1.7	ca	--	mg/kg			0.00105 U	0.0105 U										
	8081A	4,4'-DDT	1.7	ca	--	mg/kg			0.0009 U	0.009 U										
	8081A	Aldrin	0.029	ca	--	mg/kg			0.0009 UJ	0.009 UJ										
	8081A	alpha-BHC	0.09	sat	--	mg/kg			0.0009 U	0.009 U										
	8081A	alpha-Chlordane	1.6	ca	--	mg/kg			0.0009 U	0.009 U										
	8081A	beta-BHC	0.32	ca	--	mg/kg			0.0009 U	0.009 UJ										
	8081A	delta-BHC	--		--	mg/kg			0.0009 U	0.009 U										
	8081A	Dieldrin	0.030	ca	--	mg/kg			0.0009 U	0.009 U										
	8081A	Endosulfan I	37	nc	--	mg/kg			0.0009 UJ	0.009 UJ										
	8081A	Endosulfan II	37	nc	--	mg/kg			0.0009 U	0.009 U										
	8081A	Endosulfan sulfate	37	nc	--	mg/kg			0.0009 U	0.009 U										
	8081A	Endrin	1.8	nc	--	mg/kg			0.0009 U	0.009 U										
	8081A	Endrin aldehyde	--		--	mg/kg			0.0009 U	0.009 UJ										
	8081A	Endrin ketone	--		--	mg/kg			0.0009 U	0.009 U										
	8081A	gamma-BHC	0.44	ca	--	mg/kg			0.0009 U	0.009 U										
	8081A	gamma-Chlordane	1.6	ca	--	mg/kg			0.0009 U	0.009 U										
	8081A	Heptachlor	0.11	ca	--	mg/kg			0.0009 UJ	0.009 UJ										
	8081A	Heptachlor epoxide	0.053	ca	--	mg/kg			0.0009 U	0.009 U										
	8081A	Methoxychlor	31	nc	--	mg/kg			0.0043 U	0.044 UJ										
	8081A	Toxaphene	0.44	ca	--	mg/kg			0.0085 U	0.09 U										

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-013D-DUP	LL7ss-013D-SO	LL7ss-013M-DUP	LL7ss-013M-SO	LL7ss-014M-SO	LL7ss-015M-SO	LL7ss-016M-SO	LL7ss-017M-SO	LL7ss-018M-QA	LL7ss-018M-SO	LL7ss-019M-SO	LL7ss-020M-SO	LL7ss-021M-SO	LL7ss-022M-SO
					Sample Date:		11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/8/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004
					Sample Depth:		0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
PCBs	8082	Aroclor 1016	0.39	nc	--	mg/kg			0.017 U	0.0175 U										
	8082	Aroclor 1221	0.22	ca	--	mg/kg			0.017 U	0.0175 U										
	8082	Aroclor 1232	0.22	ca	--	mg/kg			0.0085 U	0.009 U										
	8082	Aroclor 1242	0.22	ca	--	mg/kg			0.017 U	0.0175 U										
	8082	Aroclor 1248	0.22	ca	--	mg/kg			0.0085 U	0.009 U										
	8082	Aroclor 1254	0.22	ca	--	mg/kg			0.017 U	0.0175 U										
	8082	Aroclor 1260	0.22	ca	--	mg/kg			0.017 U	0.0175 U										
VOCs	8260B	1,1,1-Trichloroethane	1200	sat	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	1,1,2,2-Tetrachloroethane	0.41	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	1,1,2-Trichloroethane	0.73	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	1,1-Dichloroethane	51	nc	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	1,1-Dichloroethene	12	nc	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	1,2-Dibromoethane	0.032	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	1,2-Dichloroethane	0.28	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	1,2-Dichloroethene (total)	6.9	nc	--	mg/kg	0.0065 U	0.0065 UJ												
	8260B	1,2-Dichloropropane	0.34	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	2-Butanone	2231	nc	--	mg/kg	0.0095 U	0.0095 U												
	8260B	2-Hexanone	530	nc	--	mg/kg	0.0065 U	0.0065 U												
	8260B	4-Methyl-2-pentanone	528	nc	--	mg/kg	0.0065 U	0.0065 U												
	8260B	Acetone	1412	nc	--	mg/kg	0.0095 U	0.0095 U												
	8260B	Benzene	0.64	ca	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Bromochloromethane	--		--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Bromodichloromethane	0.82	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	Bromoform	62	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	Bromomethane	0.39	nc	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Carbon disulfide	36	nc	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Carbon tetrachloride	0.25	ca	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Chlorobenzene	15	nc	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Chloroethane	3.0	ca	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Chloroform	0.22	ca	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Chloromethane	4.7	nc	--	mg/kg	0.00315 U	0.00315 U												
	8260B	cis-1,2-Dichloroethene	4.3	nc	--	mg/kg	0.00315 U	0.00315 U												
	8260B	cis-1,3-Dichloropropene	0.78	ca	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Dibromochloromethane	1.1	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	Ethylbenzene	395	sat	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	m&p-Xylenes	27	nc	--	mg/kg	0.0065 U	0.0065 UJ												
	8260B	Methylene chloride	9.1	ca	--	mg/kg	0.0065 U	0.0065 U												
	8260B	o-Xylene	27	nc	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Styrene	1700	sat	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Tetrachloroethene	0.48	ca	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Toluene	520	sat	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Total Xylenes	27	nc	--	mg/kg	0.0065 U	0.0065 UJ												
	8260B	trans-1,2-Dichloroethene	6.9	nc	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	trans-1,3-Dichloropropene	0.78	ca	--	mg/kg	0.00315 U	0.00315 U												
	8260B	Trichloroethene	0.053	ca	--	mg/kg	0.00315 U	0.00315 UJ												
	8260B	Vinyl chloride	0.079	ca	--	mg/kg	0.00315 U	0.00315 UJ												

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-013D-DUP	LL7ss-013D-SO	LL7ss-013M-DUP	LL7ss-013M-SO	LL7ss-014M-SO	LL7ss-015M-SO	LL7ss-016M-SO	LL7ss-017M-SO	LL7ss-018M-QA	LL7ss-018M-SO	LL7ss-019M-SO	LL7ss-020M-SO	LL7ss-021M-SO	LL7ss-022M-SO
					Sample Date:		11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/8/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004
					Sample Depth:		0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
SVOCs	8270C	1,2,4-Trichlorobenzene	6.2	nc	--	mg/kg			0.09 U	0.09 U										
	8270C	1,2-Dichlorobenzene	600	sat	--	mg/kg			0.09 U	0.09 U										
	8270C	1,3-Dichlorobenzene	53	nc	--	mg/kg			0.09 U	0.09 U										
	8270C	1,4-Dichlorobenzene	3.4	ca	--	mg/kg			0.09 U	0.09 U										
	8270C	2,2-oxybis (1-chloropropane)	2.9	ca	--	mg/kg			0.09 U	0.09 U										
	8270C	2,4,5-Trichlorophenol	611	nc	--	mg/kg			0.175 U	0.175 U										
	8270C	2,4,6-Trichlorophenol	0.61	nc	--	mg/kg			0.09 U	0.09 U										
	8270C	2,4-Dichlorophenol	18	nc	--	mg/kg			0.175 U	0.175 U										
	8270C	2,4-Dimethylphenol	122	nc	--	mg/kg			0.175 U	0.175 U										
	8270C	2,4-Dinitrophenol	12	nc	--	mg/kg			- R	- R										
	8270C	2,4-Dinitrotoluene	12	nc	--	mg/kg			0.0175 U	0.0175 U										
	8270C	2,6-Dinitrotoluene	6.1	nc	--	mg/kg			0.0175 U	0.0175 U										
	8270C	2-Chloronaphthalene	494	nc	--	mg/kg			0.09 U	0.09 U										
	8270C	2-Chlorophenol	6.3	nc	--	mg/kg			0.09 U	0.09 U										
	8270C	2-Methylnaphthalene	--		--	mg/kg			0.1	0.088										
	8270C	2-Methylphenol	306	nc	--	mg/kg			0.0355 U	0.0355 U										
	8270C	2-Nitroaniline	18.3	nc	--	mg/kg			0.09 U	0.09 U										
	8270C	2-Nitrophenol	--		--	mg/kg			0.175 U	0.175 U										
	8270C	3,3'-Dichlorobenzidine	1.1	ca	--	mg/kg			0.09 U	0.09 UJ										
	8270C	3-Nitroaniline	1.8	nc	--	mg/kg			0.355 U	0.355 U										
	8270C	4,6-Dinitro-2-methylphenol	0.61	nc	--	mg/kg			0.355 U	0.355 U										
	8270C	4-Bromophenyl phenyl ether	--		--	mg/kg			0.09 U	0.09 U										
	8270C	4-Chloro-3-methylphenol	--		--	mg/kg			0.175 U	0.175 U										
	8270C	4-Chloroaniline	24	nc	--	mg/kg			0.355 U	0.355 U										
	8270C	4-Chlorophenyl phenyl ether	--		--	mg/kg			0.09 U	0.09 U										
	8270C	4-Methylphenol	31	nc	--	mg/kg			0.014 J	0.0355 U										
	8270C	4-Nitroaniline	23	ca	--	mg/kg			0.355 U	0.355 U										
	8270C	4-Nitrophenol	--		--	mg/kg			0.355 U	0.355 U										
	8270C	Acenaphthene	368	nc	--	mg/kg			0.97	0.83										
	8270C	Acenaphthylene	--		--	mg/kg			0.0175 U	0.0175 U										
	8270C	Anthracene	2189	nc	--	mg/kg			1.8	1.5										
	8270C	Benzo(a)anthracene	0.62	ca	--	mg/kg			**3.6**	**3.1**										
	8270C	Benzo(a)pyrene	0.062	ca	--	mg/kg			**2.9**	**2.3 J**										
	8270C	Benzo(b)fluoranthene	0.62	ca	--	mg/kg			**3.4**	**3**										
	8270C	Benzo(g,h,i)perylene	--		--	mg/kg			1.2	0.88										
	8270C	Benzo(k)fluoranthene	6.2	ca	--	mg/kg			2	1.9										
	8270C	Benzoic acid	100000	max	--	mg/kg			- R	- R										
	8270C	Benzyl alcohol	1833	nc	--	mg/kg			0.355 U	0.355 U										
	8270C	Bis(2-chloroethoxy)methane	--		--	mg/kg			0.0355 U	0.0355 U										
	8270C	Bis(2-chloroethyl) ether	0.22	ca	--	mg/kg			0.0355 U	0.0355 U										
	8270C	Bis(2-ethylhexyl) phthalate	35	ca	--	mg/kg			0.09 U	0.09 U										
	8270C	Butylbenzyl phthalate	1222	nc	--	mg/kg			0.0355 U	0.0355 U										
	8270C	Carbazole	24	ca	--	mg/kg			1	0.85										
	8270C	Chrysene	62	ca	--	mg/kg			4	3.3 J										
	8270C	Dibenzo(a,h)anthracene	0.062	ca	--	mg/kg			**0.46**	**0.42**										
	8270C	Dibenzofuran	15	nc	--	mg/kg			0.25	0.21										
	8270C	Diethyl phthalate	4888	nc	--	mg/kg			0.0355 U	0.0355 U										
	8270C	Dimethyl phthalate	100000	max	--	mg/kg			0.0355 U	0.0355 U										
	8270C	Di-n-butyl phthalate	611	nc	--	mg/kg			0.09 U	0.09 U										
	8270C	Di-n-octyl phthalate	244	nc	--	mg/kg			0.175 U	0.175 U										
	8270C	Fluoranthene	229	nc	--	mg/kg			9	8.2										

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-013D-DUP	LL7ss-013D-SO	LL7ss-013M-DUP	LL7ss-013M-SO	LL7ss-014M-SO	LL7ss-015M-SO	LL7ss-016M-SO	LL7ss-017M-SO	LL7ss-018M-QA	LL7ss-018M-SO	LL7ss-019M-SO	LL7ss-020M-SO	LL7ss-021M-SO	LL7ss-022M-SO
						Sample Date:	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/9/2004	11/8/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004
						Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-0.5 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
	8270C	Fluorene	275	nc	--	mg/kg			0.53	0.45										
	8270C	Hexachlorobenzene	0.30	ca	--	mg/kg			0.0175 U	0.0175 U										
	8270C	Hexachlorobutadiene	6.2	ca	--	mg/kg			0.09 U	0.09 U										
	8270C	Hexachlorocyclopentadiene	37	nc	--	mg/kg			0.55 U	0.55 UJ										
	8270C	Hexachloroethane	35	ca	--	mg/kg			0.09 U	0.09 U										
	8270C	Indeno(1,2,3-cd)pyrene	0.62	ca	--	mg/kg			**1**	**0.83**										
	8270C	Isophorone	512	ca	--	mg/kg			0.09 U	0.09 U										
	8270C	Naphthalene	5.6	nc	--	mg/kg			0.2	0.17										
	8270C	Nitrobenzene	2	nc	--	mg/kg			0.0175 U	0.0175 U										
	8270C	n-Nitroso-di-n-propylamine	0.069	ca	--	mg/kg			0.0355 U	0.0355 U										
	8270C	n-Nitrosodiphenylamine	99	ca	--	mg/kg			0.0175 U	0.0175 U										
	8270C	Pentachlorophenol	3.0	ca	--	mg/kg			0.175 U	0.175 U										
	8270C	Phenanthrene	--		--	mg/kg			6.1	5.2										
	8270C	Phenol	1833	nc	--	mg/kg			0.09 U	0.09 U										
	8270C	Pyrene	232	nc	--	mg/kg			6.5	5.9										
Explosives	8330	1,3,5-Trinitrobenzene	183	nc	--	mg/kg			0.05 U	0.0495 U	0.0495 U	0.0495 U	0.0495 U	0.0495 U	0.05 U	0.05 U	0.0495 U	0.0495 U	0.05 U	0.049 U
	8330	1,3-Dinitrobenzene	0.61	nc	--	mg/kg			0.05 U	0.0495 U	0.0495 U	0.0495 U	0.0495 U	0.0495 U	0.05 U	0.05 U	0.0495 U	0.0495 U	0.05 U	0.049 U
	8330	2,4,6-TNT	16	ca	--	mg/kg			0.05 U	0.0495 U	2.7	0.0495 U	0.0495 U	0.085 J	0.05 U	0.05 U	0.0495 U	0.0495 U	0.05 U	0.049 U
	8330	2,4-Dinitrotoluene	12	nc	--	mg/kg			0.05 U	0.0495 U	0.0495 U	0.0495 U	0.0495 U	0.0495 U	0.05 U	0.05 U	0.0495 U	0.0495 U	0.05 U	0.049 U
	8330	2,6-Dinitrotoluene	6.1	nc	--	mg/kg			0.15 J	0.28	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	2-Amino-4,6-Dinitrotoluene	--		--	mg/kg			0.1 U	0.1 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	2-Nitrotoluene	0.88	ca	--	mg/kg			0.11 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	3-Nitrotoluene	73	nc	--	mg/kg			0.1 U	0.13 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	4-Amino-2,6-Dinitrotoluene	--		--	mg/kg			0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.145 U
	8330	4-Nitrotoluene	12	ca	--	mg/kg			0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	HMX	306	nc	--	mg/kg			0.1 U	0.15 J	7.9	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	Nitrobenzene	2	nc	--	mg/kg			0.05 U	0.0495 U	0.0495 U	0.0495 U	0.0495 U	0.0495 U	0.05 U	0.05 U	0.0495 U	0.0495 U	0.05 U	0.049 U
	8330	RDX	4.4	ca	--	mg/kg			0.1 U	0.1 U	**45**	0.1 U	0.1 U	0.1 U	4.4	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	8330	Tetryl	61	nc	--	mg/kg			0.2 U	0.195 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.195 U	0.2 U	0.2 U	0.195 U
Propellants	353.2 Modified	Nitrocellulose	--		--	mg/kg			0.8 U	0.6 UJ		0.55 U		6.3 J			0.5 U		0.465 U	
	8332	Nitroglycerine	35	ca	--	mg/kg			0.25 U	0.25 U		0.25 U		2.9			0.25 U		0.25 U	
	SW8330 Modified	Nitroguanidine	611	nc	--	mg/kg			0.125 U	0.125 U		0.125 U		0.125 U			0.125 U		0.125 U	
Other Analytes	353.2	Nitrate as N (NO3-N)	NA		--	mg/kg			2.2	1.4 J	0.71	0.65	0.95 U	4	5.3	4.4	1.3	0.92	0.86	0.84

