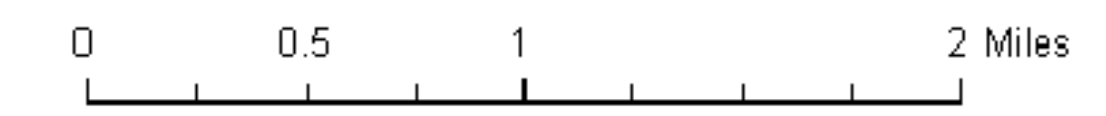


CRAB ORCHARD NATIONAL WILDLIFE REFUGE MARION, ILLINOIS AUS OU AREAS



Legend
 AUS OU Sites



NOTES FOR TABLES ON FIGURES 5-1 THROUGH 5-39:

Blank in concentration column indicates constituent is not analyzed in sample.
 ND = Not detected.
 ND in an "ALL" constituent group indicates none of the constituents were detected.
 NE in an "ALL" constituent group indicates that none of the constituents exceeded any screening criteria.
 -- in an "ALL" constituent group indicates that at least one constituent in that group exceeded screening criteria.
 CE = Criteria exceeded, blank in CE column indicates the constituent did not exceed any screening criteria.

FOR SOIL, SEDIMENT, DRUM OR SEWER LINE SAMPLES:
 B = exceeds the 95UTL background soil concentration or 95UTL background sediment concentration.
 E = exceeds the ecological soil screening criteria or ecological sediment screening criteria.
 H = exceeds the human health direct contact soil screening criteria.
 W1 = exceeds the soil to groundwater screening criteria based on EPA SSL with a DAF of 20.
 W2 = exceeds the soil to groundwater screening criteria based on Class I GW, metals were based on criteria using a pH of 6.25 to 6.64.

FOR GROUNDWATER SAMPLES:
 C1 = exceeds groundwater screening criteria based on Class I groundwater.

FOR SURFACE WATER SAMPLES:
 B = exceeds the 95UTL background surface water concentration.
 E = exceeds the ecological surface water screening criteria.
 H = exceeds the surface water general use human health criteria.

PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS			
TITLE: RI/FS WORKPLAN			
CONWR SITE LOCATION & OU AREAS			
DRAWN BY: DDZ	SCALE: AS SHOWN	PROJ. NO. 0233-001-200	
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. COVER	
APPROVED BY: DPT			
NewFields		1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050	



Soil Samples		AUS-0A2B-008				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
ARSENIC	MG/KG	35.2	B E H W1 W2	1.3E+01	9.0E+00	1.6E+00	2.9E+01	2.9E+01	2.9E+01	2.9E+01	2.9E+01
BARIIUM	MG/KG	837	B E	2.4E+02	5.0E+02	6.7E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03
BORON	MG/KG	7.1	B E	4.6E+00	5.0E+01	1.8E+04	3.6E+06				
CHROMIUM, TOTAL	MG/KG	14.2	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01			
COBALT	MG/KG	25.8	B E H W1 W2	9.3E+00	2.2E+01	1.9E+03	4.0E+00	1.0E+00			
IRON	MG/KG	58800	B E H W1 W2	2.0E+04	2.0E+02	3.1E+04	1.4E+04	1.4E+04			
SELENIUM	MG/KG	4.1	B E	3.2E+00	1.0E+00	5.1E+02	5.0E+00	6.3E+00			
VANADIUM	MG/KG	74.1	B E	3.1E+01	4.6E+01	1.0E+02	6.0E+03	9.8E+02			

Soil Samples		AUS-0A2B-010				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
ARSENIC	MG/KG	17.5	B E H	1.3E+01	9.0E+00	1.6E+00	2.9E+01	2.9E+01	2.9E+01	2.9E+01	2.9E+01
CHROMIUM, TOTAL	MG/KG	17.6	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01			
COPPER	MG/KG	41.1	B E	9.4E+00	3.1E+01	4.1E+03	5.0E+04				
IRON	MG/KG	24900	B E	2.0E+04	2.0E+02	3.1E+04	1.4E+04	1.4E+04			

Soil Samples		AUS-0A2B-W03				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
CADMIUM	MG/KG	0.38	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00			

Groundwater Samples		AUS-0A2B-W03-GW				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	Conc.	CE	CE	CE	95UTL	B	E	H	W1	W2
ALL VOC	UG/L	ND	ND	ND	ND						
ALL SVOC	UG/L	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND						
MANGANESE	UG/L	458	C1	1.5E+02							

Soil Samples		AUS-0A2B-021				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
ARSENIC	MG/KG	33.3	B E H W1 W2	1.3E+01	9.0E+00	1.6E+00	2.9E+01	2.9E+01	2.9E+01	2.9E+01	2.9E+01
BORON	MG/KG	10.2	B E	4.6E+00	5.0E+01	1.8E+04	3.6E+06				
CADMIUM	MG/KG	20	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01			
CHROMIUM, TOTAL	MG/KG	20	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01			
COBALT	MG/KG	21.6	B E	9.3E+00	2.2E+01	1.9E+03	4.0E+00	1.0E+00			
COPPER	MG/KG	1580	B E	9.4E+00	3.1E+01	4.1E+03	5.0E+04				
CYANIDE	MG/KG	48.7	B E	3.2E+00	1.0E+00	5.1E+02	5.0E+00	6.3E+00			
IRON	MG/KG	21300	B E	2.0E+04	2.0E+02	3.1E+04	1.4E+04	1.4E+04			
MANGANESE	MG/KG	6350	B E H	2.4E+03	1.0E+02	1.9E+04					
SELENIUM	MG/KG	4.9	B E	3.2E+00	1.0E+00	5.1E+02	5.0E+00	6.3E+00			
TRICHLOROETHYLENE (TCE)	UG/KG	48.7	B E	3.2E+00	1.0E+00	5.1E+02	5.0E+00	6.3E+00			
VANADIUM	MG/KG	48.7	B E	3.1E+01	4.6E+01	1.0E+02	6.0E+03	9.8E+02			
ZINC	MG/KG	465	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03			

Soil Samples		AUS-0A2B-011				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL METALS	MG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
CYANIDE	MG/KG	2.1	B E	5.6E-01	9.0E-01	1.2E+03	4.0E+01				

Groundwater Samples		AUS-0A2B-W02-GW				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	Conc.	CE	CE	CE	95UTL	B	E	H	W1	W2
ALL VOC	UG/L	ND	ND	ND	ND						
ALL SVOC	UG/L	ND	ND	ND	ND						
ALL METALS	MG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND						
CIS-1,2-DICHLOROETHYLENE	UG/L	120	C1	7.0E+01							
TETRACHLOROETHYLENE(PCE)	UG/L	15	C1	5.0E+00							
TRICHLOROETHYLENE (TCE)	UG/L	47	C1	5.0E+00							

Soil Samples		AUS-0A2B-009				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
CYANIDE	MG/KG	2.5	B E	6.6E-01	9.0E-01	1.2E+03	4.0E+01				
TETRACHLOROETHYLENE(PCE)	UG/KG	15	B E	5.0E+00							
ZINC	MG/KG	302	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03			

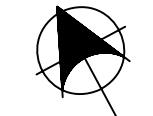
Soil Samples		AUS-0A2B-018				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL METALS	MG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
CPAH	UG/KG	536.05	H	2.1E+02							

Soil Samples		AUS-0A2B-014				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL METALS	MG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
IRON	MG/KG	19800	B E	2.0E+04	2.0E+02	3.1E+04	1.4E+04	1.4E+04			

Soil Samples		AUS-0A2B-013				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL METALS	MG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
IRON	MG/KG	21000	B E	2.0E+04	2.0E+02	3.1E+04	1.4E+04	1.4E+04			

Soil Samples		AUS-0A2B-004				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
CPAH	UG/KG	421.31	H	2.1E+02							
ANTIMONY	MG/KG	55.9	B E H W1 W2	4.2E-01	5.0E+00	4.1E+01	5.0E+00	5.0E+00	5.0E+00	5.0E+00	5.0E+00
CHROMIUM, TOTAL	MG/KG	44.3	B E H W1 W2	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01			
COPPER	MG/KG	36.8	B E	9.4E+00	3.1E+01	4.1E+03	5.0E+04				
IRON	MG/KG	28200	B E	2.0E+04	2.0E+02	3.1E+04	1.4E+04	1.4E+04			
LEAD	MG/KG	2000	B E H	2.6E+01	4.3E+02	4.0E+02					
MERCURY	MG/KG	0.99	B E W2	2.8E-01	1.5E-01	3.1E+01	8.9E-01				

Soil Samples		AUS-0A2B-017				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE 1 ft	CE 1 ft	CE 1 ft	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
CPAH	UG/KG	419.41	H	2.1E+02							
CHROMIUM, TOTAL	MG/KG	14.1	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01			
IRON	MG/KG	21800	B E	2.0E+04	2.0E+02	3.1E+04	1.4E+04	1			



Soil Samples		AUS-0A2F-013		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINIUM	MG/KG	15800	B E	9.1E+03	5.0E+01	9.2E+04		
CADMIUM	MG/KG	18.5	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	
CHROMIUM, TOTAL	MG/KG	21300	B E	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0A2F-001		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CADMIUM	MG/KG	0.53	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+01
CHROMIUM, TOTAL	MG/KG	14.1	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	

Soil Samples		AUS-0A2F-002		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CADMIUM	MG/KG	0.53	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+01
CHROMIUM, TOTAL	MG/KG	14.1	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	

Surface Water Samples		AUS-0A2F-007-SW		SW Bkg	SW Eco	SW HH
Constituents	Units	Conc.	CE	95UTL	Std	Std
ALL SVOC	UG/L	ND				
ALL EXPLOSIVES	UG/L	ND				
ALUMINIUM	UG/L	981	B E	2.0E+02	8.7E+01	
IRON	UG/L	1090	B E H	1.0E+02	1.0E+03	1.0E+03

- SAMPLING LEGEND
- EXISTING MONITORING WELL/SOIL BORING LOCATION
 - EXISTING SOIL SAMPLE LOCATION
 - EXISTING SOIL AND SURFACE WATER SAMPLE LOCATION
 - USEPA 1998 SAMPLE LOCATION
 - PROPOSED SOIL BORING LOCATION
 - PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
 - PROPOSED MONITORING WELL LOCATION
 - PROPOSED PIEZOMETER LOCATION
 - PROPOSED GEOPROBE/TEMPORARY WELLS
 - GROUNDWATER ELEVATION (WATER TABLE)
 - SEPTEMBER 2000 (CONTOUR INTERVAL 1 ft)

Soil Samples		AUS-0A2F-010		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CADMIUM	MG/KG	0.41	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+01
ZINC	MG/KG	178	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	1.0E+04

Soil Samples		AUS-0A2F-009		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
BORON	MG/KG	5.5	B E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	1.8	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+01
CHROMIUM, TOTAL	MG/KG	18.2	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	
ZINC	MG/KG	19900	B E	2.0E+04	2.0E+02	3.1E+04		
IRON	MG/KG	231	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	1.0E+04

Soil Samples		AUS-0A2F-003		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
BORON	MG/KG	6.8	B E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	0.97	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+01

Soil Samples		AUS-0A2F-W02		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
TRICHLOROETHYLENE (TCE)	UG/KG	ND	ND				9.0E+03	1.1E+02
CHLOROBENZENE	UG/KG	ND	ND				8.0E+01	3.0E+02

Soil Samples		AUS-0A2F-011		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINIUM	MG/KG	13400	B E	9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	18.5	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	
IRON	MG/KG	21000	B E	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0A2F-012		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINIUM	MG/KG	11600	B E	9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	16.7	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	

Soil Samples		AUS-0A2F-004		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINIUM	MG/KG	9500	B E H	9.1E+03	5.0E+01	1.6E+04	2.9E+01	1.1E+02
ARSENIC	MG/KG	15.2	B E H	1.3E+01	9.0E+00	1.6E+02	4.2E+01	3.8E+01
BORON	MG/KG	14.2	B E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	0.77	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+01
CHROMIUM, TOTAL	MG/KG	20.1	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	
COPPER	MG/KG	57.1	B E	9.4E+00	3.1E+01	4.1E+03	5.9E+04	
IRON	MG/KG	29200	B E	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0A2F-006		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
BORON	MG/KG	4.7	B E	4.6E+00	5.0E-01	1.8E+04		
IRON	MG/KG	23000	B E	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0A2F-005		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
BORON	MG/KG	7.2	B E	4.6E+00	5.0E-01	1.8E+04		
IRON	MG/KG	39600	B E H	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0A2F-W01		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CHROMIUM, TOTAL	MG/KG	15.4	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	