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
R - result rejected during ADR validation
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-023D-SO	LL7ss-023M-SO	LL7ss-024M-DUP	LL7ss-024M-SO	LL7ss-025M-SO	LL7ss-026M-SO	LL7ss-027M-SO	LL7ss-028M-SO	LL7ss-030M-SO	LL7ss-031M-SO	LL7ss-032D-SO	LL7ss-032M-SO	LL7ss-033M-DUP	LL7ss-033M-SO
					Sample Date:		11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/9/2004	11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/18/2004	11/18/2004
					Sample Depth:		0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
Metals	6010B	Aluminum	7614	nc	17700	mg/kg		**12000**	**13000**	**13000**	**12000**	**11000**	**8700**	**9100**	**11000**	**9300**		**14000**	**12000**	6900
	6010B	Arsenic	0.39	ca	15.4	mg/kg		**14**	**13**	**13**	**13**	**13 J**	**11**	**9**	**12**	**14**		**12**	**8.8**	**9.4**
	6010B	Barium	538	nc	88.4	mg/kg		86	78	80	67	100	66	87	52	66		83	120	50
	6010B	Beryllium	15	nc	0.88	mg/kg		0.92	0.8	0.81	0.71	0.9	0.79	1.7	0.59	0.7		0.88	0.82	0.47
	6010B	Cadmium	3.7	nc	0.00	mg/kg		0.11	0.13 U	0.135 U	0.12 U	0.13 U	0.13 U	0.47	0.18	0.19		0.11	0.135 U	0.12 U
	6010B	Calcium	--[n]		15800	mg/kg		2900	1700	1700	1300	1700	3800	9300	5200	2000		3400	710	1000
	6010B	Chromium	30	ca	17.4	mg/kg		19	24	24	24	19	27	17	16	17		25	23	14
	6010B	Cobalt	30	ca	10.4	mg/kg		10	8.4	9.1	7.9	9.6	7.8	6.2	7	7.7		13	11	5.8
	6010B	Copper	313	nc	17.7	mg/kg		16	16	14	13	9.4	19	13	16	13		20	10	10
	6010B	Iron	2346	nc	23100	mg/kg		**27000**	**29000**	**29000**	**23000**	**25000**	**22000**	**15000**	**18000**	**22000**		**25000**	**20000**	**16000**
	6010B	Lead	400	pbk	26.1	mg/kg		19	19	20	15	20	21	18	19	20		20	22	23
	6010B	Magnesium	--[n]		3030	mg/kg		2300	2400	2400	2100	1700	2400	3200	2000	1900		3400	2200	1200
	6010B	Manganese	176	nc	1450	mg/kg		**610**	**530**	**620**	**620**	**1100**	**360**	**750**	**390**	**630**		**550**	**1400**	**510**
	6010B	Nickel	156	nc	21.1	mg/kg		20	19	19	16	14	23	21	15	16		25	20	12
	6010B	Potassium	--[n]		927	mg/kg		1100	1100	1100	1200	910 J	910	720	1100	760		1800	980	780
	6010B	Selenium	39	nc	1.4	mg/kg		0.8	1.2	1.1	0.89	0.82	0.82	0.8	0.51	0.88		0.82	0.91	0.63
	6010B	Silver	39	nc	0.00	mg/kg		0.49 U	0.5 U	0.55 U	1.6	0.5 U	80	0.5 U	0.46 U	0.55 U		0.47 U	0.55 U	0.48 U
	6010B	Sodium	--[n]		123	mg/kg		150 U	370	360	330	310	310	155 U	320	160 U		380	290	190
	6010B	Vanadium	7.8	nc	31.1	mg/kg		**23**	**28**	**27**	**26**	**25**	**16**	**11**	**16**	**20**		**25**	**23**	**15**
	6010B	Zinc	2346	nc	61.8	mg/kg		60	100	94	66	56	70	85	55	81		110	59	100
	7041	Antimony	3.1	nc	0.96	mg/kg		0.7 U	0.75 U	0.7 U	0.7 U	- R	0.75 U	0.53	0.48	0.6		0.7 U	0.54	0.65 U
	7841	Thallium	0.52	nc	0.00	mg/kg		0.29 U	0.315 U	0.3 U	0.305 U	0.285 U	0.27	0.25	0.27 U	0.305 U		0.295 U	0.32 U	0.28 U
Pesticides	8081A	4,4'-DDD	2.4	ca	--	mg/kg		0.00085 U										0.00085 U		
	8081A	4,4'-DDE	1.7	ca	--	mg/kg		0.00095 U										0.001 U		
	8081A	4,4'-DDT	1.7	ca	--	mg/kg		0.00085 U										0.00085 U		
	8081A	Aldrin	0.029	ca	--	mg/kg		0.00085 UJ										0.00085 UJ		
	8081A	alpha-BHC	0.09	sat	--	mg/kg		0.00085 U										0.00085 U		
	8081A	alpha-Chlordane	1.6	ca	--	mg/kg		0.00085 U										0.00085 U		
	8081A	beta-BHC	0.32	ca	--	mg/kg		0.00085 U										0.00085 U		
	8081A	delta-BHC	--		--	mg/kg		0.00085 U										0.00085 U		
	8081A	Dieldrin	0.030	ca	--	mg/kg		0.00085 U										0.00085 U		
	8081A	Endosulfan I	37	nc	--	mg/kg		0.00085 UJ										0.00085 UJ		
	8081A	Endosulfan II	37	nc	--	mg/kg		0.00085 U										0.00085 U		
	8081A	Endosulfan sulfate	37	nc	--	mg/kg		0.00085 U										0.00085 U		
	8081A	Endrin	1.8	nc	--	mg/kg		0.00085 U										0.00085 U		
	8081A	Endrin aldehyde	--		--	mg/kg		0.00085 U										0.00085 U		
	8081A	Endrin ketone	--		--	mg/kg		0.00085 U										0.00085 U		
	8081A	gamma-BHC	0.44	ca	--	mg/kg		0.00085 U										0.00085 U		
	8081A	gamma-Chlordane	1.6	ca	--	mg/kg		0.00085 U										0.00085 U		
	8081A	Heptachlor	0.11	ca	--	mg/kg		0.00085 UJ										0.00085 UJ		
	8081A	Heptachlor epoxide	0.053	ca	--	mg/kg		0.00085 U										0.00085 U		
	8081A	Methoxychlor	31	nc	--	mg/kg		0.00405 U										0.00415 U		
	8081A	Toxaphene	0.44	ca	--	mg/kg		0.008 U										0.0085 U		

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-023D-SO	LL7ss-023M-SO	LL7ss-024M-DUP	LL7ss-024M-SO	LL7ss-025M-SO	LL7ss-026M-SO	LL7ss-027M-SO	LL7ss-028M-SO	LL7ss-030M-SO	LL7ss-031M-SO	LL7ss-032D-SO	LL7ss-032M-SO	LL7ss-033M-DUP	LL7ss-033M-SO
					Sample Date:		11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/9/2004	11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/18/2004	11/18/2004
					Sample Depth:		0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
PCBs	8082	Aroclor 1016	0.39	nc	--	mg/kg		0.016 U										0.0165 U		
	8082	Aroclor 1221	0.22	ca	--	mg/kg		0.016 U										0.0165 U		
	8082	Aroclor 1232	0.22	ca	--	mg/kg		0.008 U										0.0085 U		
	8082	Aroclor 1242	0.22	ca	--	mg/kg		0.016 U										0.0165 U		
	8082	Aroclor 1248	0.22	ca	--	mg/kg		0.008 U										0.0085 U		
	8082	Aroclor 1254	0.22	ca	--	mg/kg		0.016 U										0.0165 U		
	8082	Aroclor 1260	0.22	ca	--	mg/kg		0.016 U										0.0165 U		
VOCs	8260B	1,1,1-Trichloroethane	1200	sat	--	mg/kg	0.0033 U										0.0036 U			
	8260B	1,1,2,2-Tetrachloroethane	0.41	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	1,1,2-Trichloroethane	0.73	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	1,1-Dichloroethane	51	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	1,1-Dichloroethene	12	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	1,2-Dibromoethane	0.032	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	1,2-Dichloroethane	0.28	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	1,2-Dichloroethene (total)	6.9	nc	--	mg/kg	0.0065 U										0.007 U			
	8260B	1,2-Dichloropropane	0.34	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	2-Butanone	2231	nc	--	mg/kg	0.01 U										0.011 U			
	8260B	2-Hexanone	530	nc	--	mg/kg	0.0065 U										0.007 U			
	8260B	4-Methyl-2-pentanone	528	nc	--	mg/kg	0.0065 U										0.007 U			
	8260B	Acetone	1412	nc	--	mg/kg	0.011 J										0.011 U			
	8260B	Benzene	0.64	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Bromochloromethane	--		--	mg/kg	0.0033 U										0.0036 U			
	8260B	Bromodichloromethane	0.82	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Bromoform	62	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Bromomethane	0.39	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Carbon disulfide	36	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Carbon tetrachloride	0.25	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Chlorobenzene	15	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Chloroethane	3.0	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Chloroform	0.22	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Chloromethane	4.7	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	cis-1,2-Dichloroethene	4.3	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	cis-1,3-Dichloropropene	0.78	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Dibromochloromethane	1.1	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Ethylbenzene	395	sat	--	mg/kg	0.0033 U										0.0036 U			
	8260B	m&p-Xylenes	27	nc	--	mg/kg	0.0065 U										0.007 U			
	8260B	Methylene chloride	9.1	ca	--	mg/kg	0.0065 U										0.007 U			
	8260B	o-Xylene	27	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Styrene	1700	sat	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Tetrachloroethene	0.48	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Toluene	520	sat	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Total Xylenes	27	nc	--	mg/kg	0.0065 U										0.007 U			
	8260B	trans-1,2-Dichloroethene	6.9	nc	--	mg/kg	0.0033 U										0.0036 U			
	8260B	trans-1,3-Dichloropropene	0.78	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Trichloroethene	0.053	ca	--	mg/kg	0.0033 U										0.0036 U			
	8260B	Vinyl chloride	0.079	ca	--	mg/kg	0.0033 U										0.0036 U			

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-023D-SO	LL7ss-023M-SO	LL7ss-024M-DUP	LL7ss-024M-SO	LL7ss-025M-SO	LL7ss-026M-SO	LL7ss-027M-SO	LL7ss-028M-SO	LL7ss-030M-SO	LL7ss-031M-SO	LL7ss-032D-SO	LL7ss-032M-SO	LL7ss-033M-DUP	LL7ss-033M-SO
					Sample Date:		11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/9/2004	11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/18/2004	11/18/2004
					Sample Depth:		0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
SVOCs	8270C	1,2,4-Trichlorobenzene	6.2	nc	--	mg/kg		0.085 U										0.08 U		
	8270C	1,2-Dichlorobenzene	600	sat	--	mg/kg		0.085 U										0.08 U		
	8270C	1,3-Dichlorobenzene	53	nc	--	mg/kg		0.085 U										0.08 U		
	8270C	1,4-Dichlorobenzene	3.4	ca	--	mg/kg		0.085 U										0.08 U		
	8270C	2,2-oxybis (1-chloropropane)	2.9	ca	--	mg/kg		0.085 U										0.08 U		
	8270C	2,4,5-Trichlorophenol	611	nc	--	mg/kg		0.165 U										0.16 U		
	8270C	2,4,6-Trichlorophenol	0.61	nc	--	mg/kg		0.085 U										0.08 U		
	8270C	2,4-Dichlorophenol	18	nc	--	mg/kg		0.165 U										0.16 U		
	8270C	2,4-Dimethylphenol	122	nc	--	mg/kg		0.165 U										0.16 U		
	8270C	2,4-Dinitrophenol	12	nc	--	mg/kg		- R										0.33 U		
	8270C	2,4-Dinitrotoluene	12	nc	--	mg/kg		0.0165 U										0.016 U		
	8270C	2,6-Dinitrotoluene	6.1	nc	--	mg/kg		0.0165 U										0.016 U		
	8270C	2-Chloronaphthalene	494	nc	--	mg/kg		0.085 U										0.08 U		
	8270C	2-Chlorophenol	6.3	nc	--	mg/kg		0.085 U										0.08 U		
	8270C	2-Methylnaphthalene	--		--	mg/kg		0.0165 U										0.016 U		
	8270C	2-Methylphenol	306	nc	--	mg/kg		0.0335 U										0.033 U		
	8270C	2-Nitroaniline	18.3	nc	--	mg/kg		0.085 U										0.08 U		
	8270C	2-Nitrophenol	--		--	mg/kg		0.165 U										0.16 U		
	8270C	3,3'-Dichlorobenzidine	1.1	ca	--	mg/kg		0.085 U										0.08 U		
	8270C	3-Nitroaniline	1.8	nc	--	mg/kg		0.335 U										0.33 U		
	8270C	4,6-Dinitro-2-methylphenol	0.61	nc	--	mg/kg		0.335 U										0.33 U		
	8270C	4-Bromophenyl phenyl ether	--		--	mg/kg		0.085 U										0.08 U		
	8270C	4-Chloro-3-methylphenol	--		--	mg/kg		0.165 U										0.16 U		
	8270C	4-Chloroaniline	24	nc	--	mg/kg		0.335 U										0.33 U		
	8270C	4-Chlorophenyl phenyl ether	--		--	mg/kg		0.085 U										0.08 U		
	8270C	4-Methylphenol	31	nc	--	mg/kg		0.0335 U										0.033 U		
	8270C	4-Nitroaniline	23	ca	--	mg/kg		0.335 U										0.33 U		
	8270C	4-Nitrophenol	--		--	mg/kg		0.335 U										0.33 U		
	8270C	Acenaphthene	368	nc	--	mg/kg		0.0165 U										0.016 U		
	8270C	Acenaphthylene	--		--	mg/kg		0.0165 U										0.016 U		
	8270C	Anthracene	2189	nc	--	mg/kg		0.0165 U										0.019 J		
	8270C	Benzo(a)anthracene	0.62	ca	--	mg/kg		0.017 J										0.08		
	8270C	Benzo(a)pyrene	0.062	ca	--	mg/kg		0.029 J										**0.094**		
	8270C	Benzo(b)fluoranthene	0.62	ca	--	mg/kg		0.06										0.12		
	8270C	Benzo(g,h,i)perylene	--		--	mg/kg		0.022 J										0.045		
	8270C	Benzo(k)fluoranthene	6.2	ca	--	mg/kg		0.024 J										0.077		
	8270C	Benzoic acid	100000	max	--	mg/kg		- R										- R		
	8270C	Benzyl alcohol	1833	nc	--	mg/kg		0.32 J										0.77		
	8270C	Bis(2-chloroethoxy)methane	--		--	mg/kg		0.0335 U										0.033 U		
	8270C	Bis(2-chloroethyl) ether	0.22	ca	--	mg/kg		0.0335 U										0.033 U		
	8270C	Bis(2-ethylhexyl) phthalate	35	ca	--	mg/kg		0.085 U										0.08 U		
	8270C	Butylbenzyl phthalate	1222	nc	--	mg/kg		0.0335 U										0.033 U		
	8270C	Carbazole	24	ca	--	mg/kg		0.085 U										0.08 U		
	8270C	Chrysene	62	ca	--	mg/kg		0.024 J										0.092		
	8270C	Dibenzo(a,h)anthracene	0.062	ca	--	mg/kg		0.0165 U										0.014 J		
	8270C	Dibenzofuran	15	nc	--	mg/kg		0.0335 U										0.033 U		
	8270C	Diethyl phthalate	4888	nc	--	mg/kg		0.0335 U										0.033 U		
	8270C	Dimethyl phthalate	100000	max	--	mg/kg		0.0335 U										0.033 U		
	8270C	Di-n-butyl phthalate	611	nc	--	mg/kg		0.085 U										0.08 U		
	8270C	Di-n-octyl phthalate	244	nc	--	mg/kg		0.165 U										0.16 U		
	8270C	Fluoranthene	229	nc	--	mg/kg		0.036										0.25		

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7ss-023D-SO	LL7ss-023M-SO	LL7ss-024M-DUP	LL7ss-024M-SO	LL7ss-025M-SO	LL7ss-026M-SO	LL7ss-027M-SO	LL7ss-028M-SO	LL7ss-030M-SO	LL7ss-031M-SO	LL7ss-032D-SO	LL7ss-032M-SO	LL7ss-033M-DUP	LL7ss-033M-SO
					Sample Date:		11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/10/2004	11/9/2004	11/9/2004	11/9/2004	11/10/2004	11/10/2004	11/18/2004	11/18/2004
					Sample Depth:		0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units														
	8270C	Fluorene	275	nc	--	mg/kg		0.0165 U										0.016 U		
	8270C	Hexachlorobenzene	0.30	ca	--	mg/kg		0.0165 U										0.016 U		
	8270C	Hexachlorobutadiene	6.2	ca	--	mg/kg		0.085 U										0.08 U		
	8270C	Hexachlorocyclopentadiene	37	nc	--	mg/kg		0.5 U										0.49 U		
	8270C	Hexachloroethane	35	ca	--	mg/kg		0.085 U										0.08 U		
	8270C	Indeno(1,2,3-cd)pyrene	0.62	ca	--	mg/kg		0.011 J										0.048		
	8270C	Isophorone	512	ca	--	mg/kg		0.085 U										0.08 U		
	8270C	Naphthalene	5.6	nc	--	mg/kg		0.0165 U										0.016 U		
	8270C	Nitrobenzene	2	nc	--	mg/kg		0.0165 U										0.016 U		
	8270C	n-Nitroso-di-n-propylamine	0.069	ca	--	mg/kg		0.0335 U										0.033 U		
	8270C	n-Nitrosodiphenylamine	99	ca	--	mg/kg		0.0165 U										0.016 U		
	8270C	Pentachlorophenol	3.0	ca	--	mg/kg		0.165 U										0.16 U		
	8270C	Phenanthrene	--		--	mg/kg		0.018 J										0.096		
	8270C	Phenol	1833	nc	--	mg/kg		0.085 U										0.08 U		
	8270C	Pyrene	232	nc	--	mg/kg		0.027 J										0.11		
Explosives	8330	1,3,5-Trinitrobenzene	183	nc	--	mg/kg		0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U		0.05 U	0.049 U	0.0495 U
	8330	1,3-Dinitrobenzene	0.61	nc	--	mg/kg		0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U		0.05 U	0.049 U	0.0495 U
	8330	2,4,6-TNT	16	ca	--	mg/kg		0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U		0.05 U	0.049 U	0.0495 U
	8330	2,4-Dinitrotoluene	12	nc	--	mg/kg		0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U		0.05 U	0.049 U	0.0495 U
	8330	2,6-Dinitrotoluene	6.1	nc	--	mg/kg		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U
	8330	2-Amino-4,6-Dinitrotoluene	--		--	mg/kg		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U
	8330	2-Nitrotoluene	0.88	ca	--	mg/kg		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U
	8330	3-Nitrotoluene	73	nc	--	mg/kg		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U
	8330	4-Amino-2,6-Dinitrotoluene	--		--	mg/kg		0.15 U	0.145 U	0.15 U	0.15 U	0.15 U	0.145 U	0.15 U	0.15 U	0.15 U		0.15 U	0.145 U	0.15 U
	8330	4-Nitrotoluene	12	ca	--	mg/kg		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U
	8330	HMX	306	nc	--	mg/kg		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U
	8330	Nitrobenzene	2	nc	--	mg/kg		0.05 U	0.049 U	0.05 U	0.0495 U	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U		0.05 U	0.049 U	0.0495 U
	8330	RDX	4.4	ca	--	mg/kg		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U	0.1 U
	8330	Tetryl	61	nc	--	mg/kg		0.2 U	0.195 U	0.2 U	0.2 U	0.2 U	0.195 U	0.2 U	0.2 U	0.2 U		0.2 U	0.195 U	0.2 U
Propellants	353.2 Modified	Nitrocellulose	--		--	mg/kg		0.435 U			0.445 U			0.7 U	0.495 U			0.6 U		
	8332	Nitroglycerine	35	ca	--	mg/kg		0.25 U			0.25 U			0.25 U	0.25 U			0.25 U		
	SW8330 Modified	Nitroguanidine	611	nc	--	mg/kg		0.125 U			0.125 U			0.125 U	0.125 U			0.125 U		
Other Analytes	353.2	Nitrate as N (NO3-N)	NA		--	mg/kg		2	0.97	0.9	0.25	0.72 J	0.92	1.8	1 U	2.4		1.3	0.85	0.94

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
R - result rejected during ADR validation
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-034M-SO	LL7ss-035M-SO	LL7ss-036M-QA	LL7ss-036M-SO	LL7ss-037M-SO	LL7ss-038M-SO	LL7ss-039M-SO	LL7ss-040M-SO	LL7ss-041-SO	LL7ss-042M-SO
					Sample Date:	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/11/2004	11/18/2004
					Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)	Surface Soil Background Criteria	Units										
Metals	6010B	Aluminum	7614 nc	17700	mg/kg	**10000**	6700	**11000**	**11000**	**9600**	**11000**	**12000**	**10000**		**12000**
	6010B	Arsenic	0.39 ca	15.4	mg/kg	**8.3**	**8.2**	**7.1**	**7.5**	**7.3**	**8.3**	**8.8**	**7.9**		**9.3**
	6010B	Barium	538 nc	88.4	mg/kg	110	49	98	100	79	96	110	67		110
	6010B	Beryllium	15 nc	0.88	mg/kg	0.84	0.51	0.77	0.81	0.72	0.81	0.91	0.72		0.89
	6010B	Cadmium	3.7 nc	0.00	mg/kg	0.14 U	0.12 U	0.115 U	0.12 U	0.14 U	0.125 U	0.145 U	0.13 U		0.13 U
	6010B	Calcium	--[n]	15800	mg/kg	520	640	370	400	230	340	380	260		360
	6010B	Chromium	30 ca	17.4	mg/kg	17	13	16	15	17	19	22	14		21
	6010B	Cobalt	30 ca	10.4	mg/kg	10	6.7	10	12	8.8	12	13	9.3		13
	6010B	Copper	313 nc	17.7	mg/kg	9.8	9.6	8.7	8.8	9	9.7	9.7	8.6		11
	6010B	Iron	2346 nc	23100	mg/kg	**16000**	**14000**	**16000**	**16000**	**14000**	**17000**	**19000**	**15000**		**20000**
	6010B	Lead	400 pbk	26.1	mg/kg	27	36	19	24	21	23	27	40		25
	6010B	Magnesium	--[n]	3030	mg/kg	1700	1200	1800	1800	1400	1900	2000	1500		2100
	6010B	Manganese	176 nc	1450	mg/kg	**1300**	**760**	**1100**	**1300**	**1000**	**1300**	**1500**	**1000**		**1500**
	6010B	Nickel	156 nc	21.1	mg/kg	16	9.9	16	16	16	18	20	14		20
	6010B	Potassium	--[n]	927	mg/kg	680	620	780	750 J	510	860	800	660		980
	6010B	Selenium	39 nc	1.4	mg/kg	0.98	0.76	0.59	0.9	0.64	0.88	1	0.85		0.64
	6010B	Silver	39 nc	0.00	mg/kg	0.55 U	0.48 U	0.46 U	0.49 U	0.55 U	0.5 U	0.6 U	0.55 U		0.55 U
	6010B	Sodium	--[n]	123	mg/kg	270	190	260	260	240	280	310	240		290
	6010B	Vanadium	7.8 nc	31.1	mg/kg	**20**	**15**	**20**	**20**	**17**	**20**	**23**	**19**		**23**
	6010B	Zinc	2346 nc	61.8	mg/kg	56	37	50	56	48	54	61	49		58
	7041	Antimony	3.1 nc	0.96	mg/kg	0.8 U	0.65 U	0.7 U	- R	0.8 U	0.75 U	0.85 U	0.75 U		0.64
	7841	Thallium	0.52 nc	0.00	mg/kg	0.33 U	0.285 U	0.3 U	0.285 U	0.335 U	0.26	0.355 U	0.33 U		0.315 U
Pesticides	8081A	4,4'-DDD	2.4 ca	--	mg/kg										
	8081A	4,4'-DDE	1.7 ca	--	mg/kg										
	8081A	4,4'-DDT	1.7 ca	--	mg/kg										
	8081A	Aldrin	0.029 ca	--	mg/kg										
	8081A	alpha-BHC	0.09 sat	--	mg/kg										
	8081A	alpha-Chlordane	1.6 ca	--	mg/kg										
	8081A	beta-BHC	0.32 ca	--	mg/kg										
	8081A	delta-BHC	--	--	mg/kg										
	8081A	Dieldrin	0.030 ca	--	mg/kg										
	8081A	Endosulfan I	37 nc	--	mg/kg										
	8081A	Endosulfan II	37 nc	--	mg/kg										
	8081A	Endosulfan sulfate	37 nc	--	mg/kg										
	8081A	Endrin	1.8 nc	--	mg/kg										
	8081A	Endrin aldehyde	--	--	mg/kg										
	8081A	Endrin ketone	--	--	mg/kg										
	8081A	gamma-BHC	0.44 ca	--	mg/kg										
	8081A	gamma-Chlordane	1.6 ca	--	mg/kg										
	8081A	Heptachlor	0.11 ca	--	mg/kg										
	8081A	Heptachlor epoxide	0.053 ca	--	mg/kg										
	8081A	Methoxychlor	31 nc	--	mg/kg										
	8081A	Toxaphene	0.44 ca	--	mg/kg										

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-034M-SO	LL7ss-035M-SO	LL7ss-036M-QA	LL7ss-036M-SO	LL7ss-037M-SO	LL7ss-038M-SO	LL7ss-039M-SO	LL7ss-040M-SO	LL7ss-041-SO	LL7ss-042M-SO
					Sample Date:	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/11/2004	11/18/2004
					Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units									
PCBs	8082	Aroclor 1016	0.39	nc	--	mg/kg									
	8082	Aroclor 1221	0.22	ca	--	mg/kg									
	8082	Aroclor 1232	0.22	ca	--	mg/kg									
	8082	Aroclor 1242	0.22	ca	--	mg/kg									
	8082	Aroclor 1248	0.22	ca	--	mg/kg									
	8082	Aroclor 1254	0.22	ca	--	mg/kg									
	8082	Aroclor 1260	0.22	ca	--	mg/kg									
VOCs	8260B	1,1,1-Trichloroethane	1200	sat	--	mg/kg								0.00285 U	
	8260B	1,1,2,2-Tetrachloroethane	0.41	ca	--	mg/kg								0.00285 U	
	8260B	1,1,2-Trichloroethane	0.73	ca	--	mg/kg								0.00285 U	
	8260B	1,1-Dichloroethane	51	nc	--	mg/kg								0.00285 U	
	8260B	1,1-Dichloroethene	12	nc	--	mg/kg								0.00285 U	
	8260B	1,2-Dibromoethane	0.032	ca	--	mg/kg								0.00285 U	
	8260B	1,2-Dichloroethane	0.28	ca	--	mg/kg								0.00285 U	
	8260B	1,2-Dichloroethene (total)	6.9	nc	--	mg/kg								0.0055 U	
	8260B	1,2-Dichloropropane	0.34	ca	--	mg/kg								0.00285 U	
	8260B	2-Butanone	2231	nc	--	mg/kg								0.0085 U	
	8260B	2-Hexanone	530	nc	--	mg/kg								0.0055 U	
	8260B	4-Methyl-2-pentanone	528	nc	--	mg/kg								0.0055 U	
	8260B	Acetone	1412	nc	--	mg/kg								0.0085 U	
	8260B	Benzene	0.64	ca	--	mg/kg								0.00285 U	
	8260B	Bromochloromethane	--		--	mg/kg								0.00285 U	
	8260B	Bromodichloromethane	0.82	ca	--	mg/kg								0.00285 U	
	8260B	Bromoform	62	ca	--	mg/kg								0.00285 U	
	8260B	Bromomethane	0.39	nc	--	mg/kg								0.00285 U	
	8260B	Carbon disulfide	36	nc	--	mg/kg								0.00285 U	
	8260B	Carbon tetrachloride	0.25	ca	--	mg/kg								0.00285 U	
	8260B	Chlorobenzene	15	nc	--	mg/kg								0.00285 U	
	8260B	Chloroethane	3.0	ca	--	mg/kg								0.00285 U	
	8260B	Chloroform	0.22	ca	--	mg/kg								0.00285 U	
	8260B	Chloromethane	4.7	nc	--	mg/kg								0.00285 U	
	8260B	cis-1,2-Dichloroethene	4.3	nc	--	mg/kg								0.00285 U	
	8260B	cis-1,3-Dichloropropene	0.78	ca	--	mg/kg								0.00285 U	
	8260B	Dibromochloromethane	1.1	ca	--	mg/kg								0.00285 U	
	8260B	Ethylbenzene	395	sat	--	mg/kg								0.00285 U	
	8260B	m&p-Xylenes	27	nc	--	mg/kg								0.0055 U	
	8260B	Methylene chloride	9.1	ca	--	mg/kg								0.0055 U	
	8260B	o-Xylene	27	nc	--	mg/kg								0.00285 U	
	8260B	Styrene	1700	sat	--	mg/kg								0.00285 U	
	8260B	Tetrachloroethene	0.48	ca	--	mg/kg								0.00285 U	
	8260B	Toluene	520	sat	--	mg/kg								0.00285 U	
	8260B	Total Xylenes	27	nc	--	mg/kg								0.0055 U	
	8260B	trans-1,2-Dichloroethene	6.9	nc	--	mg/kg								0.00285 U	
	8260B	trans-1,3-Dichloropropene	0.78	ca	--	mg/kg								0.00285 U	
	8260B	Trichloroethene	0.053	ca	--	mg/kg								0.00285 U	
	8260B	Vinyl chloride	0.079	ca	--	mg/kg								0.00285 U	

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-034M-SO	LL7ss-035M-SO	LL7ss-036M-QA	LL7ss-036M-SO	LL7ss-037M-SO	LL7ss-038M-SO	LL7ss-039M-SO	LL7ss-040M-SO	LL7ss-041-SO	LL7ss-042M-SO
					Sample Date:	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/11/2004	11/18/2004
					Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Surface Soil Background Criteria	Units										
SVOCs	8270C	1,2,4-Trichlorobenzene	6.2	nc	--	mg/kg										
	8270C	1,2-Dichlorobenzene	600	sat	--	mg/kg										
	8270C	1,3-Dichlorobenzene	53	nc	--	mg/kg										
	8270C	1,4-Dichlorobenzene	3.4	ca	--	mg/kg										
	8270C	2,2-oxybis (1-chloropropane)	2.9	ca	--	mg/kg										
	8270C	2,4,5-Trichlorophenol	611	nc	--	mg/kg										
	8270C	2,4,6-Trichlorophenol	0.61	nc	--	mg/kg										
	8270C	2,4-Dichlorophenol	18	nc	--	mg/kg										
	8270C	2,4-Dimethylphenol	122	nc	--	mg/kg										
	8270C	2,4-Dinitrophenol	12	nc	--	mg/kg										
	8270C	2,4-Dinitrotoluene	12	nc	--	mg/kg										
	8270C	2,6-Dinitrotoluene	6.1	nc	--	mg/kg										
	8270C	2-Chloronaphthalene	494	nc	--	mg/kg										
	8270C	2-Chlorophenol	6.3	nc	--	mg/kg										
	8270C	2-Methylnaphthalene	--		--	mg/kg										
	8270C	2-Methylphenol	306	nc	--	mg/kg										
	8270C	2-Nitroaniline	18.3	nc	--	mg/kg										
	8270C	2-Nitrophenol	--		--	mg/kg										
	8270C	3,3'-Dichlorobenzidine	1.1	ca	--	mg/kg										
	8270C	3-Nitroaniline	1.8	nc	--	mg/kg										
	8270C	4,6-Dinitro-2-methylphenol	0.61	nc	--	mg/kg										
	8270C	4-Bromophenyl phenyl ether	--		--	mg/kg										
	8270C	4-Chloro-3-methylphenol	--		--	mg/kg										
	8270C	4-Chloroaniline	24	nc	--	mg/kg										
	8270C	4-Chlorophenyl phenyl ether	--		--	mg/kg										
	8270C	4-Methylphenol	31	nc	--	mg/kg										
	8270C	4-Nitroaniline	23	ca	--	mg/kg										
	8270C	4-Nitrophenol	--		--	mg/kg										
	8270C	Acenaphthene	368	nc	--	mg/kg										
	8270C	Acenaphthylene	--		--	mg/kg										
	8270C	Anthracene	2189	nc	--	mg/kg										
	8270C	Benzo(a)anthracene	0.62	ca	--	mg/kg										
	8270C	Benzo(a)pyrene	0.062	ca	--	mg/kg										
	8270C	Benzo(b)fluoranthene	0.62	ca	--	mg/kg										
	8270C	Benzo(g,h,i)perylene	--		--	mg/kg										
	8270C	Benzo(k)fluoranthene	6.2	ca	--	mg/kg										
	8270C	Benzoic acid	100000	max	--	mg/kg										
	8270C	Benzyl alcohol	1833	nc	--	mg/kg										
	8270C	Bis(2-chloroethoxy)methane	--		--	mg/kg										
	8270C	Bis(2-chloroethyl) ether	0.22	ca	--	mg/kg										
	8270C	Bis(2-ethylhexyl) phthalate	35	ca	--	mg/kg										
	8270C	Butylbenzyl phthalate	1222	nc	--	mg/kg										
	8270C	Carbazole	24	ca	--	mg/kg										
	8270C	Chrysene	62	ca	--	mg/kg										
	8270C	Dibenzo(a,h)anthracene	0.062	ca	--	mg/kg										
	8270C	Dibenzofuran	15	nc	--	mg/kg										
	8270C	Diethyl phthalate	4888	nc	--	mg/kg										
	8270C	Dimethyl phthalate	100000	max	--	mg/kg										
	8270C	Di-n-butyl phthalate	611	nc	--	mg/kg										
	8270C	Di-n-octyl phthalate	244	nc	--	mg/kg										
	8270C	Fluoranthene	229	nc	--	mg/kg										