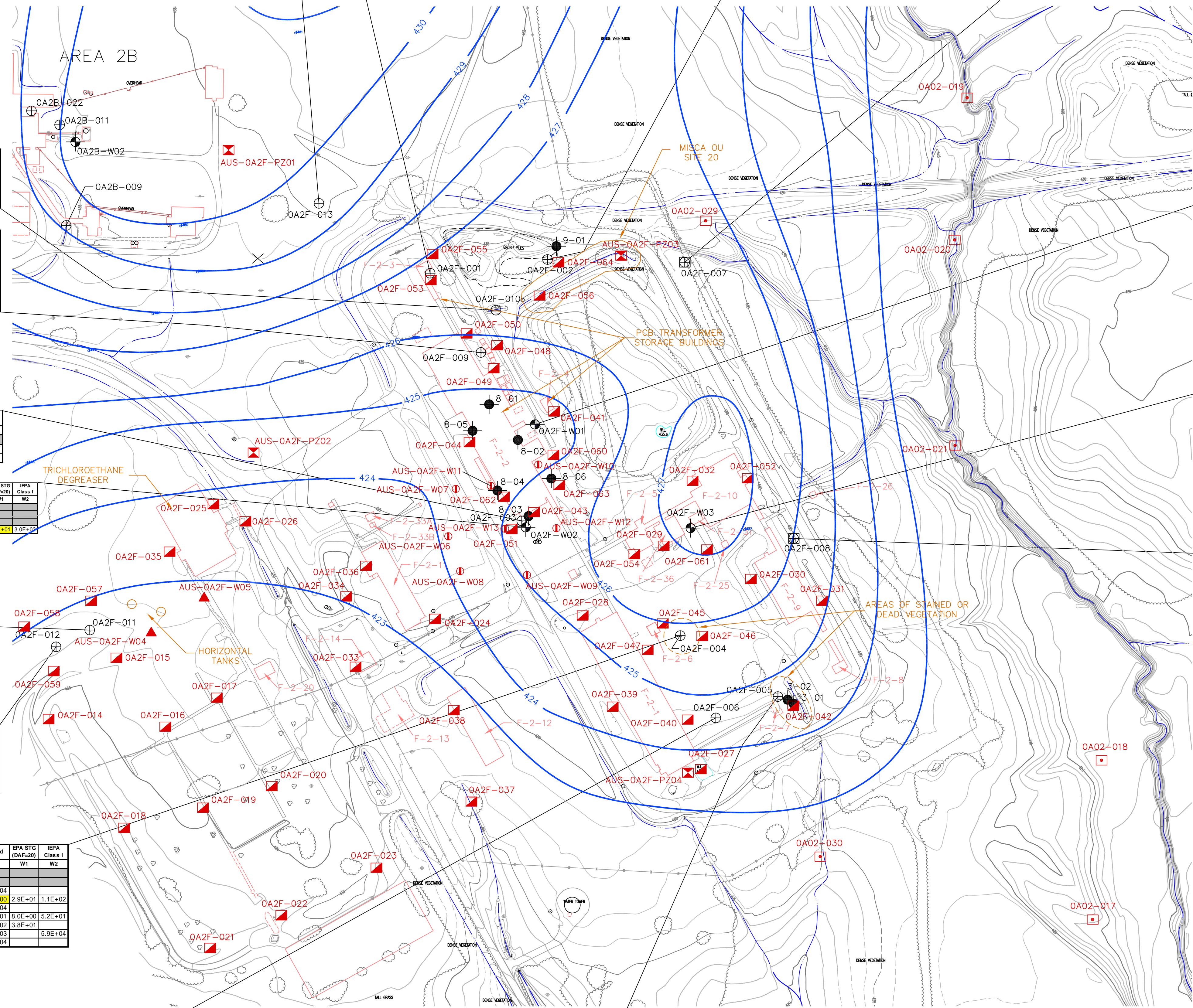
Groundwater Samples		AUS-0A2F-W01-GW		Conc.	CE
ALL VOC	UG/L	ND			
ALL SVOC	UG/L	ND			
ALL METALS	UG/L	NE			
ALL EXPLOSIVES	UG/L	ND			

Soil Samples		AUS-0A2F-W03		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
BORON	MG/KG	9.1	B E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	0.73	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+01
CHROMIUM, TOTAL	MG/KG	15.9	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	
IRON	MG/KG	28200	B E	2.0E+04	2.0E+02	3.1E+04		

Groundwater Samples		AUS-0A2F-W03-GW		Conc.	CE
ALL VOC	UG/L	ND			
ALL SVOC	UG/L	ND			
ALL METALS	UG/L	NE			
ALL EXPLOSIVES	UG/L	ND			

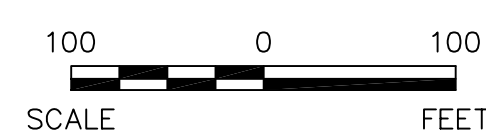
Surface Water Samples		AUS-0A2F-008-SW		SW Bkg	SW Eco	SW HH
Constituents	Units	Conc.	CE	95UTL	Std	Std
ALL SVOC	UG/L	ND				
ALL EXPLOSIVES	UG/L	ND				
ALUMINIUM	UG/L	2540	B E	2.0E+02	8.7E+01	
IRON	UG/L	3650	B E H	1.0E+02	1.0E+03	1.0E+03

Soil Samples		AUS-0A2F-008		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					



- NOTES:
- BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT.
 - DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES AND/OR ROADS.
 - BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

- BASE MAP LEGEND
- Sidewalk
 - Building
 - Fence
 - Wall
 - Tree Line
 - Stream
 - Shrub Line
 - Index Contour
 - Intermediate Contour
 - Depression Contour
 - Guard Rail
 - Swamp Symbol
 - Control Point
 - Single Tree
 - Located Object
 - Catch Basin
 - Manhole
 - Pole
 - Sign
 - Fire Hydrant
 - Light Pole
 - Inlet Symbol
 - Railroad
 - Paved Road
 - Unpaved Road
 - Trail
 - Pipe line
 - Driveway

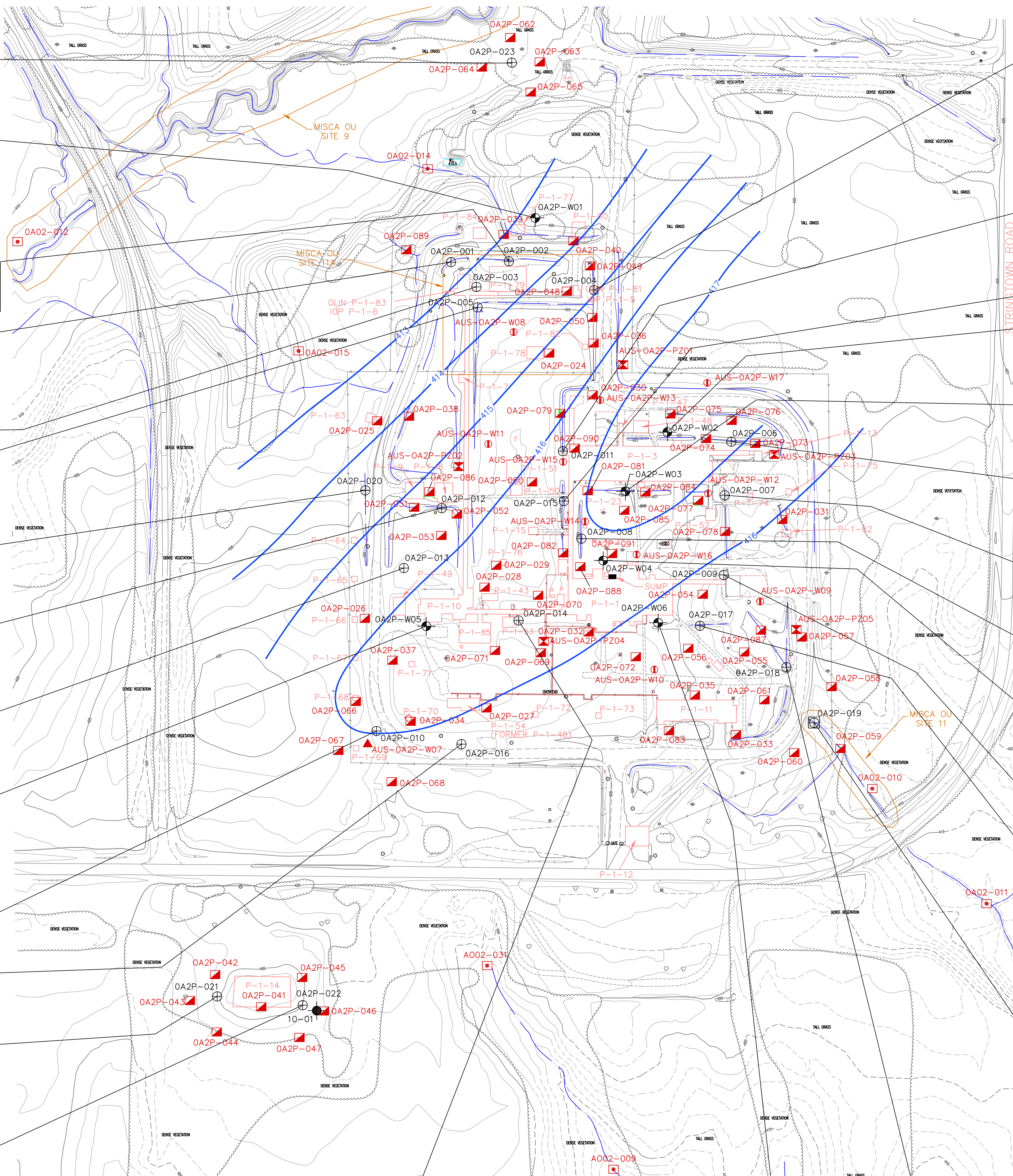


PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

TITLE: R/F/S WORKPLAN
AUS-0A

NORTH

AREA 2P-IOP PRIMER LOAD LINE



Soil Samples		AUS-0A2P-023		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
CADMIUM	MG/KG	0.72	B E		3.5E-01	2.7E-01	4.5E+01	8.0E+00 5.2E+00

Soil Samples		AUS-0A2P-W01		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL METALS	MG/KG	NE	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				

Groundwater Samples		AUS-0A2P-W01-GW		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/L	ND	ND	ND				
ALL SVOC	UG/L	ND	ND	ND				
ALL METALS	UG/L	ND	ND	ND				
ALL EXPLOSIVES	UG/L	ND	ND	ND				

Soil Samples		AUS-0A2P-002		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
ZINC	MG/KG	192	B E		4.1E+01	1.2E+02	3.1E+04	1.2E+04 5.1E+03

Soil Samples		AUS-0A2P-001		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
ALUMINUM	MG/KG	11700	B E		9.1E+03	5.0E+01	9.2E+04	
ARSENIC	MG/KG	13.9	B E H		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01
CHROMIUM, TOTAL	MG/KG	15.4	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01 4.0E+01
IRON	MG/KG	25200	B E		2.0E+04	2.0E+02	3.1E+04	

Soil Samples		AUS-0A2P-003		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL METALS	MG/KG	NE	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				

Soil Samples		AUS-0A2P-005		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL METALS	MG/KG	NE	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				

Soil Samples		AUS-0A2P-020		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL METALS	MG/KG	NE	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				

Soil Samples		AUS-0A2P-012		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
ALUMINUM	MG/KG	9530	B E		9.1E+03	5.0E+01	9.2E+04	
ARSENIC	MG/KG	32	B E H W1 W2		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01
CHROMIUM, TOTAL	MG/KG	16	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01 4.0E+01
IRON	MG/KG	20300	B E		2.0E+04	2.0E+02	3.1E+04	
SILVER	MG/KG	22.9	B E W2		6.9E-01	2.0E+00	5.1E+02	3.4E+01 4.4E+00

Soil Samples		AUS-0A2P-013		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL METALS	MG/KG	NE	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				

Soil Samples		AUS-0A2P-W05		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	1.5 ft	CE 2 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
CHROMIUM, TOTAL	MG/KG	16.2	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01 4.0E+01
IRON	MG/KG	20700	B E		2.0E+04	2.0E+02	3.1E+04	

Groundwater Samples		AUS-0A2P-W05-GW		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	Conc.	CE	95UTL	B	E	H	W1 W2
ALL VOC	UG/L	ND	ND	ND				
ALL SVOC	UG/L	ND	ND	ND				
ALL METALS	UG/L	NE	ND	ND				
ALL EXPLOSIVES	UG/L	ND	ND	ND				

Soil Samples		AUS-0A2P-010		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
ARSENIC	MG/KG	87.5	B E H W1 W2		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01

Soil Samples		AUS-0A2P-016		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL METALS	MG/KG	NE	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				

Soil Samples		AUS-0A2P-021		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
CPAH	UG/KG	99.32	H		8.9E+03	2.1E+02		
ACENAPHTHYLENE	UG/KG	3700	H		3.3E+03	1.8E+03	8.4E+04	1.2E+04
ALUMINUM	MG/KG	12000	B E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	15.1	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01 4.0E+01

Soil Samples		AUS-0A2P-022		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
CPAH	UG/KG	21.21	H		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01
ARSENIC	MG/KG	23.2	B E H		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01
BORON	MG/KG	7.3	B E		4.6E+00	5.0E-01	1.8E+04	

Soil Samples		AUS-0A2P-014		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
ARSENIC	MG/KG	75.9	B E H W1 W2		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01
COPPER	MG/KG	32.1	B E		6.4E+01	3.1E+01	4.1E+03	1.5E+04
SILVER	MG/KG	2.2	B E		6.9E-01	2.0E+00	5.1E+02	3.4E+01 4.4E+00
ZINC	MG/KG	213	B E		4.1E+01	1.2E+02	3.1E+04	1.2E+04 5.1E+03

Soil Samples		AUS-0A2P-W06		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
ARSENIC	MG/KG	18.4	B E		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01
BENZYL BUTYL PHTHALATE	UG/KG	430	E		2.4E+03	9.3E+02	9.3E+03	
MERCURY	MG/KG	0.32	B E		2.8E-01	1.5E-01	3.1E+01	8.9E-01
ZINC	MG/KG	162	B E		4.1E+01	1.2E+02	3.1E+04	1.2E+04 5.1E+03

NOTES:

1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLOYER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT.
2. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES.
3. BASED ON FIGURE FROM FINAL PA/SI (FWS, 2003)

Soil Samples		AUS-0A2P-004		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
ARSENIC	MG/KG	21.4	B E H		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01

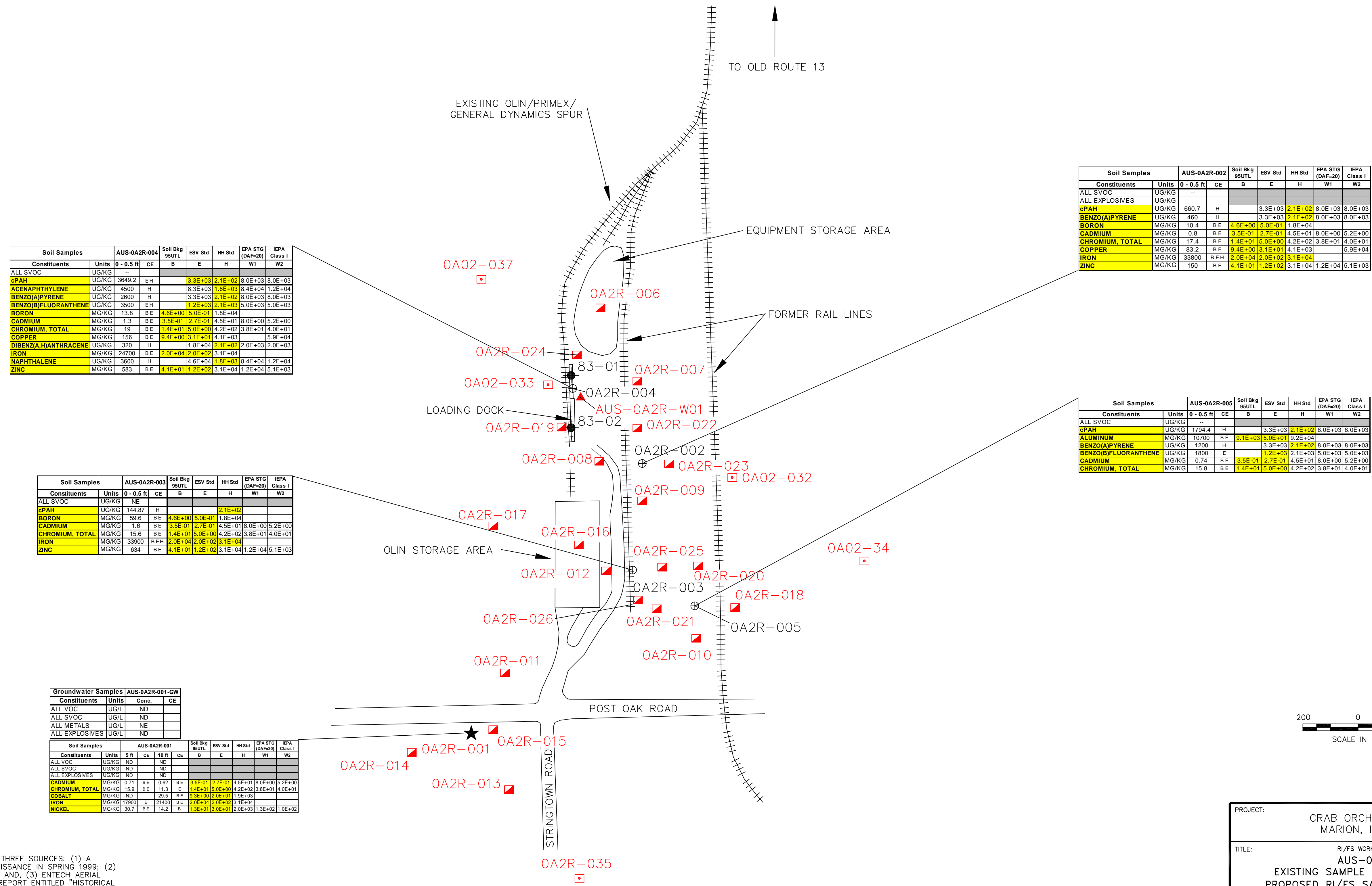
Soil Samples		AUS-0A2P-011		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE 1 ft	95UTL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND				
ALL SVOC	UG/KG	ND	ND	ND				
ALL METALS	MG/KG	NE	ND	ND				
ALL EXPLOSIVES	UG/KG	ND	ND	ND				
CPAH	UG/KG	554.46	H		2.1E+02			
ARSENIC	MG/KG	15.7	B E H		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01
CADMIUM	MG/KG	0.96	B E		3.5E-01	2.7E-01	4.5E+01	8.0E+00 5.2E+00
CHROMIUM, TOTAL	MG/KG	14.5	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01 4.0E+01
COPPER	MG/KG	186	B E		9.4E+00	3.1E+01	4.1E+0	

SAMPLING LEGEND

- ⊕ EXISTING SOIL SAMPLE LOCATION
- ★ TEST PIT LOCATION
- ◆ USEPA 1998 SAMPLE LOCATION
- ▣ PROPOSED SOIL BORING LOCATION
- ▲ PROPOSED MONITORING WELL LOCATION
- PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION

AUS-0A2R-OLIN/PRIMEX/GENERAL DYNAMICS RAIL SPUR

NORTH



Soil Samples		AUS-0A2R-004		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95UTL	B	E	H	Class I
ALL SVOC	UG/KG	---						
CPAH	UG/KG	3649.2	EH		3.3E+03	2.1E+02	8.0E+03	8.0E+03
ACENAPHTHYLENE	UG/KG	4500	H		8.3E+03	1.8E+03	8.4E+04	1.2E+04
BENZO(A)PYRENE	UG/KG	2600	H		3.3E+03	2.1E+02	8.0E+03	8.0E+03
BENZO(B)FLUORANTHENE	UG/KG	3500	EH		1.2E+03	2.1E+03	5.0E+03	5.0E+03
BORON	MG/KG	13.8	B E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	1.3	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	19	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	156	B E	9.4E+00	3.1E+01	4.1E+03		5.9E+04
DIBENZO(A,H)ANTHRACENE	UG/KG	320	H		1.8E+04	2.1E+02	2.0E+03	2.0E+03
IRON	MG/KG	24700	B E	2.0E+04	2.0E+02	3.1E+04		
NAPHTHALENE	UG/KG	3600	H		4.6E+04	1.8E+03	8.4E+04	1.2E+04
ZINC	MG/KG	583	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0A2R-002		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95UTL	B	E	H	Class I
ALL SVOC	UG/KG	---						
ALL EXPLOSIVES	UG/KG	---						
CPAH	UG/KG	660.7	H		3.3E+03	2.1E+02	8.0E+03	8.0E+03
BENZO(A)PYRENE	UG/KG	460	H		3.3E+03	2.1E+02	8.0E+03	8.0E+03
BORON	MG/KG	10.4	B E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	0.8	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	17.4	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	83.2	B E	9.4E+00	3.1E+01	4.1E+03		5.9E+04
IRON	MG/KG	33800	B E	2.0E+04	2.0E+02	3.1E+04		
ZINC	MG/KG	150	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0A2R-003		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95UTL	B	E	H	Class I
ALL SVOC	UG/KG	NE						
CPAH	UG/KG	144.87	H			2.1E+02		
BORON	MG/KG	59.6	B E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	1.6	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	15.6	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	33900	B E	2.0E+04	2.0E+02	3.1E+04		
ZINC	MG/KG	634	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0A2R-005		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95UTL	B	E	H	Class I
ALL SVOC	UG/KG	---						
CPAH	UG/KG	1794.4	H		3.3E+03	2.1E+02	8.0E+03	8.0E+03
ALUMINIUM	MG/KG	10700	B E	9.1E+03	5.0E+01	9.2E+04		
BENZO(A)PYRENE	UG/KG	1200	H		3.3E+03	2.1E+02	8.0E+03	8.0E+03
BENZO(B)FLUORANTHENE	UG/KG	1800	H		1.2E+03	2.1E+03	5.0E+03	5.0E+03
CADMIUM	MG/KG	0.74	B E	3.3E-01	2.7E-01	4.4E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	15.8	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01

Groundwater Samples		AUS-0A2R-001-GW	
Constituents	Units	Conc.	CE
ALL VOC	UG/L	ND	
ALL SVOC	UG/L	ND	
ALL METALS	UG/L	NE	
ALL EXPLOSIVES	UG/L	ND	

Soil Samples		AUS-0A2R-001		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	5 ft	10 ft	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CADMIUM	MG/KG	0.71	B E	0.61	BE	3.5E-01	3.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	15.9	B E	11.3	E	1.4E+01	5.0E+00	4.2E+02
COBALT	MG/KG	ND		29.5	B E	9.3E+00	2.0E+01	1.9E+03
IRON	MG/KG	17800	B E	21400	B E	2.4E+04	2.0E+02	3.1E+04
NICKEL	MG/KG	30.7	B E	14.2	B	1.3E+01	3.0E+01	2.0E+03

NOTES:

- THE BASE MAP FOR THIS FIGURE WAS COMPILED FROM THREE SOURCES: (1) A HAND SKETCH PERFORMED DURING THE FIELD RECONNAISSANCE IN SPRING 1999; (2) AERIAL PHOTOGRAPHS TAKEN ON FEBRUARY 22, 2000; AND, (3) ENTECH AERIAL PHOTOGRAPHS (DATED 1943-1993) FROM THEIR 1999 REPORT ENTITLED "HISTORICAL AERIAL PHOTOGRAPHIC ANALYSIS-INVENTORY OF POTENTIAL DISPOSAL SITES: ADDITIONAL AND UNCHARACTERIZED SITES (AUS) OPERABLE UNIT, CRAB ORCHARD, NATIONAL WILDLIFE REFUGE (CONWR), MARION ILLINOIS, VOLUME II: MAPS, PAGE B."
- BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)
- PROPOSED MONITOR WELL (AUS-0A2R-W01*) FINAL LOCATION BASED ON SOIL ANALYTICAL RESULTS.