Table LL7-6
Load Line 7 Summary of All Surface Soil (0-1 ft) Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7ss-034M-SO	LL7ss-035M-SO	LL7ss-036M-QA	LL7ss-036M-SO	LL7ss-037M-SO	LL7ss-038M-SO	LL7ss-039M-SO	LL7ss-040M-SO	LL7ss-041-SO	LL7ss-042M-SO
					Sample Date:	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/11/2004	11/18/2004
					Sample Depth:	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft	0-1 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)	Surface Soil Background Criteria	Units										
	8270C	Fluorene	275 nc	--	mg/kg										
	8270C	Hexachlorobenzene	0.30 ca	--	mg/kg										
	8270C	Hexachlorobutadiene	6.2 ca	--	mg/kg										
	8270C	Hexachlorocyclopentadiene	37 nc	--	mg/kg										
	8270C	Hexachloroethane	35 ca	--	mg/kg										
	8270C	Indeno(1,2,3-cd)pyrene	0.62 ca	--	mg/kg										
	8270C	Isophorone	512 ca	--	mg/kg										
	8270C	Naphthalene	5.6 nc	--	mg/kg										
	8270C	Nitrobenzene	2 nc	--	mg/kg										
	8270C	n-Nitroso-di-n-propylamine	0.069 ca	--	mg/kg										
	8270C	n-Nitrosodiphenylamine	99 ca	--	mg/kg										
	8270C	Pentachlorophenol	3.0 ca	--	mg/kg										
	8270C	Phenanthrene	--	--	mg/kg										
	8270C	Phenol	1833 nc	--	mg/kg										
	8270C	Pyrene	232 nc	--	mg/kg										
Explosives	8330	1,3,5-Trinitrobenzene	183 nc	--	mg/kg	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U	0.0495 U	0.0485 U	0.049 U		0.0495 U
	8330	1,3-Dinitrobenzene	0.61 nc	--	mg/kg	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U	0.0495 U	0.0485 U	0.049 U		0.0495 U
	8330	2,4,6-TNT	16 ca	--	mg/kg	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U	0.0495 U	0.0485 U	0.049 U		0.0495 U
	8330	2,4-Dinitrotoluene	12 nc	--	mg/kg	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U	0.0495 U	0.0485 U	0.049 U		0.0495 U
	8330	2,6-Dinitrotoluene	6.1 nc	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.095 U	0.1 U		0.1 U
	8330	2-Amino-4,6-Dinitrotoluene	--	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.095 U	0.1 U		0.1 U
	8330	2-Nitrotoluene	0.88 ca	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.095 U	0.1 U		0.1 U
	8330	3-Nitrotoluene	73 nc	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.095 U	0.1 U		0.1 U
	8330	4-Amino-2,6-Dinitrotoluene	--	--	mg/kg	0.15 U	0.145 U	0.15 U	0.15 U	0.15 U	0.15 U	0.145 U	0.145 U		0.15 U
	8330	4-Nitrotoluene	12 ca	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.095 U	0.1 U		0.1 U
	8330	HMX	306 nc	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.095 U	0.1 U		0.1 U
	8330	Nitrobenzene	2 nc	--	mg/kg	0.05 U	0.049 U	0.05 U	0.05 U	0.05 U	0.0495 U	0.0485 U	0.049 U		0.0495 U
	8330	RDX	4.4 ca	--	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.095 U	0.1 U		0.1 U
	8330	Tetryl	61 nc	--	mg/kg	0.2 U	0.195 U	0.2 U	0.2 U	0.2 U	0.195 U	0.195 U	0.195 U		0.195 U
Propellants	353.2 Modified	Nitrocellulose	--	--	mg/kg	1.3 U		0.8 U	0.8 U		0.8 U				0.8 U
	8332	Nitroglycerine	35 ca	--	mg/kg	0.25 U		0.25 U	0.25 U		0.25 U		0.25 U		0.25 U
	SW8330 Modified	Nitroguanidine	611 nc	--	mg/kg	0.125 U		0.125 U	0.125 U		0.125 U				0.125 U
Other Analytes	353.2	Nitrate as N (NO3-N)	NA	--	mg/kg	3.9	0.59	1.2	1	2.8	0.95	1.3	1.9		1.2

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
R - result rejected during ADR validation
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-14
Load Line 7 Ecological Risk Screening Tables for Surface Soil (0-1 ft)
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Group	Parameter	Frequency of Detection	Average Concentration	Maximum Detected Concentration	Units	Surface Soil Background Concentration	Maximum Concentration > Background	Screening Value	Maximum Concentration > Screening value	PBT	COPC	COPC Rationale
Metals	Aluminum	46 / 46	10304	9600	mg/kg	17700	No	600 ss2	Yes	No	No	BLBKG
	Arsenic	46 / 46	10	9.8	mg/kg	15.4	No	9.9 ss1	No	No	No	BLBKG
	Barium	46 / 46	80	98	mg/kg	88.4	Yes	283 ss1	No	No	No	BSL
	Beryllium	46 / 46	0.89	2.8	mg/kg	0.88	Yes	10 ss1	No	No	No	BSL
	Cadmium	23 / 46	0.24	1.4	mg/kg	0.00	Yes	4 ss1	No	No	No	BSL
	Calcium	46 / 46	10848	9300	mg/kg	15800	No	NUT	No	No	No	BLBKG
	Chromium	46 / 46	20	33	mg/kg	17.4	Yes	0.4 ss1	Yes	No	Yes	ASL
	Cobalt	46 / 46	8.4	9.6	mg/kg	10.4	No	20 ss1	No	No	No	BLBKG
	Copper	46 / 46	18	9.8	mg/kg	17.7	No	60 ss1	No	No	No	BLBKG
	Iron	46 / 46	19326	29000	mg/kg	23100	Yes	200 ss2	Yes	No	Yes	ASL
	Lead	46 / 46	33	85	mg/kg	26.1	Yes	40.5 ss1	Yes	No	Yes	ASL
	Magnesium	46 / 46	2689	9700	mg/kg	3030	Yes	--	NSL	No	Yes	NSL
	Manganese	46 / 46	755	990	mg/kg	1450	No	100 ss2	Yes	No	No	BLBKG
	Nickel	46 / 46	18	9.9	mg/kg	21.1	No	30 ss1	No	No	No	BLBKG
	Potassium	46 / 46	945	990	mg/kg	927	Yes	NUT	No	No	No	BSL
	Selenium	46 / 46	0.83	1.4	mg/kg	1.4	No	0.21 ss1	Yes	No	No	BLBKG
	Silver	3 / 46	2.3	80	mg/kg	0.00	Yes	2 ss1	Yes	No	Yes	ASL
	Sodium	36 / 46	271	670	mg/kg	123	Yes	NUT	No	No	No	BSL
	Vanadium	46 / 46	18	8.2	mg/kg	31.1	No	2 ss1	Yes	No	No	BLBKG
	Zinc	46 / 46	73	94	mg/kg	61.8	Yes	8.5 ss1	Yes	No	Yes	ASL
	Antimony	10 / 44	0.69	0.72	mg/kg	0.96	No	5 ss1	No	No	No	BLBKG
	Mercury	45 / 46	0.064	0.4	mg/kg	0.04	Yes	0.00051 ss1	Yes	Yes	Yes	ASL
	Thallium	5 / 46	0.30	0.31	mg/kg	0.00	Yes	1 ss1	No	No	No	BSL
PCBs	Aroclor 1254	1 / 5	0.027	0.07	mg/kg	--	NA	0.000332 ss4	Yes	No	Yes	ASL
VOCs	Acetone	1 / 6	0.0098	0.011	mg/kg	--	NA	2.5 ss4	No	No	No	BSL
SVOCs	2-Methylnaphthalene	3 / 5	0.050	0.1	mg/kg	--	NA	3.24 ss4	No	No	No	BSL
	4-Methylphenol	1 / 5	0.030	0.014	mg/kg	--	NA	--	NSL	No	Yes	NSL
	Acenaphthene	3 / 5	0.39	0.97	mg/kg	--	NA	20 ss1	No	No	No	BSL
	Anthracene	4 / 5	0.73	1.8	mg/kg	--	NA	148 ss4	No	No	No	BSL
	Benzo(a)anthracene	5 / 5	1.5	3.6	mg/kg	--	NA	5.21 ss4	No	No	No	BSL
	Benzo(a)pyrene	5 / 5	1.2	2.9	mg/kg	--	NA	1.52 ss4	Yes	No	Yes	ASL
	Benzo(b)fluoranthene	5 / 5	1.4	3.4	mg/kg	--	NA	59.8 ss4	No	No	No	BSL
	Benzo(g,h,i)perylene	5 / 5	0.48	1.2	mg/kg	--	NA	119 ss4	No	No	No	BSL
	Benzo(k)fluoranthene	5 / 5	0.86	2	mg/kg	--	NA	148 ss4	No	No	No	BSL
	Benzyl alcohol	2 / 5	0.43	0.77	mg/kg	--	NA	658 ss4	No	No	No	BSL
	Carbazole	2 / 5	0.42	1	mg/kg	--	NA	--	NSL	No	Yes	NSL
	Chrysene	5 / 5	1.6	4	mg/kg	--	NA	4.73 ss4	No	No	No	BSL
	Dibenzo(a,h)anthracene	4 / 5	0.19	0.46	mg/kg	--	NA	18.4 ss4	No	No	No	BSL
	Dibenzofuran	3 / 5	0.12	0.25	mg/kg	--	NA	--	NSL	No	Yes	NSL
	Fluoranthene	5 / 5	3.7	9	mg/kg	--	NA	122 ss4	No	No	No	BSL
	Fluorene	3 / 5	0.23	0.53	mg/kg	--	NA	122 ss4	No	No	No	BSL
	Indeno(1,2,3-cd)pyrene	5 / 5	0.42	1	mg/kg	--	NA	109 ss4	No	No	No	BSL
	Naphthalene	3 / 5	0.085	0.2	mg/kg	--	NA	0.0994 ss4	Yes	No	Yes	ASL
	Phenanthrene	5 / 5	2.5	6.1	mg/kg	--	NA	45.7 ss4	No	No	No	BSL
	Pyrene	5 / 5	2.7	6.5	mg/kg	--	NA	78.5 ss4	No	No	No	BSL
Explosives	2,4,6-TNT	3 / 46	0.13	2.7	mg/kg	--	NA	--	NSL	No	Yes	NSL
	2,6-Dinitrotoluene	2 / 46	0.10	0.28	mg/kg	--	NA	0.0328 ss4	Yes	No	Yes	ASL
	2-Amino-4,6-Dinitrotoluene	1 / 46	0.100	0.1	mg/kg	--	NA	--	NSL	No	Yes	NSL
	2-Nitrotoluene	1 / 46	0.10	0.11	mg/kg	--	NA	--	NSL	No	Yes	NSL
	3-Nitrotoluene	1 / 46	0.10	0.13	mg/kg	--	NA	--	NSL	No	Yes	NSL
	HMX	4 / 46	0.30	7.9	mg/kg	--	NA	--	NSL	No	Yes	NSL
	RDX	5 / 46	1.2	45	mg/kg	--	NA	--	NSL	No	Yes	NSL

Group	Parameter	Frequency of Detection	Average Concentration	Maximum Detected Concentration	Units	Surface Soil Background Concentration	Maximum Concentration > Background	Screening Value	Maximum Concentration > Screening value	PBT	COPC	COPC Rationale
Propellants	Nitrocellulose	3 / 23	8.1	9.4	mg/kg	--	NA	--	NSL	No	Yes	NSL
	Nitroglycerine	2 / 24	1.1	2.9	mg/kg	--	NA	--	NSL	No	Yes	NSL
Other Analytes	Nitrate as N (NO3-N)	41 / 46	1.9	9.1	mg/kg	--	NA	--	NSL	No	Yes	NSL

Notes:
-- - no value available
mg/kg - means milligrams per Kilogram (parts per million - ppm)
ss1 - Preliminary Remediation Goals (Efroymson et al , 1997a)
ss2 - Toxiclogolgical Benchmarks for Soil and Litter Invertebrates (Efrymonson et al. 1997b)
ss3 - Toxiclogolgical Benchmarks for Terrestrial Plants (Efrymonson et al 1997c)
ss4- Ecological Data Quality Level (USEPA Region 5, 1999)
NA - not applicable
NUT - nutrient
BLBKG - below background concentration
PBT- persistent, bioaccumulative and toxic
NSL - no screening level
ASL- above screening level
BSL - below screening level

Table LL7-7
Load Line 7 Summary of All Sediment Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7sd-012M-DUP	LL7sd-012M-SD	LL7sd-029M-SD
						Sample Date:	11/10/2004	11/10/2004	11/9/2004
						Sample Depth:	0-0.5 ft	0-0.5 ft	0-0.5 ft
Group	Method	Parameter	Region 9 PRG (Res Soil)		Sediment Background Criteria	Units			
Metals	6010B	Aluminum	7614	nc	13900	mg/kg	**18000**	**14000 J**	6800
	6010B	Arsenic	0.39	ca	19.5	mg/kg	**7.5**	**8.4**	**13**
	6010B	Barium	538	nc	123	mg/kg	180	160	89
	6010B	Beryllium	15	nc	0.38	mg/kg	2.7	2 J	0.86
	6010B	Cadmium	3.7	nc	0.00	mg/kg	**4.4**	**5.5 J**	0.94
	6010B	Calcium	--[n]		5510	mg/kg	69000	41000 J	8200
	6010B	Chromium	30	ca	18.1	mg/kg	21	27	12
	6010B	Cobalt	30	ca	9.1	mg/kg	3.7	5	7.3
	6010B	Copper	313	nc	27.6	mg/kg	37	51	25
	6010B	Iron	2346	nc	28200	mg/kg	**22000**	**34000 J**	**20000**
	6010B	Lead	400	pbk	27.4	mg/kg	370	540	31
	6010B	Magnesium	--[n]		2760	mg/kg	12000	8300 J	2200
	6010B	Manganese	176	nc	1950	mg/kg	**1900**	**1200 J**	**740**
	6010B	Nickel	156	nc	17.7	mg/kg	12	17 J	20
	6010B	Potassium	--[n]		1950	mg/kg	1300	1200	1100
	6010B	Selenium	39	nc	1.7	mg/kg	1.4	1.5	2.5
	6010B	Silver	39	nc	0.00	mg/kg	0.55 U	0.55 U	2.15 U
	6010B	Sodium	--[n]		112	mg/kg	700	1400 J	650 U
	6010B	Vanadium	7.8	nc	26.1	mg/kg	**10**	**12 J**	**17**
	6010B	Zinc	2346	nc	532	mg/kg	680	750 J	260
	7041	Antimony	3.1	nc	0.00	mg/kg	0.8 U	- R	2.65 U
	7471A	Mercury	2.3	nc	0.06	mg/kg	0.023	0.024	0.033
	7841	Thallium	0.52	nc	0.89	mg/kg	0.35 U	0.345 U	1.15 U
Explosives	8330	1,3,5-Trinitrobenzene	183	nc	--	mg/kg	0.049 U	0.0495 U	0.0495 U
	8330	1,3-Dinitrobenzene	0.61	nc	--	mg/kg	0.049 U	0.0495 U	0.0495 U
	8330	2,4,6-TNT	16	ca	--	mg/kg	0.049 U	0.0495 U	0.0495 U
	8330	2,4-Dinitrotoluene	12	nc	--	mg/kg	0.049 U	0.0495 U	0.0495 U
	8330	2,6-Dinitrotoluene	6.1	nc	--	mg/kg	0.1 U	0.1 U	0.1 U
	8330	2-Amino-4,6-Dinitrotoluene	--		--	mg/kg	0.1 U	0.1 U	0.1 U
	8330	2-Nitrotoluene	0.88	ca	--	mg/kg	0.1 U	0.1 U	0.1 U
	8330	3-Nitrotoluene	73	nc	--	mg/kg	0.1 U	0.1 U	0.1 U
	8330	4-Amino-2,6-Dinitrotoluene	--		--	mg/kg	0.145 U	0.15 U	0.15 U
	8330	4-Nitrotoluene	12	ca	--	mg/kg	0.1 U	0.1 U	0.1 U
	8330	HMX	306	nc	--	mg/kg	0.1 U	0.1 U	0.1 U
	8330	Nitrobenzene	2	nc	--	mg/kg	0.049 U	0.0495 U	0.0495 U
	8330	RDX	4.4	ca	--	mg/kg	0.1 U	0.1 U	0.1 U
	8330	Tetryl	61	nc	--	mg/kg	0.195 U	0.195 U	0.2 U
Propellants	353.2 Modified	Nitrocellulose	--		--	mg/kg	1.2 U	1.1 U	
	8332	Nitroglycerine	35	ca	--	mg/kg	0.25 U	0.245 U	
	SW8330 Modified	Nitroguanidine	611	nc	--	mg/kg	0.125 U	0.125 U	
Other Analytes	353.2	Nitrate as N (NO3-N)	NA		--	mg/kg	1.3 U	1.2	4.5 U