PROJECT:	CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE:	RI/FIS WORKPLAN AUS-0A2R EXISTING SAMPLE LOCATIONS AND PROPOSED RI/FIS SAMPLE LOCATIONS		
DRAWN BY:	DDZ	SCALE: 1" = 200'	PROJ. NO. 0233-001-200
CHECKED BY:	GRD	DATE: 3.FEB.2006	FIGURE NO. 5-5
APPROVED BY:	DPT		
NEWFIELDS		1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050	

AREA 4 EAST-IOP EAST SHOP AREA



- SAMPLING LEGEND**
- ⊕ EXISTING MONITORING WELL/SOIL BORING LOCATION
 - ⊕ EXISTING SOIL SAMPLE LOCATION
 - ⊕ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
 - ⊕ USEPA 1998 SAMPLE LOCATION
 - ⊕ PROPOSED SOIL BORING LOCATION
 - ⊕ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
 - ⊕ PROPOSED MONITORING WELL LOCATION
 - ⊕ APPROXIMATE LOCATION OF METALS AREA OU SITE 29 (FIRE STATION LANDFILL)
 - ⊕ GROUNDWATER ELEVATION (WATER TABLE) SEPTEMBER 2000 (CONTOUR INTERVAL 1 FT)

Soil Samples		AUS-044E-018		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CADMIUM	MG/KG	0.51	B E		3.5E-01	2.7E-01	4.5E+01	8.0E+00 5.2E+00

Soil Samples		AUS-044E-007		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	93.28	H			2.1E+02		
2-METHYLNAPHTHALENE	UG/KG	300	E		7.0E+01	1.9E+04	8.4E+04	7.7E+03
ACENAPHTHYLENE	UG/KG	300	E		6.4E+01	1.9E+03	8.4E+04	1.2E+04
ARSENIC	MG/KG	14.8	B E H		1.0E+01	9.9E+00	1.6E+00	2.9E+01 2.9E+01
BENZOPHANTHRENE	UG/KG	75	E		2.7E+01	2.1E+03	5.0E+03	5.0E+03
BENZOGUINOLYNE	UG/KG	109	E		1.6E+01			
CADMIUM	MG/KG	1.7	B E		1.2E+00	1.0E-01	4.5E+01	8.0E+00 5.2E+00
CHRYSENE	UG/KG	380	E		1.7E+02	2.1E+05	1.6E+05	1.6E+05
COPPER	MG/KG	33.1	B E		3.7E+00	3.2E+00	8.1E+03	5.9E+03
INDENO(1,2,3-C)PYRENE	UG/KG	44	E		1.7E+01	2.1E+03	1.4E+04	1.4E+04
LEAD	MG/KG	79.2	B E		2.4E+01	3.0E+01	4.0E+02	
MANGANESE	MG/KG	5410	B E H		1.0E+03	1.0E+03	1.0E+03	
NICKEL	MG/KG	26.7	B E		1.7E+01	2.3E+01	2.0E+03	1.3E+02 1.0E+02
PYRENE	UG/KG	390	E		2.0E+02	2.9E+03	4.2E+04	4.2E+04
ZINC	MG/KG	163	B E		9.7E+01	1.2E+02	3.1E+04	1.2E+04 5.1E+03

Soil Samples		AUS-044E-004		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	470.8	H			2.1E+02		

Surface Water Samples		AUS-044E-008-SW		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/L	ND	ND					
ALL EXPLOSIVES	UG/L	ND	ND					
ALUMINIUM	UG/L	367	B E		2.0E+02	3.7E+01		

Soil Samples		AUS-044E-005		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	507.35	H			2.1E+02		

Sediment Samples		AUS-044E-009		Sediment	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ARSENIC	MG/KG	23.6	B E H		1.0E+01	9.9E+00	1.6E+00	2.9E+01 2.9E+01
LEAD	MG/KG	78	B E		2.4E+01	3.0E+01	4.0E+02	

Soil Samples		AUS-044E-013		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ARSENIC	MG/KG	12	B E H		1.0E+01	9.9E+00	1.6E+00	2.9E+01 2.9E+01

Soil Samples		AUS-044E-012		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	554.46	H			2.1E+02		
2-METHYLNAPHTHALENE	UG/KG	130	E		7.0E+01	1.9E+04	8.4E+04	7.7E+03
ARSENIC	MG/KG	91	B E		2.4E+01	3.0E+01	4.0E+02	
ZINC	MG/KG	123	B E		9.7E+01	1.2E+02	3.1E+04	1.2E+04 5.1E+03

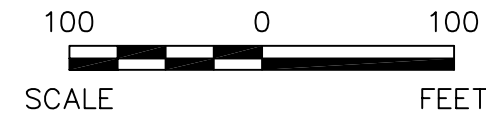
Sediment Samples		AUS-044E-011		Sediment	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	554.46	H			2.1E+02		
2-METHYLNAPHTHALENE	UG/KG	130	E		7.0E+01	1.9E+04	8.4E+04	7.7E+03
LEAD	MG/KG	91	B E		2.4E+01	3.0E+01	4.0E+02	
ZINC	MG/KG	123	B E		9.7E+01	1.2E+02	3.1E+04	1.2E+04 5.1E+03

Soil Samples		AUS-044E-019		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	473.2	H			2.1E+02		
ARSENIC	MG/KG	15.4	B E H		1.3E+01	9.0E+00	1.6E+00	2.9E+01 2.9E+01
BORON	MG/KG	14.1	B E		4.9E+00	5.0E-01	1.9E+04	
CADMIUM	MG/KG	1.1	B E		3.5E-01	2.7E-01	4.5E+01	8.0E+00 5.2E+00
COPPER	MG/KG	816	B E		9.4E+00	3.1E+01	4.1E+03	5.9E+04
IRON	MG/KG	2200	B E		2.0E+04	2.0E+02	3.1E+04	
ZINC	MG/KG	321	B E		4.1E+01	1.2E+02	3.1E+04	1.2E+04 5.1E+03

Soil Samples		AUS-044E-020		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	311.34	H			2.1E+02		
CADMIUM	MG/KG	0.63	B E		3.5E-01	2.7E-01	4.5E+01	8.0E+00 5.2E+00

Soil Samples		AUS-044E-016		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CHROMIUM, TOTAL	MG/KG	14.9	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01 4.0E+01

Sediment Samples		AUS-044E-010		Sediment	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	H	W1 W2
ALL VOC	UG/KG	NE	ND					
ALL SVOC	UG/KG	NE	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	27.79	H			2.1E+02		
2-METHYLNAPHTHALENE	UG/KG	300	E		7.0E+01	1.9E+04	8.4E+04	7.7E+03
ACENAPHTHYLENE	UG/KG	150	E		4.4E+01	1.8E+03	8.4E+04	1.2E+04
BENZOGUINOLYNE	UG/KG	29	E		1.6E+01			
LEAD	MG/KG	54.2	B E		2.4E+01	3.0E+01	4.0E+02	
ZINC	MG/KG	143	B E		9.7E+01	1.2E+02	3.1E+04	1.2E+04 5.1E+03



- BASE MAP LEGEND**
- Sidewalk
 - Building
 - Foundation
 - Fence
 - Wall
 - Tree Line
 - Stream
 - Shrub Line
 - 320 Index Contour
 - Intermediate Contour
 - Depression Contour
 - Guard Rail
 - Swamp Symbol
 - Control Point
 - Single Tree
 - Located Object
 - Catch Basin
 - Manhole
 - Pole
 - Sign
 - Fire Hydrant
 - Light Pole
 - Inlet Symbol
 - Railroad
 - Paved Road
 - Unpaved Road
 - Trail
 - Pipe line
 - Driveway

NOTES:

1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT.
2. BASED ON FIGURE FROM FINAL PA/SI (FWS, 2003)

PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

TITLE: R/F/S WORKPLAN
EXISTING SAMPLE LOCATIONS AND
PROPOSED R/F/S SAMPLE LOCATIONS

DRAWN BY: DOZ SCALE: 1" = 100' PROJ. NO. 0233-001-200
CHECKED BY: GRD DATE: 3.FEB.2006 FIGURE NO. 5-6

APPROVED BY: DPT

NEWFIELDS
1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-347-9950

AREA 4 WEST

SAMPLING LEGEND



- ⊕ EXISTING SOIL SAMPLE LOCATION
- ◆ USEPA 1998 SAMPLE LOCATION
- ▣ PROPOSED SOIL BORING LOCATION
- ▲ PROPOSED MONITORING WELL LOCATION
- ◻ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- ▨ APPROXIMATE AREA EXCAVATED DURING METALS AREA OU REMEDIATION

Soil Samples		AUS-0A4W-001		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINIUM	MG/KG	16500	B E	8200	E	9.1E+03	5.0E+01	9.2E+04
CHROMIUM, TOTAL	MG/KG	16.3	B E	14.9	B E	1.4E+01	5.0E+00	4.2E+02
IRON	MG/KG	24800	B E	16700	E	2.0E+04	2.0E+02	3.1E+04

Soil Samples		AUS-0A4W-002		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL METALS	MG/KG	NE	NE					
ALL EXPLOSIVES	UG/KG	ND	ND					

Soil Samples		AUS-0A4W-008		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
ALUMINIUM	MG/KG	9590	B E			9.1E+03	5.0E+01	9.2E+04

Soil Samples		AUS-0A4W-013		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL METALS	MG/KG	NE	NE					
ALL EXPLOSIVES	UG/KG	ND	ND					

Soil Samples		AUS-0A4W-007		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
ALUMINIUM	MG/KG	10500	B E			9.1E+03	5.0E+01	9.2E+04
CADMIUM	MG/KG	8.3	B E W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	21.6	B E			1.4E+01	5.0E+00	4.2E+02
IRON	MG/KG	20100	B E			2.0E+04	2.0E+02	3.1E+04

Soil Samples		AUS-0A4W-011		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CADMIUM	MG/KG	1.9	B E			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	32.8	B E			1.4E+01	5.0E+00	4.2E+02
IRON	MG/KG	22200	B E			2.0E+04	2.0E+02	3.1E+04

Soil Samples		AUS-0A4W-005		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
CADMIUM	MG/KG	167	B E W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	229	B E W1 W2			1.4E+01	5.0E+00	4.2E+02
COPPER	MG/KG	42.6	B E			9.4E+00	3.1E+01	3.1E+03
NICKEL	MG/KG	114	B E W2			1.3E+01	3.0E+01	2.0E+03
ZINC	MG/KG	173	B E			4.1E+01	1.2E+02	3.1E+04

Soil Samples		AUS-0A4W-004		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
BORON	MG/KG	5.1	B E			4.8E+00	3.0E+01	1.8E+04
CADMIUM	MG/KG	45.8	B E W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	298	B E W1 W2			1.4E+01	5.0E+00	4.2E+02
COPPER	MG/KG	68.8	B E			9.4E+00	3.1E+01	3.1E+03
IRON	MG/KG	27000	B E			2.0E+04	2.0E+02	3.1E+04
NICKEL	MG/KG	77.3	B E			1.3E+01	3.0E+01	2.0E+03
ZINC	MG/KG	728	B E			4.1E+01	1.2E+02	3.1E+04

Soil Samples		AUS-0A4W-003		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
ARSENIC	MG/KG	60.1	B E W1 W2			1.3E+01	3.0E+01	1.6E+03
BORON	MG/KG	34.2	B E			4.8E+00	3.0E+01	1.8E+04
CADMIUM	MG/KG	4520	B E W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	234	B E W1 W2			1.4E+01	5.0E+00	4.2E+02
COBALT	MG/KG	32.8	B E			9.3E+00	2.0E+01	1.9E+03
COPPER	MG/KG	178	B E			9.4E+00	3.1E+01	4.1E+03
IRON	MG/KG	21600	B E			2.0E+04	2.0E+02	3.1E+04
MERCURY	MG/KG	0.72	B E			2.2E-01	1.3E-01	3.1E+01
NICKEL	MG/KG	77.8	B E			1.3E+01	3.0E+01	2.0E+03
SELENIUM	MG/KG	4	B E			3.7E+00	1.0E+00	5.1E+02
THALLIUM	MG/KG	1.3	B E			5.1E-01	1.0E+00	6.7E+00
ZINC	MG/KG	780	B E			4.1E+01	1.2E+02	3.1E+04

Soil Samples		AUS-0A4W-006		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
CADMIUM	MG/KG	132	B E W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	144	B E W1 W2			1.4E+01	5.0E+00	4.2E+02
NICKEL	MG/KG	32.7	B E			1.3E+01	3.0E+01	2.0E+03
ZINC	MG/KG	209	B E			4.1E+01	1.2E+02	3.1E+04

Soil Samples		AUS-0A4W-009		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
CADMIUM	MG/KG	12.6	B E W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	18.7	B E			1.4E+01	5.0E+00	4.2E+02
IRON	MG/KG	20200	B E			2.0E+04	2.0E+02	3.1E+04

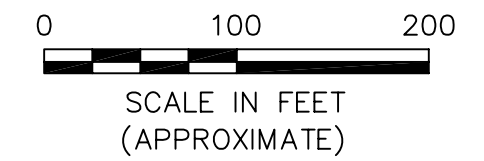
Soil Samples		AUS-0A4W-010		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	HPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H
ALL VOC	UG/KG	ND	ND					
ALUMINIUM	MG/KG	9560	B E			9.1E+03	5.0E+01	9.2E+04
CADMIUM	MG/KG	8.4	B E W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	17.7	B E			1.4E+01	5.0E+00	4.2E+02

SOURCES:

- U.S. ARMY CORPS OF ENGINEERS, 1994, WAR DEPARTMENT FACILITIES INVENTORY OF THE ILLINOIS ORDNANCE PLANT, PART 1, SECTION 5, PAGE 2 (PLAN NO. 6544-101.56), DATED JANUARY 12, 1942.
- DPA DATABASE DOCUMENT NO. C001192, ILLINOIS ORDNANCE PLANT, "DRAINAGE, SHOP AREA," PLAN NO. 6544-151.17 DATED MARCH 27, 1942.

NOTES:

- BASE MAP PREPARED BY MARVIN JENKINS, REGISTERED SURVEYOR, OCTOBER 1995.
- BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)



PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS

TITLE: R/FS WORKPLAN AUS-0A4W AREA 4 WEST EXISTING SAMPLE LOCATIONS AND PROPOSED R/FS SAMPLE LOCATIONS

DRAWN BY: DDZ SCALE: 1" = 100' PROJ. NO. 0233-001-200
 CHECKED BY: GRD DATE: 3.FEB.2006 FIGURE NO. 5-7
 APPROVED BY: DPT

1349 W. PEACHTREE ST., SUITE 2000
 ATLANTA, GA 30309
 404-347-9950

Area 6 – Ammonium Nitrate High Explosive and Smokeless Powder Storage Area

NORTH



SAMPLING LEGEND

- EXISTING SOIL SAMPLE LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- PROPOSED MONITORING WELL LOCATION
- IGLCOO BUILDING
- IGLCOO BUILDING PLANNED BUT NEVER BUILT

Soil Samples		AUS-0A06-001	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	ND	
ALL EXPLOSIVES	UG/KG	ND	

Soil Samples		AUS-0A06-005	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	170.09	H
N-NITROSODI-N-PROPYLAMINE	UG/KG	41	W1 W2
PENTACHLOROPHENOL	UG/KG	47	W1 W2

Soil Samples		AUS-0A06-009	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	416.3	H
MERCURY	MG/KG	0.48	B E

Soil Samples		AUS-0A06-002	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	427.41	H

Soil Samples		AUS-0A06-003	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	467.57	H

Soil Samples		AUS-0A06-006	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	392.72	H

Soil Samples		AUS-0A06-010	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	454.26	H
BORON	MG/KG	6.5	B E

Soil Samples		AUS-0A06-007	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	336.2	H
CHROMIUM, TOTAL	MG/KG	16	B E

Soil Samples		AUS-0A06-011	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	457.41	H
BENZO(A)PYRENE	UG/KG	310	H
BORON	MG/KG	5.7	B E
CADMIUM	MG/KG	0.53	B E

Soil Samples		AUS-0A06-014	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
ALUMINUM	MG/KG	9440	B E

Soil Samples		AUS-0A06-016	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	13074	E H W1 W2
BENZO(A)ANTHRACENE	UG/KG	8700	E H W1 W2
BENZO(A)PYRENE	UG/KG	8400	E H W1 W2
BENZO(B)FLUORANTHENE	UG/KG	10000	E H W1 W2
CHRYSENE	UG/KG	11000	E
DIBENZO(A,H)ANTHRACENE	UG/KG	2300	H W1 W2
INDENO(1,2,3-C,D)PYRENE	UG/KG	4200	H

Soil Samples		AUS-0A06-020	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	506.3	H
BENZO(A)PYRENE	UG/KG	220	H
COPPER	MG/KG	32.4	B E

Soil Samples		AUS-0A06-004	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	923.58	H
BENZO(A)PYRENE	UG/KG	570	H

Soil Samples		AUS-0A06-008	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL EXPLOSIVES	UG/KG	ND	
ALUMINUM	MG/KG	17300	B E
BORON	MG/KG	5.2	B E
CHROMIUM, TOTAL	MG/KG	18.1	B E
IRON	MG/KG	24900	B E

Soil Samples		AUS-0A06-012	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	365.35	H

Soil Samples		AUS-0A06-013	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	582.01	H
BENZO(A)PYRENE	UG/KG	270	H

Soil Samples		AUS-0A06-015	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	

Soil Samples		AUS-0A06-017	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	3502.3	E H
BENZO(A)ANTHRACENE	UG/KG	2700	H W1 W2
BENZO(A)PYRENE	UG/KG	2200	H
BENZO(B)FLUORANTHENE	UG/KG	2800	E H
CARBAZOLE	UG/KG	660	W1 W2
DIBENZO(A,H)ANTHRACENE	UG/KG	620	H

Soil Samples		AUS-0A06-021	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	462.04	H
CADMIUM	MG/KG	0.39	B E

Soil Samples		AUS-0A06-018	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	483.06	H
BENZO(A)PYRENE	UG/KG	310	H

Soil Samples		AUS-0A06-019	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	

Soil Samples		AUS-0A06-022	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	319.66	H

Soil Samples		AUS-0A06-026	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	703.57	H
BENZO(A)PYRENE	UG/KG	460	H
BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG	6800	E
CADMIUM	MG/KG	0.37	B E

Soil Samples		AUS-0A06-025	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	5406.5	E H
BENZO(A)ANTHRACENE	UG/KG	3500	E H W1 W2
BENZO(A)PYRENE	UG/KG	3400	E H
BENZO(B)FLUORANTHENE	UG/KG	4400	E H
CADMIUM	MG/KG	0.45	B E
DIBENZO(A,H)ANTHRACENE	UG/KG	1000	H

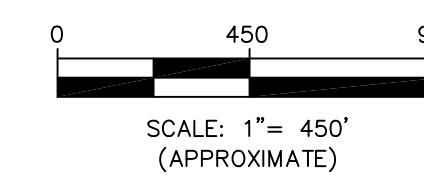
Soil Samples		AUS-0A06-024	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	1237.2	H
BENZO(A)PYRENE	UG/KG	790	H
CADMIUM	MG/KG	0.43	B E
NITROBENZENE	UG/KG	550	W1 W2

Soil Samples		AUS-0A06-023	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	ND	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	
cPAH	UG/KG	936.58	H
BENZO(A)PYRENE	UG/KG	490	H

NOTES:

- BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)
- SAMPLES IN AREA 6 SHOULD BE LOCATED IMMEDIATELY OUTSIDE OF THE BUNKERS. PROPOSED SAMPLES BOUNDING EXISTING SAMPLES WILL BE FIELD LOCATED WITH THE AGENCIES.

BASE MAP SOURCE: ILLINOIS ORDNANCE PLANT, CARBONDALE, ILLINOIS, 1942. LOCATION LAYOUT, AMMONIUM NITRATE-HIGH EXPLOSIVE & SMOKELESS POWDER STORAGE, PLAN NO. 6544-101.10



PROJECT:	CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE:	R/F/S WORKPLAN AUS-0A06 EXISTING SAMPLE LOCATIONS AND PROPOSED R/F/S SAMPLE LOCATIONS		
DRAWN BY:	DDZ	SCALE:	1" = 450'
CHECKED BY:	GRD	DATE:	3.FEB.2006
APPROVED BY:	DPT	FIGURE NO.	5-8
NEWFIELDS			

1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-341-9500

NORTH



AUS-0A07-IOP INERT STORAGE AREA - EAST HALF

- SAMPLING LEGEND**
- ⊕ EXISTING SOIL SAMPLE LOCATION
 - ⊕ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
 - ⊕ STRESSED VEGETATION
 - ★ TEST PIT LOCATION
 - ▭ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
 - ▭ PROPOSED MONITORING WELL LOCATION
 - ▭ PROPOSED SOIL BORING LOCATION
 - ▭ DITCHLINE
 - ▭ POSSIBLE FORMER AST LOCATION

Surface Water Samples		AUS-0A07-025-SW		SW Bkg	SW Eco	SW H/L	SW Std
Constituents	Units	Conc.	CE	B	E	H	W2
ALL PESTICIDES	UG/L	ND	ND				
ALUMINUM	UG/L	825	B E	2.0E+02	5.7E+01		

Soil Samples		AUS-0A07-025		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALL PESTICIDES	UG/KG	ND	ND					
CPAH	UG/KG	1400	E	62	7.6E+02	1.0E+04	1.6E+04	1.6E+04
4,4'-DDD	UG/KG	22	E	ND	3.3E+00	1.0E+03	3.2E+04	3.2E+04
ALDRIN	UG/KG	35	E	8.8	3.3E+00	1.0E+02	5.0E+02	5.0E+02
DIELDRIN	UG/KG	ND	16	E/W1 W2	2.4E+00	1.1E+02	4.0E+00	4.0E+00

Sediment Samples		AUS-0A07-025		Sediment Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALL PESTICIDES	UG/KG	ND	ND					
CPAH	UG/KG	1502.15	H		2.1E+02			
4,4'-DDD	UG/KG	19	E		4.9E+00	1.0E+04	1.0E+04	1.6E+04
ALDRIN	UG/KG	14	E		2.3E+00	1.0E+02	5.0E+02	5.0E+02
ARSENIC	MG/KG	25.2	B E H	1.0E+01	9.3E+00	1.0E+00	2.9E+01	2.9E+01
IRON	MG/KG	3860	B H	2.1E+04	1.9E+00	3.1E+04		
MANGANESE	MG/KG	1160	B E	1.0E+03	1.6E+03			
SELENIUM	MG/KG	1.8	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00	
ZINC	MG/KG	144	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0A07-071		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALL PESTICIDES	UG/KG	ND	ND					
CPAH	UG/KG	1271.05	H		2.1E+02			
ALUMINUM	MG/KG	14300	B E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	18.9	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01

Soil Samples		AUS-0A07-076		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALL PESTICIDES	UG/KG	ND	ND					
TOXICITY EQUIVALENT QUOTIENT	NG/KG	ND	ND					
CPAH	UG/KG	1386.6	H		2.1E+02			
ALUMINUM	MG/KG	12400	B E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	20.2	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01
DIELDRIN	UG/KG	ND	9.7	E/W1 W2	2.4E+00	1.1E+02	4.0E+00	4.0E+00

Soil Samples		AUS-0A07-026		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINUM	MG/KG	13100	B E		9.1E+03	5.0E+01	9.2E+04	
ARSENIC	MG/KG	16.9	B E H		1.3E+01	9.0E+00	1.6E+00	2.9E+01
CADMIUM, TOTAL	MG/KG	0.68	B E		3.5E-01	2.7E-01	4.5E+01	8.0E+00
CHROMIUM, TOTAL	MG/KG	18.6	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01

Soil Samples		AUS-0A07-028		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	307.38	H		2.1E+02			
ALUMINUM	MG/KG	13400	B E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	20.3	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01

Soil Samples		AUS-0A07-027		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	715.84	H		3.3E+03	2.1E+02	8.0E+03	8.0E+03
ALUMINUM	MG/KG	11500	B E		9.1E+03	5.0E+01	9.2E+04	
BENZOPHENANTHRENE	UG/KG	440	H		3.3E+03	2.1E+02	8.0E+03	8.0E+03
CHROMIUM, TOTAL	MG/KG	16.3	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01