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analysis was not performed
mg/kg - means milligrams per Kilogram (parts per million - ppm)
PRG - preliminary remediation goals
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
R - result rejected during ADR validation
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-8
Load Line 7 Summary of All Surface Water Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7sw-001-SW	LL7sw-002-SW	LL7sw-003-DUP	LL7sw-003-SW	LL7sw-006-SW	LL7sw-007-SW	LL7sw-008-SW	LL7sw-009-SW	LL7sw-011-SW
					Sample Date:	11/22/2004	12/3/2004	12/2/2004	12/2/2004	12/3/2004	12/3/2004	12/2/2004	12/2/2004	11/10/2004
					Sample Depth:	20 ft	14.82 ft	15 ft	15 ft	10.8 ft	10.5 ft	10 ft	8 ft	surface
Group	Method	Parameter	Region 9 PRG (Tap Water)	Surface Water Background Criteria	Units									
Metals	6010B	Aluminum	36499 nc	3370	ug/l	2200	140	230	220	180	100	83	430	51
	6010B	Barium	2555 nc	47.5	ug/l	140	27	33	33	26	28	31	44	13
	6010B	Beryllium	73 nc	0.00	ug/l	0.55	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	6010B	Cadmium	18 nc	0.00	ug/l	1.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	6010B	Calcium	--[n]	41400	ug/l	48000	44000	24000	25000	22000	19000	21000	14000	6400
	6010B	Chromium	109 nc	0.00	ug/l	3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2.1
	6010B	Cobalt	730 nc	0.00	ug/l	1.2	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
	6010B	Copper	1460 nc	7.9	ug/l	40	5 U	5 U	5 U	5 U	5 U	5 U	4.6	8.2
	6010B	Iron	10950 nc	2560	ug/l	4400	320	290	300	200	97	110	540	2600
	6010B	Lead	15 mcl	0.00	ug/l	**2200**								
	6010B	Magnesium	--[n]	10800	ug/l	8900	8100	5200	5200	4800	4500	4900	4300	650
	6010B	Manganese	876 nc	391	ug/l	**1400**	33	21	21	21	6.2	9.4	94	32
	6010B	Nickel	730 nc	0.00	ug/l	30	5 U	5 U	1.1	5 U	1	2.2	7.8	5 U
	6010B	Potassium	--[n]	3170	ug/l	1700	1600	1600	1600	1600	1600	1800	1300	9300
	6010B	Selenium	182 nc	0.00	ug/l	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U
	6010B	Silver	182 nc	0.00	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	6010B	Sodium	--[n]	21300	ug/l	4000	3300	1900	1900	2000	2100	1900	2000	2900
	6010B	Vanadium	36 nc	0.00	ug/l	7.9	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	6010B	Zinc	10950 nc	42	ug/l	110	3.8	4.2	4.2	5.2	4.7	3.6	18	230
	7041	Antimony	15 nc	0.00	ug/l	3.75 U	3.75 U	**47**	3.75 U	3.75 U	3.75 U	3.75 U	3.75 U	3.3
	7060A	Arsenic	0.045 ca	3.2	ug/l	**0.74**	1 U	**1.1**	**0.61**	1 U	1 U	1 U	1 U	1 U
	7421	Lead	15 mcl	0.00	ug/l		1.5 U	8.6	8 J	**39**	1.5 U	7.4	8.7	7.1
	7470A	Mercury	11 nc	0.00	ug/l	0.32	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
	7841	Thallium	2.4 nc	0.00	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Pesticides	8081A	4,4'-DDD	0.28 ca	--	ug/l	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
	8081A	4,4'-DDE	0.20 ca	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	4,4'-DDT	0.20 ca	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Aldrin	0.0040 ca	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	alpha-BHC	0.011 nc	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	alpha-Chlordane	0.19 ca	--	ug/l	0.0245 U	0.025 U	0.0245 U	0.025 U	0.025 U	0.0245 U	0.0245 U	0.0245 U	0.0245 U
	8081A	beta-BHC	0.037 ca	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	delta-BHC	--	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	Dieldrin	0.0042 ca	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	Endosulfan I	220 nc	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	Endosulfan II	220 nc	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Endosulfan sulfate	220 nc	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Endrin	11 nc	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	Endrin aldehyde	--	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Endrin ketone	--	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	gamma-BHC	0.052 ca	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	gamma-Chlordane	0.19 ca	--	ug/l	0.049 U	0.0495 U	0.0485 U	0.0495 U	0.05 U	0.049 U	0.049 U	0.0485 U	0.049 U
	8081A	Heptachlor	0.015 ca	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Heptachlor epoxide	0.0074 ca	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U

Table LL7-8
Load Line 7 Summary of All Surface Water Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7sw-001-SW	LL7sw-002-SW	LL7sw-003-DUP	LL7sw-003-SW	LL7sw-006-SW	LL7sw-007-SW	LL7sw-008-SW	LL7sw-009-SW	LL7sw-011-SW
					Sample Date:	11/22/2004	12/3/2004	12/2/2004	12/2/2004	12/3/2004	12/3/2004	12/2/2004	12/2/2004	11/10/2004
					Sample Depth:	20 ft	14.82 ft	15 ft	15 ft	10.8 ft	10.5 ft	10 ft	8 ft	surface
Group	Method	Parameter	Region 9 PRG (Tap Water)	Surface Water Background Criteria	Units									
	8081A	Methoxychlor	182 nc	--	ug/l	0.295 U	0.295 U	0.29 U	0.295 U	0.3 U	0.295 U	0.295 U	0.29 U	0.295 U
	8081A	Toxaphene	0.061 ca	--	ug/l	0.245 U	0.25 U	0.245 U	0.25 U	0.25 U	0.245 U	0.245 U	0.245 U	0.245 U
PCBs	8082	Aroclor 1016	0.96 ca	--	ug/l	0.295 U	0.295 U	0.29 U	0.295 U	0.3 U	0.295 U	0.295 U	0.29 U	0.295 U
	8082	Aroclor 1221	0.034 ca	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
	8082	Aroclor 1232	0.034 ca	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
	8082	Aroclor 1242	0.034 ca	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
	8082	Aroclor 1248	0.034 ca	--	ug/l	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
	8082	Aroclor 1254	0.034 ca	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
	8082	Aroclor 1260	0.034 ca	--	ug/l	0.295 U	0.295 U	0.29 U	0.295 U	0.3 U	0.295 U	0.295 U	0.29 U	0.295 U
VOCs	8260B	1,1,1-Trichloroethane	3172 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,1,2,2-Tetrachloroethane	0.055 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,1,2-Trichloroethane	0.20 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,1-Dichloroethane	811 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,1-Dichloroethene	339 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
	8260B	1,2-Dibromoethane	0.0056 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,2-Dichloroethane	0.12 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,2-Dichloroethene (total)	120 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	9.2
	8260B	1,2-Dichloropropane	0.16 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	2-Butanone	6968 nc	--	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	8260B	2-Hexanone	2000 nc	--	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	8260B	4-Methyl-2-pentanone	1993 nc	--	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	8260B	Acetone	5475 nc	--	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	8260B	Benzene	0.35 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Bromochloromethane	--	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Bromodichloromethane	0.18 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Bromoform	8.5 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Bromomethane	8.7 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Carbon disulfide	1043 nc	--	ug/l	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	- R
	8260B	Carbon tetrachloride	0.17 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Chlorobenzene	106 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Chloroethane	4.6 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Chloroform	0.17 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Chloromethane	158 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	cis-1,2-Dichloroethene	61 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	9
	8260B	cis-1,3-Dichloropropene	0.40 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Dibromochloromethane	0.13 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Ethylbenzene	1340 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	m&p-Xylenes	206 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8260B	Methylene chloride	4.3 ca	--	ug/l	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
	8260B	o-Xylene	206 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Styrene	1641 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Tetrachloroethene	0.10 ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Toluene	723 nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table LL7-8
Load Line 7 Summary of All Surface Water Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7sw-001-SW	LL7sw-002-SW	LL7sw-003-DUP	LL7sw-003-SW	LL7sw-006-SW	LL7sw-007-SW	LL7sw-008-SW	LL7sw-009-SW	LL7sw-011-SW
						Sample Date:	11/22/2004	12/3/2004	12/2/2004	12/2/2004	12/3/2004	12/3/2004	12/2/2004	12/2/2004	11/10/2004
						Sample Depth:	20 ft	14.82 ft	15 ft	15 ft	10.8 ft	10.5 ft	10 ft	8 ft	surface
Group	Method	Parameter	Region 9 PRG (Tap Water)		Surface Water Background Criteria	Units									
	8260B	Total Xylenes	206	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	trans-1,2-Dichloroethene	122	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	trans-1,3-Dichloropropene	0.40	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Trichloroethene	0.028	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**11**
	8260B	Vinyl chloride	0.020	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
SVOCs	8270C	1,2,4-Trichlorobenzene	7.2	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	1,2-Dichlorobenzene	370	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	1,3-Dichlorobenzene	182	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.87 J	1 U	1 U	1 U
	8270C	1,4-Dichlorobenzene	0.50	ca	--	ug/l	**0.52 J**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	2,2-oxybis (1-chloropropane)	0.27	ca	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	2,4,5-Trichlorophenol	3650	nc	--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	2,4,6-Trichlorophenol	3.6	nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	2,4-Dichlorophenol	109	nc	--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	2,4-Dimethylphenol	730	nc	--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	2,4-Dinitrophenol	73	nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	8270C	2,4-Dinitrotoluene	73	nc	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	0.49 U	0.495 U	0.495 U	0.5 U
	8270C	2,6-Dinitrotoluene	36	nc	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	0.25 U
	8270C	2-Chloronaphthalene	487	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	2-Chlorophenol	30	nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	2-Methylnaphthalene	--		--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	0.25 U
	8270C	2-Methylphenol	1825	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	2-Nitroaniline	109	nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	2-Nitrophenol	--		--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	3,3'-Dichlorobenzidine	0.15	ca	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	3-Nitroaniline	3.2	ca	--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	4,6-Dinitro-2-methylphenol	3.6	nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	8270C	4-Bromophenyl phenyl ether	--		--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	4-Chloro-3-methylphenol	--		--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	4-Chloroaniline	146	nc	--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	4-Chlorophenyl phenyl ether	--		--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	4-Methylphenol	182	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	4-Nitroaniline	3.2	ca	--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	4-Nitrophenol	--		--	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	8270C	Acenaphthene	365	nc	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	0.49 U	0.495 U	0.495 U	0.5 U
	8270C	Acenaphthylene	--		--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	0.49 U	0.495 U	0.495 U	0.5 U
	8270C	Anthracene	1825	nc	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	0.39 J	0.495 U	0.495 U	0.5 U
	8270C	Benzo(a)anthracene	0.092	ca	--	ug/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**1.4**	0.1 U	0.1 U	0.1 U
	8270C	Benzo(a)pyrene	0.0092	ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.2 U	**1.8**	0.2 U	0.2 U	0.2 U
	8270C	Benzo(b)fluoranthene	0.092	ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.2 U	**2**	0.2 U	0.2 U	0.2 U
	8270C	Benzo(g,h,i)perylene	--		--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	1.3	0.495 U	0.495 U	0.5 U
	8270C	Benzo(k)fluoranthene	0.92	ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.2 U	**1.2**	0.2 U	0.2 U	0.2 U
	8270C	Benzoic acid	145979	nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	8270C	Benzyl alcohol	10950	nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table LL7-8
Load Line 7 Summary of All Surface Water Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7sw-001-SW	LL7sw-002-SW	LL7sw-003-DUP	LL7sw-003-SW	LL7sw-006-SW	LL7sw-007-SW	LL7sw-008-SW	LL7sw-009-SW	LL7sw-011-SW
					Sample Date:	11/22/2004	12/3/2004	12/2/2004	12/2/2004	12/3/2004	12/3/2004	12/2/2004	12/2/2004	11/10/2004
					Sample Depth:	20 ft	14.82 ft	15 ft	15 ft	10.8 ft	10.5 ft	10 ft	8 ft	surface
Group	Method	Parameter	Region 9 PRG (Tap Water)	Surface Water Background Criteria	Units									
	8270C	Bis(2-chloroethoxy)methane	--	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	Bis(2-chloroethyl) ether	0.010 ca	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	Bis(2-ethylhexyl) phthalate	4.8 ca	--	ug/l	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	**12 J**
	8270C	Butylbenzyl phthalate	7300 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.9
	8270C	Carbazole	3.4 ca	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	Chrysene	9.2 ca	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	1.6	0.25 U	0.25 U	0.25 U
	8270C	Dibenzo(a,h)anthracene	0.0092 ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.2 U	**0.42**	0.2 U	0.2 U	0.2 U
	8270C	Dibenzofuran	12 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	Diethyl phthalate	29199 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	Dimethyl phthalate	364867 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	Di-n-butyl phthalate	3650 nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	Di-n-octyl phthalate	1460 nc	--	ug/l	4.95 UJ	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	Fluoranthene	1460 nc	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	2.9	0.495 U	0.495 U	0.5 U
	8270C	Fluorene	243 nc	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	0.49 U	0.495 U	0.495 U	0.5 U
	8270C	Hexachlorobenzene	0.042 ca	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	0.25 U
	8270C	Hexachlorobutadiene	0.86 ca	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	Hexachlorocyclopentadiene	219 nc	--	ug/l	- R	- R	- R	- R	- R	- R	- R	- R	- R
	8270C	Hexachloroethane	4.8 ca	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	Indeno(1,2,3-cd)pyrene	0.092 ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.2 U	**1**	0.2 U	0.2 U	0.2 U
	8270C	Isophorone	71 ca	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8270C	Naphthalene	6.2 nc	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	0.49 U	0.495 U	0.495 U	0.5 U
	8270C	Nitrobenzene	3.4 nc	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	0.49 U	0.495 U	0.495 U	0.5 U
	8270C	n-Nitroso-di-n-propylamine	0.0096 ca	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	0.245 U	0.25 U	0.25 U	0.25 U
	8270C	n-Nitrosodiphenylamine	14 ca	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	0.49 U	0.495 U	0.495 U	0.5 U
	8270C	Pentachlorophenol	0.56 ca	--	ug/l	4.95 U	4.95 U	4.9 U	5 U	5 U	4.9 U	4.95 U	4.95 U	5 U
	8270C	Phenanthrene	--	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	1.7	0.495 U	0.495 U	0.5 U
	8270C	Phenol	10950 nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.45 U	2.5 U	2.5 U	2.5 U
	8270C	Pyrene	182 nc	--	ug/l	0.495 U	0.495 U	0.49 U	0.5 U	0.5 U	2.3	0.495 U	0.495 U	0.5 U
Explosives	8330	1,3,5-Trinitrobenzene	1095 nc	--	ug/l	0.1 U	0.12 U	0.205 U	0.115 U	0.1 U	0.135 U	0.115 U	0.165 U	0.1 U
	8330	1,3-Dinitrobenzene	3.6 nc	--	ug/l	0.1 U	0.12 U	0.205 U	0.115 U	0.1 U	0.135 U	0.115 U	0.165 U	0.1 U
	8330	2,4,6-TNT	2.2 ca	--	ug/l	0.125 U	0.15 U	0.26 U	0.145 U	0.125 U	0.17 U	0.145 U	0.21 U	1.3
	8330	2,4-Dinitrotoluene	73 nc	--	ug/l	0.18 U	0.215 U	0.37 U	0.21 U	0.18 U	0.245 U	0.21 U	0.3 U	0.14 J
	8330	2,6-Dinitrotoluene	36 nc	--	ug/l	0.215 U	0.26 U	0.445 U	0.25 U	0.215 U	0.295 U	0.25 U	0.36 U	0.215 U
	8330	2-Amino-4,6-Dinitrotoluene	--	--	ug/l	0.36 J	0.33 J	0.48 J	0.47 J	0.48	0.63	0.81	0.3 U	7.6
	8330	2-Nitrotoluene	0.049 ca	--	ug/l	0.155 U	0.185 U	0.32 U	0.18 U	0.155 U	0.21 U	0.18 U	0.26 U	0.155 U
	8330	3-Nitrotoluene	122 nc	--	ug/l	0.155 U	0.185 U	0.32 U	0.18 U	0.155 U	0.21 U	0.18 U	0.26 U	0.155 U
	8330	4-Amino-2,6-Dinitrotoluene	--	--	ug/l	0.32 J	0.36 J	0.5 J	0.5	0.53	0.68	0.86	0.275 U	21
	8330	4-Nitrotoluene	0.66 ca	--	ug/l	0.155 U	0.185 U	0.32 U	0.18 U	0.155 U	0.21 U	0.18 U	0.26 U	0.155 U
	8330	HMX	1825 nc	--	ug/l	4.9	8.2	12	12	11	14	20	2.3	1700
	8330	Nitrobenzene	3.4 nc	--	ug/l	0.08 U	0.095 U	0.165 U	0.095 U	0.08 U	0.11 U	0.095 U	0.135 U	0.08 U
	8330	RDX	0.61 ca	--	ug/l	**12**	**26**	**34**	**32**	**37**	**49**	**54**	**3.8**	**110**
	8330	Tetryl	365 nc	--	ug/l	0.39 U	0.47 U	0.8 U	0.455 U	0.39 U	0.55 U	0.455 U	0.65 U	0.39 U