Soil Samples		AUS-0A07-162		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
CPAH	UG/KG	462.14	H		2.1E+02			
ALUMINUM	MG/KG	11000	B E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	14	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01

Soil Samples		AUS-0A07-163		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	2 ft	CE					
ALL VOC	UG/KG	ND	CE					

Soil Samples		AUS-0A07-164		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	6 ft	CE					
ALL VOC	UG/KG	ND	CE					

Soil Samples		AUS-0A07-165		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALUMINUM	MG/KG	10000	B E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	14	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01

Soil Samples		AUS-0A07-166		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	3 ft	CE					
ALL VOC	UG/KG	ND	CE					

Soil Samples		AUS-0A07-167		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALUMINUM	MG/KG	12000	B E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	15	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01

Soil Samples		AUS-0A07-168		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	3 ft	CE					
ALL VOC	UG/KG	ND	CE					

Soil Samples		AUS-0A07-170		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	2 ft	CE					
ALL VOC	UG/KG	ND	CE					

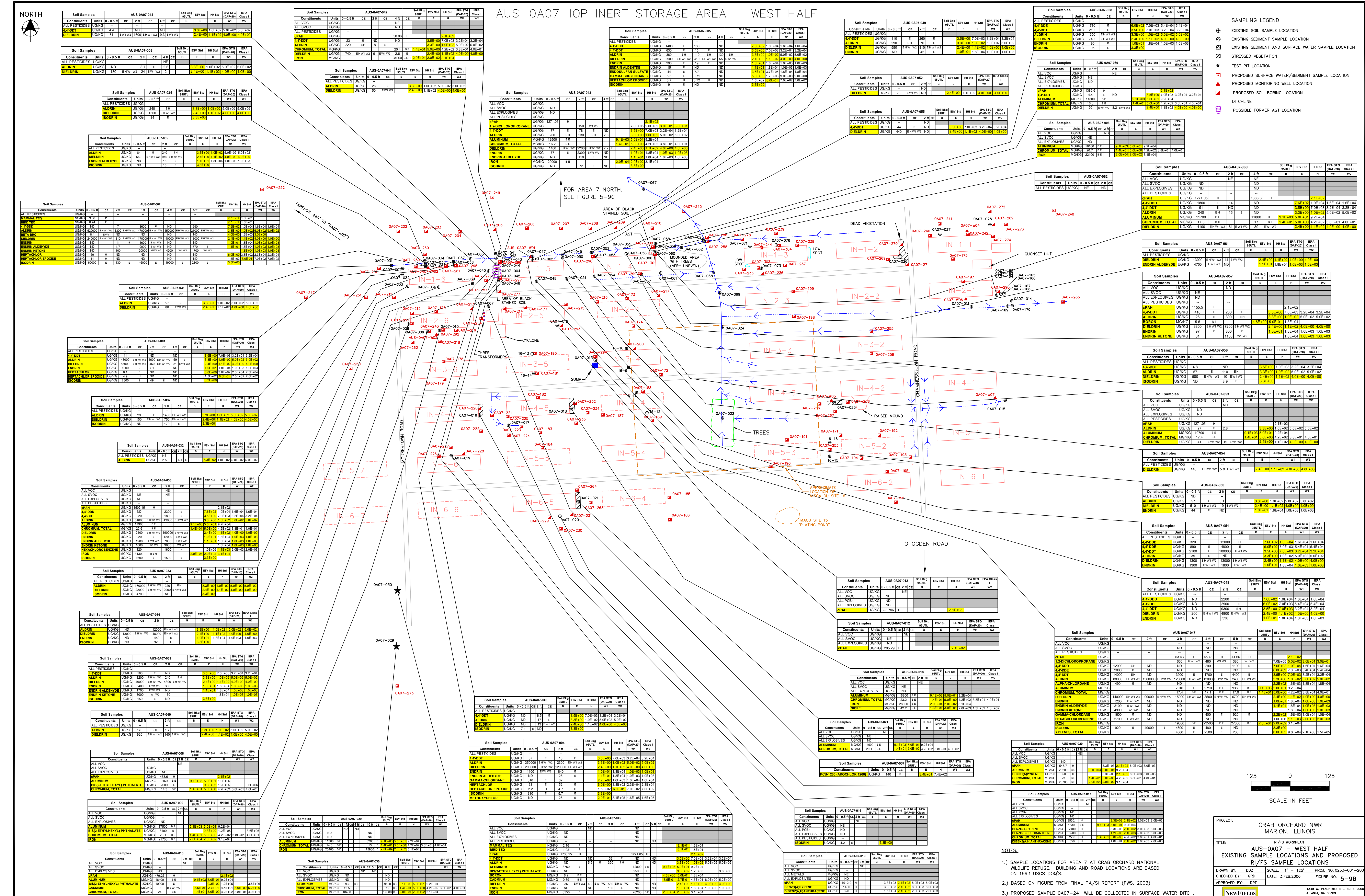
Soil Samples		AUS-0A07-169		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	2 ft	CE					
ALL VOC	UG/KG	ND	CE					

Soil Samples		AUS-0A07-014		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					

Soil Samples		AUS-0A07-015		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					

Soil Samples		AUS-0A07-023		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALUMINUM	MG/KG	17200	B E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	21.1	B E		1.4E+01	5.0E+00	4.2E+02	3.8E+01
IRON	MG/KG	22200	B E		2.0E+04	2.0E+02	3.1E+04	

Soil Samples		AUS-0A07-011		Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	2 ft	95/TL	B	E	(DAF+20)	Class I
ALL VOC	UG/KG	ND	ND					
ALL SVOC	UG/KG	ND	ND					
ALL PCBs	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINUM	MG/KG	11200	B E</					



AUS-0A07-IOP INERT STORAGE AREA - WEST HALF

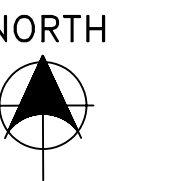
SAMPLING LEGEND

- ⊕ EXISTING SOIL SAMPLE LOCATION
- ⊙ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
- ⊗ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
- ⊞ STRESSED VEGETATION
- ★ TEST PIT LOCATION
- ⊞ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- ⊞ PROPOSED MONITORING WELL LOCATION
- ⊞ PROPOSED SOIL BORING LOCATION
- ⊞ DITCHLINE
- ⊞ POSSIBLE FORMER AST LOCATION

Soil Samples AUS-0A07-044

Constituents	Units	0-0.5 R	CE	2 R	CE	4 R	CE	8 R	CE	16 R	CE	32 R	CE	64 R	CE	128 R	CE	256 R	CE	512 R	CE	1024 R	CE	2048 R	CE	4096 R	CE	8192 R	CE	16384 R	CE	32768 R	CE	65536 R	CE	131072 R	CE	262144 R	CE	524288 R	CE	1048576 R	CE	2097152 R	CE	4194304 R	CE	8388608 R	CE	16777216 R	CE	33554432 R	CE	67108864 R	CE	134217728 R	CE	268435456 R	CE	536870912 R	CE	1073741824 R	CE	2147483648 R	CE	4294967296 R	CE	8589934592 R	CE	17179869184 R	CE	34359738368 R	CE	68719476736 R	CE	137438953472 R	CE	274877906944 R	CE	549755813888 R	CE	1099511627776 R	CE	2199023255552 R	CE	4398046511104 R	CE	8796093022208 R	CE	17592186044416 R	CE	35184372088832 R	CE	70368744177664 R	CE	140737488355328 R	CE	281474976710656 R	CE	562949953421312 R	CE	1125899906842624 R	CE	2251799813685248 R	CE	4503599627370496 R	CE	9007199254740992 R	CE	18014398509481984 R	CE	36028797018963968 R	CE	72057594037927936 R	CE	144115188075855872 R	CE	288230376151711744 R	CE	576460752303423488 R	CE	1152921504606846976 R	CE	2305843009213693952 R	CE	4611686018427387904 R	CE	9223372036854775808 R	CE	18446744073709551616 R	CE	36893488147419103232 R	CE	73786976294838206464 R	CE	147573952589676412928 R	CE	295147905179352825856 R	CE	590295810358705651712 R	CE	1180591620717411303424 R	CE	2361183241434822606848 R	CE	4722366482869645213696 R	CE	9444732965739290427392 R	CE	18889465931478580854784 R	CE	37778931862957161709568 R	CE	75557863725914323419136 R	CE	151115727451828646838272 R	CE	302231454903657293676544 R	CE	604462909807314587513088 R	CE	1208925819614629175126176 R	CE	2417851639229258350253344 R	CE	4835703278458516700506688 R	CE	9671406556917033401013376 R	CE	19342813113834066802026752 R	CE	38685626227668133604053504 R	CE	77371252455336267208107008 R	CE	1547425049106725344161410176 R	CE	3094850098213450688222821504 R	CE	6189700196426901376444543008 R	CE	12379400392853802752888886016 R	CE	24758800785707605505777772032 R	CE	49517601571415211011555544064 R	CE	99035203142830422231111108128 R	CE	198070406285660844462222216256 R	CE	396140812571321688844444432512 R	CE	792281625142643377688888865024 R	CE	15845632502852867553777777130048 R	CE	316912650057057351075555546016 R	CE	63382530011411470215111111224032 R	CE	12676506002282284043022222448064 R	CE	2535301200456456808604444896128 R	CE	5070602400912913617208888992256 R	CE	10141204801825827234417777784512 R	CE	2028240960365165446883555569024 R	CE	40564819207303309177777777180048 R	CE	81129638414606618355555555360096 R	CE	162259276829213237111111111720192 R	CE	32451855365842647422222222440384 R	CE	64903710731689494844444448886768 R	CE	129807421473788989688888897735136 R	CE	25961484294757797937777777144672 R	CE	519229685895155959555555289344 R	CE	10384593718111119111111111578688 R	CE	207691874362223822222222211573772 R	CE	41538374872444764444444442315104 R	CE	83076749744889528888888846302208 R	CE	166153499497779177777777792604416 R	CE	332306998995558355555555185208832 R	CE	6646139979911167111111113704177664 R	CE	132922799598223342222222274083552 R	CE	265845599196446684444444448167104 R	CE	531691198392893378888888896334208 R	CE	1063382376785786757777777792668416 R	CE	21267647535715735155555555185333632 R	CE	4253529507143462831111111370667264 R	CE	8507059014289256622222227413344 R	CE	17014118028578514444444448167104 R	CE	3402823605715735155555555185333632 R	CE	68056472114346283111111370667264 R	CE	13611294422857851444444448167104 R	CE	27222588845715735155555555185333632 R	CE	544451776914346283111111370667264 R	CE	10889035382857851444444448167104 R	CE	21778070765715735155555555185333632 R	CE	435561415314346283111111370667264 R	CE	87112283062857851444444448167104 R	CE	174225665715735155555555185333632 R	CE	3484513314346283111111370667264 R	CE	696902662857851444444448167104 R	CE	1393805325715735155555555185333632 R	CE	27876106514346283111111370667264 R	CE	5575221302857851444444448167104 R	CE	1115044605715735155555555185333632 R	CE	2230089214346283111111370667264 R	CE	4460178422857851444444448167104 R	CE	8920356845715735155555555185333632 R	CE	178407136914346283111111370667264 R	CE	3568142782857851444444448167104 R	CE	7136285565715735155555555185333632 R	CE	14272571322857851444444448167104 R	CE	2854514245715735155555555185333632 R	CE	57090284914346283111111370667264 R	CE	11418056982857851444444448167104 R	CE	22836113965715735155555555185333632 R	CE	456722279314346283111111370667264 R	CE	91344455862857851444444448167104 R	CE	1826889177157351555555555185333632 R	CE	36537783542857851444444448167104 R	CE	730755670857851444444448167104 R	CE	14615113417157351555555555185333632 R	CE	292302268342857851444444448167104 R	CE	5846045366857851444444448167104 R	CE	11692090737157351555555555185333632 R	CE	233841814742857851444444448167104 R	CE	4676836294857851444444448167104 R	CE	93536725896857851444444448167104 R	CE	18707345779157351555555555185333632 R	CE	374146915582857851444444448167104 R	CE	7482938311657851444444448167104 R	CE	14965876223157351555555555185333632 R	CE	299317524462857851444444448167104 R	CE	59863504892857851444444448167104 R	CE	11972700978157351555555555185333632 R	CE	239454019562857851444444448167104 R	CE	47890803912857851444444448167104 R	CE	957816078257851444444448167104 R	CE	191563215542857851444444448167104 R	CE	383126431082857851444444448167104 R	CE	7662528621657851444444448167104 R	CE	15325057243157351555555555185333632 R	CE	306501144862857851444444448167104 R	CE	61300228972857851444444448167104 R	CE	122600459542857851444444448167104 R	CE	245200919082857851444444448167104 R	CE	4904018381657851444444448167104 R	CE	98080367632857851444444448167104 R	CE	1961607352657851444444448167104 R	CE	39232147052857851444444448167104 R	CE	784642941057851444444448167104 R	CE	15692858821657851444444448167104 R	CE	313857176432857851444444448167104 R	CE	627714352862857851444444448167104 R	CE	1255428705715735155555555185333632 R	CE	251085741142857851444444448167104 R	CE	5021714822857851444444448167104 R	CE	100434294562857851444444448167104 R	CE	20086858912857851444444448167104 R	CE	401737178257851444444448167104 R	CE	80347435652857851444444448167104 R	CE	160694871315735155555555185333632 R	CE	32138974262857851444444448167104 R	CE	6427794852857851444444448167104 R	CE	128555897057851444444448167104 R	CE	257111794115735155555555185333632 R	CE	51422358822857851444444448167104 R	CE	102844717642857851444444448167104 R	CE	2056894352857851444444448167104 R	CE	41137887057851444444448167104 R	CE	82275774115735155555555185333632 R	CE	1645515422857851444444448167104 R	CE	32910308457851444444448167104 R	CE	65820616912857851444444448167104 R	CE	131641238257851444444448167104 R	CE	26328247652857851444444448167104 R	CE	52656495315735155555555185333632 R	CE	10531299062857851444444448167104 R	CE	2106259812857851444444448167104 R	CE	42125196257851444444448167104 R	CE	8425039252857851444444448167104 R	CE	16850078515735155555555185333632 R	CE	3370015702857851444444448167104 R	CE	67400314052857851444444448167104 R	CE	13480062115735155555555185333632 R	CE	2696012422857851444444448167104 R	CE	53920248457851444444448167104 R	CE	10784049692857851444444448167104 R	CE	215680993857851444444448167104 R	CE	431361987715735155555555185333632 R	CE	86272397542857851444444448167104 R	CE	172544791057851444444448167104 R	CE	3450895821657851444444448167104 R	CE	69017916432857851444444448167104 R	CE	138035832757851444444448167104 R	CE	27607166552857851444444448167104 R	CE	552143331057851444444448167104 R	CE	11042866221657851444444448167104 R	CE	220857324432857851444444448167104 R	CE	4417146488657851444444448167104 R	CE	883429297715735155555555185333632 R	CE	176685859542857851444444448167104 R	CE	3533717190857851444444448167104 R	CE	7067434381657851444444448167104 R	CE	141348677632857851444444448167104 R	CE	2826973562657851444444448167104 R	CE	5653947125315735155555555185333632 R	CE	113078942502857851444444448167104 R	CE	2261578850057851444444448167104 R	CE	452315770012857851444444448167104 R	CE	90463154002857851444444448167104 R	CE	180926308057851444444448167104 R	CE	361852616115735155555555185333632 R	CE	72370523222857851444444448167104 R	CE	1447410464457851444444448167104 R	CE	289482092892857851444444448167104 R	CE	5789641857851444444448167104 R	CE	1157928371715735155555555185333632 R	CE	231585674342857851444444448167104 R	CE	4631713486857851444444448167104 R	CE	9263426972857851444444448167104 R	CE	185268539457851444444448167104 R	CE	37053707892857851444444448167104 R	CE	741074157851444444448167104 R	CE	1482148357851444444448167104 R	CE	2964296715735155555555185333632 R	CE	5928593432857851444444448167104 R	CE	11857186657851444444448167104 R	CE	237143732857851444444448167104 R	CE	4742874657851444444448167104 R	CE	9485749315735155555555185333632 R	CE	1897149862857851444444448167104 R	CE	379429972857851444444448167104 R	CE	7588599457851444444448167104 R	CE	1517719915735155555555185333632 R	CE	303543982857851444444448167104 R	CE	6070879657851444444448167104 R	CE	12141759315735155555555185333632 R	CE	2428351862857851444444448167104 R	CE	48567037257851444444448167104 R	CE	9713407452857851444444448167104 R	CE	19426814915735155555555185333632 R	CE	3885362982857851444444448167104 R	CE	77707259657851444444448167104 R	CE	155414519315735155555555185333632 R	CE	31082903857851444444448167104 R	CE	621658077057851444444448167104 R	CE	12433161542857851444444448167104 R	CE	248663230857851444444448167104 R	CE	497326461715735155555555185333632 R	CE	99465292342857851444444448167104 R	CE	198930584657851444444448167104 R	CE	397861169315735155555555185333632 R	CE	79572233862857851444444448167104 R	CE	159144477715735155555555185333632 R	CE	3182889552857851444444448167104 R
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AUS-0A07-IOP INERT STORAGE AREA - NORTH



- SAMPLING LEGEND**
- ⊕ EXISTING SOIL SAMPLE LOCATION
 - ⊗ EXISTING SEDIMENT SAMPLE LOCATION
 - ⊗ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
 - ▨ STRESSED VEGETATION
 - ▣ PROPOSED SOIL BORING LOCATION
 - ▣ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
 - ▲ PROPOSED MONITORING WELL LOCATION
 - DITCHLINE
 - ★ TEST PIT LOCATION

Soil Samples				Sediment Samples			
AUS-0A07-081		AUS-0A07-081		AUS-0A07-081		AUS-0A07-081	
Constituents	Units	2 ft	CE	Constituents	Units	0 - 0.5 ft	CE
ALL PESTICIDES	UG/KG	ND		ALL PESTICIDES	UG/KG	ND	

Sediment Samples			
AUS-0A07-080		AUS-0A07-080	
Constituents	Units	0 - 0.5 ft	CE
ALL PESTICIDES	UG/KG	ND	

Sediment Samples			
AUS-0A07-079		AUS-0A07-079	
Constituents	Units	0 - 0.5 ft	CE
ALL PESTICIDES	UG/KG	ND	

Sediment Samples		AUS-0A07-063		Sediment		ESV Std		HH Std		EPA STG		EPA	
Constituents	Units	0 - 0.5 ft	CE	Bkg 95UTL	B	E	H	W1	W2	(DAF20)	Class I	Class I	Class I
ALL METALS	MG/KG	NE											
ALL PESTICIDES	UG/KG	--											
4,4'-DDD	UG/KG	39	E			4.9E+00	1.0E+04	1.6E+04	1.6E+04				
4,4'-DDT	UG/KG	48	E			4.2E+00	7.0E+03	3.2E+04	3.2E+04				

Soil Samples				Sediment Samples			
AUS-0A07-065		AUS-0A07-065		AUS-0A07-065		AUS-0A07-065	
Constituents	Units	2 ft	CE	Constituents	Units	0 - 0.5 ft	CE
ALL VOC	UG/KG	NE		ALL PESTICIDES	UG/KG	ND	
ALL PESTICIDES	UG/KG	ND					

Sediment Samples			
AUS-0A07-064		AUS-0A07-064	
Constituents	Units	0 - 0.5 ft	CE
ALL PESTICIDES	UG/KG	ND	

Sediment Samples		AUS-0A07-067		Sediment		ESV Std		HH Std		EPA STG		EPA	
Constituents	Units	0 - 0.5 ft	CE	Bkg 95UTL	B	E	H	W1	W2	(DAF20)	Class I	Class I	Class I
ALL PESTICIDES	UG/KG	--											
4,4'-DDT	UG/KG	4.7	E			4.2E+00	7.0E+03	3.2E+04	3.2E+04				

Soil Samples			
AUS-0A07-067		AUS-0A07-067	
Constituents	Units	2 ft	CE
ALL VOC	UG/KG	ND	
ALL PESTICIDES	UG/KG	ND	

Sediment Samples			
AUS-0A07-066		AUS-0A07-066	
Constituents	Units	0 - 0.5 ft	CE
ALL PESTICIDES	UG/KG	ND	



NOTES:

- 1.) SAMPLE LOCATIONS FOR AREA 7 AT CRAB ORCHARD NATIONAL WILDLIFE REFUGE. BUILDING AND ROAD LOCATIONS ARE BASED ON 1993 USGS DOQ'S.
- 2.) BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

FOR AREA 7 SOUTH, SEE FIGURES 5-9A & 5-9B

PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS			
TITLE: R/FS WORKPLAN AUS-0A07 NORTH EXISTING SAMPLE LOCATIONS AND PROPOSED R/FS SAMPLE LOCATIONS			
DRAWN BY: DDZ	SCALE: 1" = 60'	PROJ. NO. 0233-001-200	
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-9C	
APPROVED BY: DPT	NEWFIELDS		
1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-8500			



AREA 8 SOUTH-FORMER IOP LOAD LINE III

Soil Samples		AUS-0A8S-010			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-007			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Drum Samples		AUS-0A8S-005-DRUM			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL SVOC	UG/KG	NE	NE	NE	NE
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	NE	NE	NE

Soil Samples		AUS-0A8S-005			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	NE	NE	NE

Soil Samples		AUS-0A8S-008			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	NE	NE	NE

Soil Samples		AUS-0A8S-004			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-025			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	NE	NE	NE
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-031			
Constituents	Units	5 ft	CE	8 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	NE	NE	NE
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-W02				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE	5 ft	CE	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	NE	NE	NE	NE						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	NE	NE	NE						
ALUMINUM	MG/KG	10600	B E			9.1E+03	5.0E+01	9.2E+04			

Soil Samples		AUS-0A8S-W03				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE	5 ft	CE	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	NE	NE	NE	NE						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	NE	NE	NE						
CADMIUM	MG/KG	0.45	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00			
COBALT	MG/KG	20.4	B E	9.3E+00	2.0E+01	1.9E+03					
MANGANESE	MG/KG	6940	B E H	2.4E+03	1.0E+02	1.9E+03					
SELENIUM	MG/KG	3.8	B E	3.2E+00	1.0E+00	5.1E+02	5.0E+00	6.3E+00			
ZINC	MG/KG	175	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03			

Soil Samples		AUS-0A8S-018			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	NE	NE	NE
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	NE	NE	NE

Soil Samples		AUS-0A8S-020			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-021				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	W1	W2
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
ALUMINUM	MG/KG	9780	B E			9.1E+03	5.0E+01	9.2E+04			

Soil Samples		AUS-0A8S-W05			
Constituents	Units	0 - 0.5 ft	CE	5 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-022			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL SVOC	UG/KG	NE	NE	NE	NE
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-W04				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE	5 ft	CE	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	NE	NE	NE	NE						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	NE	NE	NE						
BORON	MG/KG	5.1	B E			8.1E-01	1.6E+01				

Soil Samples		AUS-0A8S-028				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	W1	W2
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
CADMIUM	MG/KG	1.2	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00			

Soil Samples		AUS-0A8S-W06			
Constituents	Units	12 ft	CE	18 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL METALS	MG/KG	NE	NE	NE	NE

Soil Samples		AUS-0A8S-014			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-013			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-015			
Constituents	Units	0 - 0.5 ft	CE	3 ft	CE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-W01			
Constituents	Units	0 - 0.5 ft	CE	5 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	NE	NE	NE
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-029			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	NE	NE	NE
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-009			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-016			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL SVOC	UG/KG	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	NE	NE	NE
ALL METALS	MG/KG	NE	NE	NE	NE
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND

Soil Samples		AUS-0A8S-017				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	W1	W2
ALL SVOC	UG/KG	ND	ND	ND	ND						
ALL EXPLOSIVES	UG/KG	NE	NE	NE	NE						
ALUMINUM	MG/KG	9910	B E	9.1E+03	5.0E+01	9.2E+04					
2,4-DINITROTOLUENE	UG/KG	610	W1 W2	1.3E+03	2.5E+03	8.0E-01	8.0E-01				
DI-N-BUTYL PHTHALATE	UG/KG	750	E	7.1E+02	2.3E+06	2.3E+06	2.3E+06				