Table LL7-8
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RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7sw-001-SW	LL7sw-002-SW	LL7sw-003-DUP	LL7sw-003-SW	LL7sw-006-SW	LL7sw-007-SW	LL7sw-008-SW	LL7sw-009-SW	LL7sw-011-SW
					Sample Date:	11/22/2004	12/3/2004	12/2/2004	12/2/2004	12/3/2004	12/3/2004	12/2/2004	12/2/2004	11/10/2004
					Sample Depth:	20 ft	14.82 ft	15 ft	15 ft	10.8 ft	10.5 ft	10 ft	8 ft	surface
Group	Method	Parameter	Region 9 PRG (Tap Water)	Surface Water Background Criteria	Units									
Propellants	353.2 Modified	Nitrocellulose	--	--	ug/l	250 U	250 U	250 U	- R	250 U	250 U	250 U	250 U	250 U
	8332	Nitroglycerine	4.8 ca	--	ug/l	0.5 U	0.6 U	1.05 U	0.6 UJ	0.5 U	0.7 U	0.6 U	0.85 U	0.5 UJ
	SW8330 Modified	Nitroguanidine	3650 nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Other Analytes	353.2	Nitrate as N (NO3-N)	10000 nc	--	ug/l	590	760	650	660	710	660	580	240	1200

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analysis was not performed
ug/l - means micrograms per Liter (parts per billion - ppb)
PRG - preliminary remediation goals (The screeing value for lead is the Maximum Contaminant level (MCL) from the safe Drinking Water Act)
nc - non-cancer basis
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
U - analyte not detected
J - estimated value
R - result rejected during ADR validation
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-9
Load Line 7 Summary of All Groundwater Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7mw-001-GW	LL7mw-002-GW	LL7mw-003-DUP	LL7mw-003-GW	LL7mw-004-GW	LL7mw-005-GW	LL7mw-006-GW
					Sample Date:	1/24/2005	1/21/2005	1/25/2005	1/25/2005	1/24/2005	2/2/2005	1/25/2005
					Sample Depth:	26 ft	22 ft	27 ft	27 ft	26 ft	25 ft	22 ft
					Description	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered
Group	Method	Parameter	Region 9 PRG (Tap Water)	Consolidated Filtered Groundwater Background	Units							
Metals	6010B	Aluminum	36499 nc	--	ug/l	35	93	27	26	75 U	75 U	41
	6010B	Barium	2555 nc	256	ug/l	17	34	46	47	41	82	31
	6010B	Beryllium	73 nc	0.00	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	6010B	Cadmium	18 nc	0.00	ug/l	0.25	0.35	1 U	1 U	1 U	1 U	0.36
	6010B	Calcium	--[n]	53100	ug/l	45000	19000	14000	13000	9400	11000	6800
	6010B	Chromium	109 nc	0.00	ug/l	5 U	5 U	5 U	5 U	5 U	1.4	5 U
	6010B	Cobalt	730 nc	0.00	ug/l	4.9	2.2	7.5	7.6	9.1	21	2.6
	6010B	Copper	1460 nc	0.00	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	6010B	Iron	10950 nc	1430	ug/l	5000	7900	**17000**	**17000**	**20000**	60 U	3600
	6010B	Magnesium	--[n]	15000	ug/l	13000	6100	4800	4800	6100	3400	3800
	6010B	Manganese	876 nc	1340	ug/l	360	360	**1500**	**1500**	**1300**	**1700**	**2000**
	6010B	Nickel	730 nc	83.4	ug/l	7.6	6.5	12	11	8.5	24	8.8
	6010B	Potassium	--[n]	5770	ug/l	1100	1300	1300	1300	2300	2000	1300
	6010B	Selenium	182 nc	0.00	ug/l	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U
	6010B	Silver	182 nc	0.00	ug/l	5 U	5 U	5 U	5 U	5 U	0.93	5 U
	6010B	Sodium	--[n]	51400	ug/l	8500	2900	3500	3500	14000	2000	8700
	6010B	Vanadium	36 nc	0.00	ug/l	5 U	5 U	5 U	5 U	5 U	1.4	5 U
	6010B	Zinc	10950 nc	52.3	ug/l	40	15	38	34	40	11	26
	7041	Antimony	15 nc	0.00	ug/l	3.75 U	3.75 U	3.75 U	3.75 U	3.75 U	3.75 U	3.75 U
	7060A	Arsenic	0.045 ca	0.00	ug/l	1 U	1 U	**1.1**	**0.92**	1 U	1 U	1 U
	7421	Lead	15 mcl	0.00	ug/l	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
	7470A	Mercury	11 nc	0.00	ug/l	0.1 U	0.1 U	0.1 U	0.24	0.4	0.1 U	0.16
	7841	Thallium	2.4 nc	0.00	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Pesticides	8081A	4,4'-DDD	0.28 ca	--	ug/l	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
	8081A	4,4'-DDE	0.20 ca	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	4,4'-DDT	0.20 ca	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Aldrin	0.0040 ca	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	alpha-BHC	0.011 nc	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	alpha-Chlordane	0.19 ca	--	ug/l	0.025 U	0.025 U	0.025 U	0.0245 U	0.0245 U	0.0245 U	0.025 U
	8081A	beta-BHC	0.037 ca	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	delta-BHC	--	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	Dieldrin	0.0042 ca	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	Endosulfan I	220 nc	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	Endosulfan II	220 nc	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Endosulfan sulfate	220 nc	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Endrin	11 nc	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	Endrin aldehyde	--	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Endrin ketone	--	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	gamma-BHC	0.052 ca	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	gamma-Chlordane	0.19 ca	--	ug/l	0.0495 U	0.05 U	0.0495 U	0.049 U	0.0485 U	0.049 U	0.0495 U
	8081A	Heptachlor	0.015 ca	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Heptachlor epoxide	0.0074 ca	--	ug/l	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
	8081A	Methoxychlor	182 nc	--	ug/l	0.295 U	0.3 U	0.295 U	0.295 U	0.29 U	0.295 UJ	0.295 U
	8081A	Toxaphene	0.061 ca	--	ug/l	0.25 U	0.25 U	0.25 U	0.245 U	0.245 U	0.245 U	0.25 U
PCBs	8082	Aroclor 1016	0.96 ca	--	ug/l	0.295 U	0.3 U	0.295 U	0.295 U	0.29 U	0.295 U	0.295 U
	8082	Aroclor 1221	0.034 ca	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
	8082	Aroclor 1232	0.034 ca	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
	8082	Aroclor 1242	0.034 ca	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
	8082	Aroclor 1248	0.034 ca	--	ug/l	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
	8082	Aroclor 1254	0.034 ca	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
	8082	Aroclor 1260	0.034 ca	--	ug/l	0.295 U	0.3 U	0.295 U	0.295 U	0.29 U	0.295 U	0.295 U

Table LL7-9
Load Line 7 Summary of All Groundwater Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

							LL7mw-001-GW	LL7mw-002-GW	LL7mw-003-DUP	LL7mw-003-GW	LL7mw-004-GW	LL7mw-005-GW	LL7mw-006-GW
						Sample Date:	1/24/2005	1/21/2005	1/25/2005	1/25/2005	1/24/2005	2/2/2005	1/25/2005
						Sample Depth:	26 ft	22 ft	27 ft	27 ft	26 ft	25 ft	22 ft
						Description	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered
Group	Method	Parameter	Region 9 PRG (Tap Water)		Consolidated Filtered Groundwater Background	Units							
VOCs	8260B	1,1,1-Trichloroethane	3172	nc	--	ug/l	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,1,2,2-Tetrachloroethane	0.055	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,1,2-Trichloroethane	0.20	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,1-Dichloroethane	811	nc	--	ug/l	2.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,1-Dichloroethene	339	nc	--	ug/l	2.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,2-Dibromoethane	0.0056	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,2-Dichloroethane	0.12	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,2-Dichloroethene (total)	120	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	1,2-Dichloropropane	0.16	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	2-Butanone	6968	nc	--	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	8260B	2-Hexanone	2000	nc	--	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	8260B	4-Methyl-2-pentanone	1993	nc	--	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	8260B	Acetone	5475	nc	--	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	8260B	Benzene	0.35	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Bromochloromethane	--		--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Bromodichloromethane	0.18	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Bromoform	8.5	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Bromomethane	8.7	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Carbon disulfide	1043	nc	--	ug/l	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
	8260B	Carbon tetrachloride	0.17	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Chlorobenzene	106	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Chloroethane	4.6	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Chloroform	0.17	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Chloromethane	158	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	cis-1,2-Dichloroethene	61	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	cis-1,3-Dichloropropene	0.40	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Dibromochloromethane	0.13	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Ethylbenzene	1340	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	m&p-Xylenes	206	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	8260B	Methylene chloride	4.3	ca	--	ug/l	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
	8260B	o-Xylene	206	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Styrene	1641	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Tetrachloroethene	0.10	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Toluene	723	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Total Xylenes	206	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	trans-1,2-Dichloroethene	122	nc	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	trans-1,3-Dichloropropene	0.40	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Trichloroethene	0.028	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	8260B	Vinyl chloride	0.020	ca	--	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
SVOCs	8270C	1,2,4-Trichlorobenzene	7.2	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	1,2-Dichlorobenzene	370	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	1,3-Dichlorobenzene	182	nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	1,4-Dichlorobenzene	0.50	ca	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	2,2-oxybis (1-chloropropane)	0.27	ca	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	2,4,5-Trichlorophenol	3650	nc	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	2,4,6-Trichlorophenol	3.6	nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	2,4-Dichlorophenol	109	nc	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	2,4-Dimethylphenol	730	nc	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	2,4-Dinitrophenol	73	nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	9.5 U	9.5 U
	8270C	2,4-Dinitrotoluene	73	nc	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	2,6-Dinitrotoluene	36	nc	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.255 U	0.24 U	0.245 U

Table LL7-9
Load Line 7 Summary of All Groundwater Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7mw-001-GW	LL7mw-002-GW	LL7mw-003-DUP	LL7mw-003-GW	LL7mw-004-GW	LL7mw-005-GW	LL7mw-006-GW
					Sample Date:	1/24/2005	1/21/2005	1/25/2005	1/25/2005	1/24/2005	2/2/2005	1/25/2005
					Sample Depth:	26 ft	22 ft	27 ft	27 ft	26 ft	25 ft	22 ft
					Description	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered
Group	Method	Parameter	Region 9 PRG (Tap Water)	Consolidated Filtered Groundwater Background	Units							
	8270C	2-Chloronaphthalene	487 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	2-Chlorophenol	30 nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	2-Methylnaphthalene	--	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.255 U	0.24 U	0.245 U
	8270C	2-Methylphenol	1825 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	2-Nitroaniline	109 nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	2-Nitrophenol	--	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	3,3'-Dichlorobenzidine	0.15 ca	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	3-Nitroaniline	3.2 ca	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	4,6-Dinitro-2-methylphenol	3.6 nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	9.5 U	9.5 U
	8270C	4-Bromophenyl phenyl ether	--	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	4-Chloro-3-methylphenol	--	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	4-Chloroaniline	146 nc	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	4-Chlorophenyl phenyl ether	--	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	4-Methylphenol	182 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	4-Nitroaniline	3.2 ca	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	4-Nitrophenol	--	--	ug/l	10 U	10 U	10 U	10 U	10 U	9.5 U	9.5 U
	8270C	Acenaphthene	365 nc	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Acenaphthylene	--	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Anthracene	1825 nc	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Benzo(a)anthracene	0.092 ca	--	ug/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.095 U	0.095 U
	8270C	Benzo(a)pyrene	0.0092 ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.205 U	0.19 U	0.195 U
	8270C	Benzo(b)fluoranthene	0.092 ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.205 U	0.19 U	0.195 U
	8270C	Benzo(g,h,i)perylene	--	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Benzo(k)fluoranthene	0.92 ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.205 U	0.19 U	0.195 U
	8270C	Benzoic acid	145979 nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	9.5 U	9.5 U
	8270C	Benzyl alcohol	10950 nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	9.5 U	9.5 U
	8270C	Bis(2-chloroethoxy)methane	--	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	Bis(2-chloroethyl) ether	0.010 ca	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	Bis(2-ethylhexyl) phthalate	4.8 ca	--	ug/l	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7 U	7.5 U
	8270C	Butylbenzyl phthalate	7300 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	Carbazole	3.4 ca	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	Chrysene	9.2 ca	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.255 U	0.24 U	0.245 U
	8270C	Dibenzo(a,h)anthracene	0.0092 ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.205 U	0.19 U	0.195 U
	8270C	Dibenzofuran	12 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	Diethyl phthalate	29199 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	Dimethyl phthalate	364867 nc	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	Di-n-butyl phthalate	3650 nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	Di-n-octyl phthalate	1460 nc	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	Fluoranthene	1460 nc	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Fluorene	243 nc	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Hexachlorobenzene	0.042 ca	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.255 U	0.24 U	0.245 U
	8270C	Hexachlorobutadiene	0.86 ca	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	Hexachlorocyclopentadiene	219 nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	- R	9.5 U
	8270C	Hexachloroethane	4.8 ca	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	Indeno(1,2,3-cd)pyrene	0.092 ca	--	ug/l	0.2 U	0.2 U	0.195 U	0.2 U	0.205 U	0.19 U	0.195 U
	8270C	Isophorone	71 ca	--	ug/l	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	8270C	Naphthalene	6.2 nc	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Nitrobenzene	3.4 nc	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	n-Nitroso-di-n-propylamine	0.0096 ca	--	ug/l	0.25 U	0.25 U	0.245 U	0.25 U	0.255 U	0.24 U	0.245 U
	8270C	n-Nitrosodiphenylamine	14 ca	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Pentachlorophenol	0.56 ca	--	ug/l	4.95 U	5 U	4.9 U	4.95 U	5 U	4.8 U	4.85 U
	8270C	Phenanthrene	--	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U
	8270C	Phenol	10950 nc	--	ug/l	2.5 U	2.5 U	2.45 U	2.5 U	2.55 U	2.4 U	2.45 U
	8270C	Pyrene	182 nc	--	ug/l	0.495 U	0.5 U	0.49 U	0.495 U	0.5 U	0.48 U	0.485 U

Table LL7-9
Load Line 7 Summary of All Groundwater Results
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

						LL7mw-001-GW	LL7mw-002-GW	LL7mw-003-DUP	LL7mw-003-GW	LL7mw-004-GW	LL7mw-005-GW	LL7mw-006-GW
					Sample Date:	1/24/2005	1/21/2005	1/25/2005	1/25/2005	1/24/2005	2/2/2005	1/25/2005
					Sample Depth:	26 ft	22 ft	27 ft	27 ft	26 ft	25 ft	22 ft
					Description	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered	C/Filtered
Group	Method	Parameter	Region 9 PRG (Tap Water)	Consolidated Filtered Groundwater Background	Units							
Explosives	8330	1,3,5-Trinitrobenzene	1095 nc	--	ug/l	0.1 U	0.1 U	0.115 U	0.1 U	0.1 U	0.115 U	0.1 U
	8330	1,3-Dinitrobenzene	3.6 nc	--	ug/l	0.1 U	0.1 U	0.115 U	0.1 U	0.1 U	0.115 U	0.1 U
	8330	2,4,6-TNT	2.2 ca	--	ug/l	0.125 U	0.125 U	0.14 U	0.125 U	0.125 U	0.145 U	0.125 U
	8330	2,4-Dinitrotoluene	73 nc	--	ug/l	0.18 U	0.18 U	0.205 U	0.18 U	0.18 U	0.21 U	0.185 U
	8330	2,6-Dinitrotoluene	36 nc	--	ug/l	0.215 U	0.215 U	0.245 U	0.215 U	0.215 U	0.25 U	0.22 U
	8330	2-Amino-4,6-Dinitrotoluene	--	--	ug/l	0.18 U	0.18 U	0.205 U	0.18 U	0.18 U	0.21 U	0.185 U
	8330	2-Nitrotoluene	0.049 ca	--	ug/l	0.155 U	0.155 U	0.175 U	0.155 U	0.155 U	0.18 U	0.16 U
	8330	3-Nitrotoluene	122 nc	--	ug/l	0.155 U	0.155 U	0.175 U	0.155 U	0.155 U	0.18 U	0.16 U
	8330	4-Amino-2,6-Dinitrotoluene	--	--	ug/l	0.165 U	0.165 U	0.185 U	0.165 U	0.165 U	0.195 U	0.17 U
	8330	4-Nitrotoluene	0.66 ca	--	ug/l	0.155 U	0.155 U	0.175 U	0.155 U	0.155 U	0.18 U	0.16 U
	8330	HMX	1825 nc	--	ug/l	0.155 U	0.155 U	0.175 U	0.155 U	0.155 U	0.18 U	0.16 U
	8330	Nitrobenzene	3.4 nc	--	ug/l	0.08 U	0.08 U	0.09 U	0.08 U	0.08 U	0.095 U	0.08 U
	8330	RDX	0.61 ca	--	ug/l	0.1 U	0.1 U	0.115 U	0.1 U	0.1 U	0.115 U	0.25
	8330	Tetryl	365 nc	--	ug/l	0.39 U	0.39 U	0.44 U	0.39 U	0.39 U	0.455 U	0.395 U
Propellants	353.2 Modified	Nitrocellulose	--	--	ug/l	70 U	250 U	250 U	65 U	70 U	250 U	65 U
	8332	Nitroglycerine	4.8 ca	--	ug/l	0.5 U	0.5 U	0.55 UJ	0.5 UJ	0.5 U	0.6 U	0.5 UJ
	SW8330 Modified	Nitroguanidine	3650 nc	--	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Other Analytes	353.2	Nitrate as N (NO3-N)	10000 nc	--	ug/l	100 U	330	100 U	100 U	58	100 U	100 U

Notes:
-- - no background/PRG value is available for this analyte
blank cell indicates that the analysis was not performed
ug/l - means micrograms per Liter (parts per billion - ppb)
PRG - preliminary remediation goals
nc - non-cancer basis
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
UC/Filtered – GW sample was filtered for metals and taken from an unconsolidated MW
C/Filtered – GW sample was filtered for metals and taken from a consolidated (bedrock) MW
[n] - nutrient
U - analyte not detected
J - estimated value
R - result rejected during ADR validation
If Result = or > Background, then the value is presented with a shaded/highlighted style
If Result = or > Background & PRG, then result is presented with a bold + shaded/highlighted style
If Result = or > PRG, then the value is presented with a bold style
If Result < PRG & Background, then the value is presented with a normal style

Table LL7-13
Load Line 7 Human Health Risk Screening Tables Groundwater
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Parameter	Region 9 PRG (Tap Water)		Consolidated Filtered Groundwater Background	Maximum Detected C/Filtered	Frequency of Detection	COPC
Aluminum	36499	nc	--	93	5 / 7	No
Barium	2555	nc	256	82	7 / 7	No
Cadmium	18	nc	0.00	0.36	3 / 7	No
Calcium	--[n]		53100	45000	7 / 7	No
Chromium	109	nc	0.00	1.4	1 / 7	No
Cobalt	730	nc	0.00	21	7 / 7	No
Iron	10950	nc	1430	20000	6 / 7	Yes, > BKG & PRG
Magnesium	--[n]		15000	13000	7 / 7	No
Manganese	876	nc	1340	2000	7 / 7	Yes, > BKG & PRG
Nickel	730	nc	83.4	24	7 / 7	No
Potassium	--[n]		5770	2300	7 / 7	No
Silver	182	nc	0.00	0.93	1 / 7	No
Sodium	--[n]		51400	14000	7 / 7	No
Vanadium	36	nc	0.00	1.4	1 / 7	No
Zinc	10950	nc	52.3	40	7 / 7	No
Arsenic	0.045	ca	0.00	1.1	2 / 7	Yes, > BKG & PRG
Mercury	11	nc	0.00	0.4	3 / 7	No
1,1,1-Trichloroethane	3172	nc	--	10	1 / 7	No
1,1-Dichloroethane	811	nc	--	2.2	1 / 7	No
1,1-Dichloroethene	339	nc	--	2.6	1 / 7	No
RDX	0.61	ca	--	0.25	1 / 7	No
Nitrate as N (NO3-N)	10000	nc	--	330	2 / 7	No

Notes:
-- - no value available
BKG - site specific background
PRG - USEPA Region 9 Preliminary Remediation Goals
NTX - no toxicity screening value available
nc - non-cancer basis
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
[n] - nutrient
*Concentration Units ug/L

Table LL7-12
Load Line 7 Human Health Risk Screening Tables Surface Water
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Parameter	Region 9 PRG (Tap Water)		Surface Water Background	Maximum Detected	Frequency of Detection	COPC
Aluminum	36499	nc	3370	2200	9 / 9	No
Barium	2555	nc	47.5	140	9 / 9	No
Beryllium	73	nc	0.00	0.55	1 / 9	No
Cadmium	18	nc	0.00	1.3	1 / 9	No
Calcium	--[n]		41400	48000	9 / 9	No
Chromium	109	nc	0.00	3	2 / 9	No
Cobalt	730	nc	0.00	1.2	1 / 9	No
Copper	1460	nc	7.9	40	3 / 9	No
Iron	10950	nc	2560	4400	9 / 9	No
Magnesium	--[n]		10800	8900	9 / 9	No
Manganese	876	nc	391	1400	9 / 9	Yes, > BKG & PRG
Nickel	730	nc	0.00	30	5 / 9	No
Potassium	--[n]		3170	9300	9 / 9	No
Sodium	--[n]		21300	4000	9 / 9	No
Vanadium	36	nc	0.00	7.9	1 / 9	No
Zinc	10950	nc	42	230	9 / 9	No
Antimony	15	nc	0.00	47	2 / 9	Yes, > BKG & PRG
Arsenic	0.045	ca	3.2	1.1	3 / 9	No
Lead	15	mcl	0.00	2200	7 / 9	Yes, > BKG & PRG
Mercury	11	nc	0.00	0.32	1 / 9	No
1,2-Dichloroethene (total)	120	nc	--	9.2	1 / 9	No
cis-1,2-Dichloroethene	61	nc	--	9	1 / 9	No
Trichloroethene	0.028	ca	--	11	1 / 9	Yes, > PRG
1,3-Dichlorobenzene	182	nc	--	0.87	1 / 9	No
1,4-Dichlorobenzene	0.50	ca	--	0.52	1 / 9	Yes, > PRG
Anthracene	1825	nc	--	0.39	1 / 9	No
Benzo(a)anthracene	0.092	ca	--	1.4	1 / 9	Yes, > PRG
Benzo(a)pyrene	0.0092	ca	--	1.8	1 / 9	Yes, > PRG
Benzo(b)fluoranthene	0.092	ca	--	2	1 / 9	Yes, > PRG
Benzo(g,h,i)perylene	--		--	1.3	1 / 9	Yes, NTX
Benzo(k)fluoranthene	0.92	ca	--	1.2	1 / 9	Yes, > PRG
Bis(2-ethylhexyl) phthalate	4.8	ca	--	12	1 / 9	Yes, > PRG
Butylbenzyl phthalate	7300	nc	--	2.9	1 / 9	No
Chrysene	9.2	ca	--	1.6	1 / 9	No
Dibenzo(a,h)anthracene	0.0092	ca	--	0.42	1 / 9	Yes, > PRG
Fluoranthene	1460	nc	--	2.9	1 / 9	No
Indeno(1,2,3-cd)pyrene	0.092	ca	--	1	1 / 9	Yes, > PRG
Phenanthrene	--		--	1.7	1 / 9	Yes, NTX
Pyrene	182	nc	--	2.3	1 / 9	No
2,4,6-TNT	2.2	ca	--	1.3	1 / 9	No
2,4-Dinitrotoluene	73	nc	--	0.14	1 / 9	No
2-Amino-4,6-Dinitrotoluene	--		--	7.6	8 / 9	Yes, NTX
4-Amino-2,6-Dinitrotoluene	--		--	21	8 / 9	Yes, NTX
HMX	1825	nc	--	1700	9 / 9	No
RDX	0.61	ca	--	110	9 / 9	Yes, > PRG
Nitrate as N (NO3-N)	10000	nc	--	1200	9 / 9	No

Notes:
-- - no value available
BKG - site specific background
PRG - USEPA Region 9 Preliminary Remediation Goals
NTX - no toxicity screening value available
nc - non-cancer basis
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
[n] - nutrient
*Concentration Units ug/L

Table LL7-11
Load Line 7 Human Health Risk Screening Tables Sediment
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Parameter	Region 9 PRG (Res Soil)		Sediment Background	Maximum Detected	Frequency of Detection	COPC
Aluminum	7614	nc	13900	18000	3 / 3	Yes, > BKG & PRG
Arsenic	0.39	ca	19.5	13	3 / 3	No
Barium	538	nc	123	180	3 / 3	No
Beryllium	15	nc	0.38	2.7	3 / 3	No
Cadmium	3.7	nc	0.00	5.5	3 / 3	Yes, > BKG & PRG
Calcium	--[n]		5510	69000	3 / 3	No
Chromium	30	ca	18.1	27	3 / 3	No
Cobalt	30	ca	9.1	7.3	3 / 3	No
Copper	313	nc	27.6	51	3 / 3	No
Iron	2346	nc	28200	34000	3 / 3	Yes, > BKG & PRG
Lead	400	pbk	27.4	540	3 / 3	Yes, > BKG & PRG
Magnesium	--[n]		2760	12000	3 / 3	No
Manganese	176	nc	1950	1900	3 / 3	No
Nickel	156	nc	17.7	20	3 / 3	No
Potassium	--[n]		1950	1300	3 / 3	No
Selenium	39	nc	1.7	2.5	3 / 3	No
Sodium	--[n]		112	1400	2 / 3	No
Vanadium	7.8	nc	26.1	17	3 / 3	No
Zinc	2346	nc	532	750	3 / 3	No
Mercury	2.3	nc	0.06	0.033	3 / 3	No
Nitrate as N (NO3-N)	NA	0	--	1.2	1 / 3	No

Notes:
-- - no value available
BKG - site specific background
PRG - USEPA Region 9 Preliminary Remediation Goals
NTX - no toxicity screening value available
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
*Concentration Units mg/kg

Table LL7-10
Load Line 7 Human Health Risk Screening Tables Surface Soil (0-1 ft)
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Parameter	Region 9 PRG (Res Soil)		Surface Soil Background	Maximum Detected	Frequency of Detection	COPC
Aluminum	7614	nc	17700	18000	46 / 46	Yes, > BKG & PRG
Arsenic	0.39	ca	15.4	16	46 / 46	Yes, > BKG & PRG
Barium	538	nc	88.4	160	46 / 46	No
Beryllium	15	nc	0.88	2.8	46 / 46	No
Cadmium	3.7	nc	0.00	1.4	23 / 46	No
Calcium	--[n]		15800	77000	46 / 46	No
Chromium	30	ca	17.4	33	46 / 46	Yes, > BKG & PRG
Cobalt	30	ca	10.4	13	46 / 46	No
Copper	313	nc	17.7	88	46 / 46	No
Iron	2346	nc	23100	29000	46 / 46	Yes, > BKG & PRG
Lead	400	pbk	26.1	160	46 / 46	No
Magnesium	--[n]		3030	9700	46 / 46	No
Manganese	176	nc	1450	1600	46 / 46	Yes, > BKG & PRG
Nickel	156	nc	21.1	29	46 / 46	No
Potassium	--[n]		927	1800	46 / 46	No
Selenium	39	nc	1.4	1.4	46 / 46	No
Silver	39	nc	0.00	80	3 / 46	Yes, > BKG & PRG
Sodium	--[n]		123	670	36 / 46	No
Vanadium	7.8	nc	31.1	28	46 / 46	No
Zinc	2346	nc	61.8	180	46 / 46	No
Antimony	3.1	nc	0.96	0.72	10 / 44	No
Mercury	2.3	nc	0.04	0.4	45 / 46	No
Thallium	0.52	nc	0.00	0.31	5 / 46	No
Aroclor 1254	0.22	ca	--	0.07	1 / 5	No
Acetone	1412	nc	--	0.011	1 / 6	No
2-Methylnaphthalene	--		--	0.1	3 / 5	Yes, NTX
4-Methylphenol	31	nc	--	0.014	1 / 5	No
Acenaphthene	368	nc	--	0.97	3 / 5	No
Anthracene	2189	nc	--	1.8	4 / 5	No
Benzo(a)anthracene	0.62	ca	--	3.6	5 / 5	Yes, > PRG
Benzo(a)pyrene	0.062	ca	--	2.9	5 / 5	Yes, > PRG
Benzo(b)fluoranthene	0.62	ca	--	3.4	5 / 5	Yes, > PRG
Benzo(g,h,i)perylene	--		--	1.2	5 / 5	Yes, NTX
Benzo(k)fluoranthene	6.2	ca	--	2	5 / 5	No
Benzyl alcohol	1833	nc	--	0.77	2 / 5	No
Carbazole	24	ca	--	1	2 / 5	No
Chrysene	62	ca	--	4	5 / 5	No
Dibenzo(a,h)anthracene	0.062	ca	--	0.46	4 / 5	Yes, > PRG
Dibenzofuran	15	nc	--	0.25	3 / 5	No
Fluoranthene	229	nc	--	9	5 / 5	No
Fluorene	275	nc	--	0.53	3 / 5	No
Indeno(1,2,3-cd)pyrene	0.62	ca	--	1	5 / 5	Yes, > PRG
Naphthalene	5.6	nc	--	0.2	3 / 5	No
Phenanthrene	--		--	6.1	5 / 5	Yes, NTX
Pyrene	232	nc	--	6.5	5 / 5	No
2,4,6-TNT	16	ca	--	2.7	3 / 46	No
2,6-Dinitrotoluene	6.1	nc	--	0.28	2 / 46	No
2-Amino-4,6-Dinitrotoluene	--		--	0.1	1 / 46	Yes, NTX
2-Nitrotoluene	0.88	ca	--	0.11	1 / 46	No
3-Nitrotoluene	73	nc	--	0.13	1 / 46	No
HMX	306	nc	--	7.9	4 / 46	No
RDX	4.4	ca	--	45	5 / 46	Yes, > PRG
Nitrocellulose	--		--	156	3 / 23	Yes, NTX

Parameter	Region 9 PRG (Res Soil)		Surface Soil Background	Maximum Detected	Frequency of Detection	COPC
Nitroglycerine	35	ca	--	18	2 / 24	No
Nitrate as N (NO3-N)	NA	0	--	9.1	41 / 46	No

Notes:
-- - no value available
BKG - site specific background
PRG - USEPA Region 9 Preliminary Remediation Goals
NTX - no toxicity screening value available
nc - non-cancer basis, value is 1/10 the published PRG
ca - cancer basis
pbk - based on PBK modeling
mcl - based on CWA maximum contaminant level
max - ceiling limit
sat - soil saturation
[n] - nutrient
*Concentration Units mg/kg

Table LL7-14
Load Line 7 Ecological Risk Screening Tables for Surface Soil (0-1 ft)
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Group	Parameter	Frequency of Detection	Average Concentration	Maximum Detected Concentration	Units	Surface Soil Background Concentration	Maximum Concentration > Background	Screening Value	Maximum Concentration > Screening value	PBT	COPC	COPC Rationale
Metals	Aluminum	46 / 46	10304	18000	mg/kg	17700	Yes	600 ss2	Yes	No	Yes	ASL
	Arsenic	46 / 46	10	16	mg/kg	15.4	Yes	9.9 ss1	Yes	No	Yes	ASL
	Barium	46 / 46	80	160	mg/kg	88.4	Yes	283 ss1	No	No	No	BSL
	Beryllium	46 / 46	0.89	2.8	mg/kg	0.88	Yes	10 ss1	No	No	No	BSL
	Cadmium	23 / 46	0.24	1.4	mg/kg	0.00	Yes	4 ss1	No	No	No	BSL
	Calcium	46 / 46	10848	77000	mg/kg	15800	Yes	NUT	No	No	No	BSL
	Chromium	46 / 46	20	33	mg/kg	17.4	Yes	0.4 ss1	Yes	No	Yes	ASL
	Cobalt	46 / 46	8.4	13	mg/kg	10.4	Yes	20 ss1	No	No	No	BSL
	Copper	46 / 46	18	88	mg/kg	17.7	Yes	60 ss1	Yes	No	Yes	ASL
	Iron	46 / 46	19326	29000	mg/kg	23100	Yes	200 ss2	Yes	No	Yes	ASL
	Lead	46 / 46	33	160	mg/kg	26.1	Yes	40.5 ss1	Yes	No	Yes	ASL
	Magnesium	46 / 46	2689	9700	mg/kg	3030	Yes	NUT	No	No	No	BSL
	Manganese	46 / 46	755	1600	mg/kg	1450	Yes	100 ss2	Yes	No	Yes	ASL
	Nickel	46 / 46	18	29	mg/kg	21.1	Yes	30 ss1	No	No	No	BSL
	Potassium	46 / 46	945	1800	mg/kg	927	Yes	NUT	No	No	No	BSL
	Selenium	46 / 46	0.83	1.4	mg/kg	1.4	No	0.21 ss1	Yes	No	No	BLBKG
	Silver	3 / 46	2.3	80	mg/kg	0.00	Yes	2 ss1	Yes	No	Yes	ASL
	Sodium	36 / 46	271	670	mg/kg	123	Yes	NUT	No	No	No	BSL
	Vanadium	46 / 46	18	28	mg/kg	31.1	No	2 ss1	Yes	No	No	BLBKG
	Zinc	46 / 46	73	180	mg/kg	61.8	Yes	8.5 ss1	Yes	No	Yes	ASL
	Antimony	10 / 44	0.69	0.72	mg/kg	0.96	No	5 ss1	No	No	No	BLBKG
	Mercury	45 / 46	0.064	0.4	mg/kg	0.04	Yes	0.00051 ss1	Yes	Yes	Yes	ASL
	Thallium	5 / 46	0.30	0.31	mg/kg	0.00	Yes	1 ss1	No	No	No	BSL
PCBs	Aroclor 1254	1 / 5	0.027	0.07	mg/kg	--	NA	0.000332 ss4	Yes	No	Yes	ASL
VOCs	Acetone	1 / 6	0.0098	0.011	mg/kg	--	NA	2.5 ss4	No	No	No	BSL
SVOCs	2-Methylnaphthalene	3 / 5	0.050	0.1	mg/kg	--	NA	3.24 ss4	No	No	No	BSL
	4-Methylphenol	1 / 5	0.030	0.014	mg/kg	--	NA	--	NSL	No	Yes	NSL
	Acenaphthene	3 / 5	0.39	0.97	mg/kg	--	NA	20 ss1	No	No	No	BSL
	Anthracene	4 / 5	0.73	1.8	mg/kg	--	NA	148 ss4	No	No	No	BSL
	Benzo(a)anthracene	5 / 5	1.5	3.6	mg/kg	--	NA	5.21 ss4	No	No	No	BSL
	Benzo(a)pyrene	5 / 5	1.2	2.9	mg/kg	--	NA	1.52 ss4	Yes	No	Yes	ASL
	Benzo(b)fluoranthene	5 / 5	1.4	3.4	mg/kg	--	NA	59.8 ss4	No	No	No	BSL
	Benzo(g,h,i)perylene	5 / 5	0.48	1.2	mg/kg	--	NA	119 ss4	No	No	No	BSL
	Benzo(k)fluoranthene	5 / 5	0.86	2	mg/kg	--	NA	148 ss4	No	No	No	BSL
	Benzyl alcohol	2 / 5	0.43	0.77	mg/kg	--	NA	658 ss4	No	No	No	BSL
	Carbazole	2 / 5	0.42	1	mg/kg	--	NA	--	NSL	No	Yes	NSL
	Chrysene	5 / 5	1.6	4	mg/kg	--	NA	4.73 ss4	No	No	No	BSL
	Dibenzo(a,h)anthracene	4 / 5	0.19	0.46	mg/kg	--	NA	18.4 ss4	No	No	No	BSL
	Dibenzofuran	3 / 5	0.12	0.25	mg/kg	--	NA	--	NSL	No	Yes	NSL
	Fluoranthene	5 / 5	3.7	9	mg/kg	--	NA	122 ss4	No	No	No	BSL
	Fluorene	3 / 5	0.23	0.53	mg/kg	--	NA	122 ss4	No	No	No	BSL
	Indeno(1,2,3-cd)pyrene	5 / 5	0.42	1	mg/kg	--	NA	109 ss4	No	No	No	BSL
	Naphthalene	3 / 5	0.085	0.2	mg/kg	--	NA	0.0994 ss4	Yes	No	Yes	ASL
	Phenanthrene	5 / 5	2.5	6.1	mg/kg	--	NA	45.7 ss4	No	No	No	BSL
	Pyrene	5 / 5	2.7	6.5	mg/kg	--	NA	78.5 ss4	No	No	No	BSL
Explosives	2,4,6-TNT	3 / 46	0.13	2.7	mg/kg	--	NA	--	NSL	No	Yes	NSL
	2,6-Dinitrotoluene	2 / 46	0.10	0.28	mg/kg	--	NA	0.0328 ss4	Yes	No	Yes	ASL
	2-Amino-4,6-Dinitrotoluene	1 / 46	0.100	0.1	mg/kg	--	NA	--	NSL	No	Yes	NSL
	2-Nitrotoluene	1 / 46	0.10	0.11	mg/kg	--	NA	--	NSL	No	Yes	NSL
	3-Nitrotoluene	1 / 46	0.10	0.13	mg/kg	--	NA	--	NSL	No	Yes	NSL
	HMX	4 / 46	0.30	7.9	mg/kg	--	NA	--	NSL	No	Yes	NSL
	RDX	5 / 46	1.2	45	mg/kg	--	NA	--	NSL	No	Yes	NSL
Propellants	Nitrocellulose	3 / 23	8.1	156	mg/kg	--	NA	--	NSL	No	Yes	NSL
	Nitroglycerine	2 / 24	1.1	18	mg/kg	--	NA	--	NSL	No	Yes	NSL
Other Analytes	Nitrate as N (NO3-N)	41 / 46	1.9	9.1	mg/kg	--	NA	--	NSL	No	Yes	NSL

Notes:
-- - no value available
mg/kg - means milligrams per Kilogram (parts per million - ppm)
ss1 - Preliminary Remediation Goals (Efroymson et al , 1997a)
ss2 - Toxiclogolgical Benchmarks for Soil and Litter Invertebrates (Efrymonson et al. 1997b)
ss3 - Toxiclogolgical Benchmarks for Terrestrial Plants (Efrymonson et al. 1997c)
ss4- Ecological Data Quality Level (USEPA Region 5, 1999)
NA - not applicable

NUT - nutrient
BLBKG - below background concentration
PBT- persistent, bioaccumulative and toxic
NSL - no screening level
ASL- above screening level
BSL - below screening level

Table LL7-15
Load Line 7 Ecological Risk Screening Tables for Sediment
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Group	Parameter	Frequency of Detection	Average Concentration	Maximum Detected Concentration	Units	Sediment Background Concentration	Maximum Concentration > Background	SRV	Maximum Concentration > SRV	Screening Value	Maximum Concentration > Screening value	PBT	COPC	COPC Rationale
Metals	Aluminum	3 / 3	12933	18000	mg/kg	13900	Yes	29000	No	--	NSL	No	No	BLSRV
	Arsenic	3 / 3	9.6	13	mg/kg	19.5	No	25	No	9.79 sd1	Yes	No	No	BLBKG
	Barium	3 / 3	143	180	mg/kg	123	Yes	190	No	--	NSL	No	No	BLSRV
	Beryllium	3 / 3	1.9	2.7	mg/kg	0.38	Yes	0.8	Yes	--	NSL	No	Yes	NSL
	Cadmium	3 / 3	3.6	5.5	mg/kg	0.00	Yes	0.79	Yes	0.99 sd1	Yes	No	Yes	ASL
	Calcium	3 / 3	39400	69000	mg/kg	5510	Yes	21000	Yes	NUT	No	No	No	BSL
	Chromium	3 / 3	20	27	mg/kg	18.1	Yes	29	No	43.4 sd1	No	No	No	BLSRV
	Cobalt	3 / 3	5.3	7.3	mg/kg	9.1	No	12	No	50 sd2	No	No	No	BLBKG
	Copper	3 / 3	38	51	mg/kg	27.6	Yes	32	Yes	31.6 sd1	Yes	No	Yes	ASL
	Iron	3 / 3	25333	34000	mg/kg	28200	Yes	41000	No	--	NSL	No	No	BLSRV
	Lead	3 / 3	314	540	mg/kg	27.4	Yes	47	Yes	35.8 sd1	Yes	No	Yes	ASL
	Magnesium	3 / 3	7500	12000	mg/kg	2760	Yes	7100	Yes	NUT	No	No	No	BSL
	Manganese	3 / 3	1280	1900	mg/kg	1950	No	1500	Yes	--	NSL	No	No	BLBKG
	Nickel	3 / 3	16	20	mg/kg	17.7	Yes	33	No	22.7 sd1	No	No	No	BLSRV
	Potassium	3 / 3	1200	1300	mg/kg	1950	No	6800	No	NUT	No	No	No	BLBKG
	Selenium	3 / 3	1.8	2.5	mg/kg	1.7	Yes	1.7	Yes	--	NSL	No	Yes	NSL
	Sodium	2 / 3	917	1400	mg/kg	112	Yes	NA	NA	NUT	No	No	No	BSL
	Vanadium	3 / 3	13	17	mg/kg	26.1	No	40	No	--	NSL	No	No	BLBKG
	Zinc	3 / 3	563	750	mg/kg	532	Yes	160	Yes	121 sd1	Yes	No	Yes	ASL
	Mercury	3 / 3	0.027	0.033	mg/kg	0.06	No	0.12	No	0.18 sd1	No	Yes	No	BLBKG
Other Analytes	Nitrate as N (NO3-N)	1 / 3	2.3	1.2	mg/kg	--	NA	--	NA	--	NSL	No	Yes	NSL

Notes:
-- - no value available
mg/kg - means milligrams per Kilogram (parts per million - ppm)
sd1 - Threshold Effects Concentration from McDonald et al , (2000)
sd2 - Ecological Data Quality Level (USEPA Region 5, 1999)
NUT - nutrient
NA - not applicable
BLBKG - below background concentration
PBT- persistent, bioaccumulative and toxic
NSL - no screening level
ASL- above screening level
BSL - below screening level
SRV-Sediment Reference Value (OEPA, 2003)
BLSRV-Below Sediment Reference Value

Table LL7-16
Load Line 7 Ecological Risk Screening Tables for Surface Water
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Group	Parameter	Frequency of Detection	Average Concentration	Maximum Detected Concentration	Units	Surface Water Background Concentration	Maximum Concentration > Background	Screening Value	Maximum Concentration > Screening value	PBT	COPC	COPC Rationale
Metals	Aluminum	9 / 9	404	2200	ug/l	3370	No	--	NSL	No	No	BLBKG
	Barium	9 / 9	42	140	ug/l	47.5	Yes	2000 sw1	No	No	No	BSL
	Beryllium	1 / 9	0.95	0.55	ug/l	0.00	Yes	69 sw1[H]	No	No	No	BSL
	Cadmium	1 / 9	1.0	1.3	ug/l	0.00	Yes	3.7 sw1[H]	No	No	No	BSL
	Calcium	9 / 9	24822	48000	ug/l	41400	Yes	NUT	No	No	No	BSL
	Chromium	2 / 9	4.5	3	ug/l	0.00	Yes	1548 sw1[H]	No	No	No	BSL
	Cobalt	1 / 9	2.4	1.2	ug/l	0.00	Yes	220 sw1	No	No	No	BSL
	Copper	3 / 9	9.2	40	ug/l	7.9	Yes	12 sw1[H]	Yes	No	Yes	ASL
	Iron	9 / 9	984	4400	ug/l	2560	Yes	--	NSL	No	Yes	NSL
	Magnesium	9 / 9	5172	8900	ug/l	10800	No	NUT	No	No	No	BLBKG
	Manganese	9 / 9	182	1400	ug/l	391	Yes	--	NSL	No	Yes	NSL
	Nickel	5 / 9	6.9	30	ug/l	0.00	Yes	401 sw1[H]	No	No	No	BSL
	Potassium	9 / 9	2456	9300	ug/l	3170	Yes	NUT	No	No	No	BSL
	Sodium	9 / 9	2444	4000	ug/l	21300	No	NUT	No	No	No	BLBKG
	Vanadium	1 / 9	5.3	7.9	ug/l	0.00	Yes	150 sw1	No	No	No	BSL
	Zinc	9 / 9	43	230	ug/l	42	Yes	102 sw1[H]	Yes	No	Yes	ASL
	Antimony	2 / 9	8.5	47	ug/l	0.00	Yes	900 sw1	No	No	No	BSL
	Arsenic	3 / 9	0.94	1.1	ug/l	3.2	No	340 sw1	No	No	No	BLBKG
	Lead	7 / 9	228	2200	ug/l	0.00	Yes	97 sw1[H]	Yes	No	Yes	ASL
	Mercury	1 / 9	0.12	0.32	ug/l	0.00	Yes	1.7 sw1	No	Yes	Yes	PBT
VOCs	1,2-Dichloroethene (total)	1 / 9	1.5	9.2	ug/l	--	NA	8800 sw1	No	No	No	BSL
	cis-1,2-Dichloroethene	1 / 9	1.4	9	ug/l	--	NA	8800 sw1	No	No	No	BSL
	Trichloroethene	1 / 9	1.7	11	ug/l	--	NA	2000 sw1	No	No	No	BSL
SVOCs	1,3-Dichlorobenzene	1 / 9	0.99	0.87	ug/l	--	NA	79 sw1	No	No	No	BSL
	1,4-Dichlorobenzene	1 / 9	0.95	0.52	ug/l	--	NA	57 sw1	No	No	No	BSL
	Anthracene	1 / 9	0.48	0.39	ug/l	--	NA	0.18 sw1	Yes	No	Yes	ASL
	Benzo(a)anthracene	1 / 9	0.24	1.4	ug/l	--	NA	--	NSL	No	Yes	NSL
	Benzo(a)pyrene	1 / 9	0.38	1.8	ug/l	--	NA	--	NSL	No	Yes	NSL
	Benzo(b)fluoranthene	1 / 9	0.40	2	ug/l	--	NA	--	NSL	No	Yes	NSL
	Benzo(g,h,i)perylene	1 / 9	0.59	1.3	ug/l	--	NA	--	NSL	No	Yes	NSL
	Benzo(k)fluoranthene	1 / 9	0.31	1.2	ug/l	--	NA	--	NSL	No	Yes	NSL
	Bis(2-ethylhexyl) phthalate	1 / 9	8.0	12	ug/l	--	NA	1100 sw1	No	No	No	BSL
	Butylbenzyl phthalate	1 / 9	1.2	2.9	ug/l	--	NA	130 sw1	No	No	No	BSL
	Chrysene	1 / 9	0.40	1.6	ug/l	--	NA	--	NSL	No	Yes	NSL
	Dibenzo(a,h)anthracene	1 / 9	0.22	0.42	ug/l	--	NA	--	NSL	No	Yes	NSL
	Fluoranthene	1 / 9	0.76	2.9	ug/l	--	NA	3.7 sw1	No	No	No	BSL
	Indeno(1,2,3-cd)pyrene	1 / 9	0.29	1	ug/l	--	NA	--	NSL	No	Yes	NSL
	Phenanthrene	1 / 9	0.63	1.7	ug/l	--	NA	31 sw1	No	No	No	BSL
	Pyrene	1 / 9	0.70	2.3	ug/l	--	NA	42 sw1	No	No	No	BSL
Explosives	2,4,6-TNT	1 / 9	0.29	1.3	ug/l	--	NA	120 sw1	No	No	No	BSL
	2,4-Dinitrotoluene	1 / 9	0.23	0.14	ug/l	--	NA	390 sw1	No	No	No	BSL
	2-Amino-4,6-Dinitrotoluene	8 / 9	1.3	7.6	ug/l	--	NA	160 sw1	No	No	No	BSL
	4-Amino-2,6-Dinitrotoluene	8 / 9	2.8	21	ug/l	--	NA	98 sw1	No	No	No	BSL
	HMX	9 / 9	198	1700	ug/l	--	NA	1200 sw1	Yes	No	Yes	ASL
	RDX	9 / 9	40	110	ug/l	--	NA	520 sw1	No	No	No	BSL
Other Analytes	Nitrate as N (NO3-N)	9 / 9	672	1200	ug/l	--	NA	--	NSL	No	Yes	NSL

Notes:
-- - no value available
ug/l - means micrograms per Liter (parts per billion - ppb)
sw1 - Ohio Water Quality Criteria (Reg 3745-1-07)
sw1[H] - Ohio Water Quality Criteria (Reg 3745-1-07) based on a site specific hardness of 83 (mg/l)
NA - not applicable
ID - insufficient data to calculate screening value
NUT - nutrient
BLBKG - below background concentration
PBT- persistent, bioaccumulative and toxic
NSL - no screening level
ASL- above screening level

Table LL7-17
Load Line 7 Ecological Risk Summary of Quantitative and Qualitative COPECs for Environmental Media
RVAAP 14 AOC Characterization
Ravenna Army Ammunition Plant, Ravenna, Ohio

Group	Parameter	Shallow Soil	Sediment	Surface Water
Metals	Beryllium			
	Cadmium		X	
	Chromium	X		
	Copper	X	X	X
	Iron	X		Q
	Lead	X	X	X
	Magnesium			
	Selenium			
	Silver	X		
	Zinc	X	X	X
	Lead	X	X	X
	Mercury	X		X
PCBs	Aroclor 1254	X		
SVOCs	2,6-Dinitrotoluene	X		
	4-Methylphenol	Q		
	Anthracene			X
	Benzo(a)anthracene			Q
	Benzo(a)pyrene	X		Q
	Benzo(b)fluoranthene			Q
	Benzo(g,h,i)perylene			Q
	Benzo(k)fluoranthene			Q
	Carbazole	Q		
	Chrysene			Q
	Dibenzo(a,h)anthracene			Q
	Dibenzofuran	Q		
	Indeno(1,2,3-cd)pyrene			Q
	Naphthalene	X		
Explosives	2,4,6-TNT	Q		
	2,6-Dinitrotoluene	X		
	2-Amino-4,6-Dinitrotoluene	Q		
	2-Nitrotoluene	Q		
	3-Nitrotoluene	Q		
	HMX	Q		X
	RDX	Q		
Propellants	Nitrocellulose	Q		
	Nitroglycerine	Q		
Other Analytes	Nitrate as N (NO3-N)	Q		Q

Notes:
COPEC - chemical of potential ecological concern
X - quantitative COPEC
Q - qualitatative COPEC
blank cells indicate that the analyte was not identified as a COPEC for the media

Total PAHs are only applicable to sediments. For soil and surface water, only the individual PAHs are screened