Soil Samples		AUS-0A8S-027				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	NE	NE	NE	NE						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
THALLIUM	MG/KG	1.9	B E	5.1E-01	1.0E+00	6.7E+00	2.6E+00				

Soil Samples		AUS-0A8S-026				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA	
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	W1	W2
ALL VOC	UG/KG	ND	ND	ND	ND						
ALL SVOC	UG/KG	NE	NE	NE	NE						
ALL METALS	MG/KG	NE	NE	NE	NE						
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND						
BENZYL BUTYL PHTHALATE	UG/KG	290	E	2.4E+02	9.3E+05	9.3E+05	9.3E+05				

Soil Samples		AUS-0A8S-019				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B			



AREA 8 SOUTH-FORMER IOP LOAD LINE III

Sediment Samples		AUS-0A8S-011	
Constituents	Units	0 - 0.5 ft	CE
ALL EXPLOSIVES	UG/KG	ND	

Sediment Samples		AUS-0A8S-006	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOCs	UG/KG	ND	
ALL EXPLOSIVES	UG/KG	ND	
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	

Drum Samples		AUS-0A8S-005-DRUM	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOC	UG/KG	NE	
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	

Surface Water Samples		AUS-0A8S-002-SW		SW Bkg 95/UL	SW Eco Std	SW HH Std
Constituents	Units	Conc.	CE	B	E	H
ALL VOC	UG/L	ND				
ALL SVOC	UG/L	ND				
ALL EXPLOSIVES	UG/L	ND				
ALUMINUM	UG/L	4.37	B E	2.0E+02	8.7E+01	
BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	3.1	E		3.0E+00	

Sediment Samples		AUS-0A8S-002	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOCs	UG/KG	NE	
ALL METALS	UG/KG	NE	
ALL EXPLOSIVES	UG/KG	NE	
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE	

Sediment Samples		AUS-0A8S-003	
Constituents	Units	0 - 0.5 ft	CE
ALL EXPLOSIVES	UG/KG	ND	

Groundwater Samples		AUS-0A8S-W03-GW		IEPA Class I Groundwater Standard
Constituents	Units	Conc.	CE	C1
ALL VOC	UG/L	ND		
ALL SVOC	UG/L	ND		
ALL EXPLOSIVES	UG/L	NE		
MANGANESE	UG/L	227	C1	1.5E+02

Sediment Samples		AUS-0A8S-001		Sediment Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOCs	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
TOXICITY EQUIVALENT QUOTIENT	NG/KG	NE		3.3E+00	1.6E+01			
MANGANESE	MG/KG	1150	B E	1.0E+03	6.3E+02	1.9E+03		
ZINC	MG/KG	176	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Groundwater Samples		AUS-0A8S-W04-GW	
Constituents	Units	Conc.	CE
ALL VOC	UG/L	ND	
ALL SVOC	UG/L	ND	
ALL METALS	UG/L	NE	
ALL EXPLOSIVES	UG/L	ND	

Sediment Samples		AUS-0A8S-023		Sediment Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOCs	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	757.09	E H	1.5E+02	2.1E+02	8.0E+03	8.0E+03	8.0E+03
2-METHYLNAPHTHALENE	UG/KG	110	B E	7.0E+01	1.9E+04	8.4E+04	7.7E+03	
ALUMINUM	MG/KG	27900	B E	1.1E+04	2.8E+04	9.2E+04		
ANTIMONY	MG/KG	3.8	B E	1.9E+00	3.0E+00	4.1E+01	5.0E+00	5.0E+00
ARSENIC	MG/KG	63.2	B E HH W1 W2	1.0E+01	9.8E+00	1.0E+00	2.9E+01	2.9E+01
BENZO(A)ANTHRACENE	UG/KG	170	E	1.1E+02	2.1E+03	2.0E+03	2.0E+03	2.0E+03
BENZO(A)PYRENE	UG/KG	260	H	1.1E+02	2.1E+02	8.0E+03	8.0E+03	8.0E+03
BENZO(B)FLUORANTHENE	UG/KG	340	E	2.7E+01	2.1E+03	5.0E+03	5.0E+03	5.0E+03
BENZO(G)FLUORANTHENE	UG/KG	300	E	1.6E+01	6.1E+07		3.2E+07	
BENZO(K)FLUORANTHENE	UG/KG	280	E	2.7E+01	2.1E+04	4.9E+04	4.9E+04	4.9E+04
CADMIUM	MG/KG	5.5	B E W2	1.6E+00	9.9E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	59.7	B E W1 W2	1.7E+01	4.3E+01	4.2E+02	3.8E+01	4.0E+01
CHRYSENE	UG/KG	290	E	1.7E+02	2.1E+05	1.6E+05	1.6E+05	1.6E+05
COPPER	MG/KG	3330	B E	1.7E+01	3.2E+01	4.1E+03		5.9E+04
INDENO(1,2,3-C,D)PYRENE	UG/KG	180	E	1.7E+01	2.1E+03	1.4E+04	1.4E+04	1.4E+04
IRON	MG/KG	103000	B H	2.1E+04	1.9E+05	3.1E+04		
LEAD	MG/KG	665	B E H	2.4E+01	3.0E+01	4.0E+02		
MANGANESE	MG/KG	1180	B E	1.0E+03	6.3E+02	1.9E+03		
NICKEL	MG/KG	58.9	B E	1.7E+01	2.3E+01	2.0E+03	1.3E+02	1.0E+02
PYRENE	UG/KG	340	E	2.0E+02	2.9E+06	4.2E+06	4.2E+06	4.2E+06
ZINC	MG/KG	1800	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Surface Water Samples		AUS-0A8S-023-SW		SW Bkg 95/UL	SW Eco Std	SW HH Std
Constituents	Units	Conc.	CE	B	E	H
ALL VOC	UG/L	ND				
ALL SVOC	UG/L	ND				
ALL EXPLOSIVES	UG/L	ND				
COPPER	UG/L	21.4	B E	1.0E+01	1.2E+01	
IRON	UG/L	1190	B E H	1.0E+02	1.0E+03	1.0E+03

Sediment Samples		AUS-0A8S-024	
Constituents	Units	0 - 0.5 ft	CE
ALL SVOCs	UG/L	ND	
ALL METALS	UG/L	ND	
ALL EXPLOSIVES	UG/L	ND	
ALUMINUM	UG/L	1300	B E
IRON	UG/L	5290	B E H

Surface Water Samples		AUS-0A8S-024-SW		SW Bkg 95/UL	SW Eco Std	SW HH Std
Constituents	Units	Conc.	CE	B	E	H
ALL VOC	UG/L	ND				
ALL SVOC	UG/L	ND				
ALL EXPLOSIVES	UG/L	ND				
ALUMINUM	UG/L	1300	B E	2.0E+02	8.7E+01	
IRON	UG/L	5290	B E H	1.0E+02	1.0E+03	1.0E+03

Groundwater Samples		AUS-0A8S-W05-GW		IEPA Class I Groundwater Standard
Constituents	Units	Conc.	CE	C1
ALL VOC	UG/L	NE		
ALL SVOC	UG/L	ND		
ALL EXPLOSIVES	UG/L	ND		
MANGANESE	UG/L	259	C1	1.5E+02

Groundwater Samples		AUS-0A8S-W06-GW		IEPA Class I Groundwater Standard
Constituents	Units	Conc.	CE	C1
ALL VOC	UG/L	NE		
ALL SVOC	UG/L	ND		
ALL EXPLOSIVES	UG/L	ND		
MANGANESE	UG/L	161	C1	1.5E+02

Sewer Line Samples		AUS-0A8S-034-SL	
Constituents	Units	0 - 0.5 ft	CE
ALL EXPLOSIVES	UG/KG	ND	

Sediment Samples		AUS-0A8S-033	
Constituents	Units	0 - 0.5 ft	CE
ALL EXPLOSIVES	UG/KG	ND	

Groundwater Samples		AUS-0A8S-W01-GW	
Constituents	Units	Conc.	CE
ALL VOC	UG/L	ND	
ALL SVOC	UG/L	ND	
ALL EXPLOSIVES	UG/L	ND	

Sediment Samples		AUS-0A8S-012		Sediment Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOCs	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	355.71	H			2.1E+02		
BENZO(B)FLUORANTHENE	UG/KG	100	E			2.7E+01	2.1E+03	5.0E+03
BENZO(K)FLUORANTHENE	UG/KG	61	E			2.7E+01	2.1E+04	4.9E+04

Groundwater Samples		AUS-0A8S-W02-GW	
Constituents	Units	Conc.	CE
ALL VOC	UG/L	ND	
ALL SVOC	UG/L	ND	
ALL METALS	UG/L	NE	
ALL EXPLOSIVES	UG/L	ND	

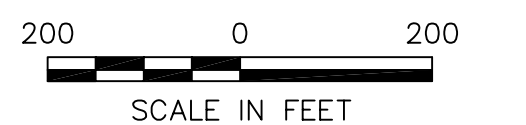
Sewer Line Samples		AUS-0A8S-030-SL		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
CPAH	UG/KG	593.27	H			3.3E+03	2.1E+02	8.0E+03
ARSENIC	MG/KG	17.3	B E H	1.3E+01	9.0E+00	1.6E+00	2.9E+01	2.9E+01
BENZO(A)PYRENE	UG/KG	1100	H			3.3E+03	2.1E+02	8.0E+03
BENZO(B)FLUORANTHENE	UG/KG	1400	E			1.2E+03	2.1E+03	5.0E+03
CADMIUM	MG/KG	0.39	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	14.8	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	35700	B E H	2.0E+04	2.0E+02	3.1E+04		
MANGANESE	MG/KG	2380	B E H	2.4E+03	1.0E+02	1.9E+03		

Sediment Samples		AUS-0A8S-032		Sediment Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOCs	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	420.59	H			2.1E+02		
2-DIBENZOTOLUENE	UG/KG	540	B E HH W2			2.5E+03	7.0E+01	7.0E+01
2-METHYLNAPHTHALENE	UG/KG	3700	E H			7.0E+01	1.9E+04	8.4E+04
ANTHRACENE	UG/KG	140	E			3.7E+01	2.4E+07	1.2E+07
ARSENIC	MG/KG	15	B E H	1.0E+01				
BENZO(A)ANTHRACENE	UG/KG	210	E			1.1E+02	2.1E+03	2.0E+03
BENZO(B)FLUORANTHENE	UG/KG	130	E			2.7E+01	2.1E+03	5.0E+03
CHRYSENE	UG/KG	180	E			1.7E+02	2.1E+05	1.6E+05
NAPHTHALENE	UG/KG	1700	E			1.8E+02	1.8E+03	8.4E+04
PHENANTHRENE	UG/KG	1400	E			2.0E+02	2.9E+06	4.2E+06
PYRENE	UG/KG	370	E			2.0E+02	2.9E+06	4.2E+06

- SAMPLING LEGEND**
- EXISTING MONITORING WELL/SOIL BORING LOCATION
 - EXISTING SOIL SAMPLE LOCATION
 - EXISTING DRUM SOIL SAMPLE LOCATION
 - EXISTING SEDIMENT SAMPLE LOCATION
 - EXISTING SURFACE WATER/SURFACE WATER SAMPLE LOCATION
 - EXISTING SEWER LINE SAMPLE LOCATION
 - USEPA 1998 SAMPLE LOCATION
 - PROPOSED SOIL BORING LOCATION
 - PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
 - PROPOSED MONITORING WELL LOCATION
 - PROPOSED GEOPROBE/TEMPORARY WELLS
 - GROUNDWATER ELEVATION (WATER TABLE) SEPTEMBER 2000 (CONTOUR INTERVAL 1 ft)

- BASE MAP LEGEND**
- Sidewalk
 - Building
 - Foundation
 - Fence
 - Wall
 - Tree Line
 - Stream
 - Shrub Line
 - Railroad
 - Paved Road
 - Unpaved Road
 - Trail
 - Pipe line
 - Driveway
 - Index Contour
 - Intermediate Contour
 - Depression Contour
 - Guard Rail
 - Swamp Symbol
 - Control Point
 - Single Tree
 - Located Object
 - Catch Basin
 - Manhole
 - Pole
 - Sign
 - Fire Hydrant
 - Light Pole
 - Inlet Symbol

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.



PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS

TITLE: R/FS WORKPLAN EXISTING SAMPLE LOCATIONS AND PROPOSED R/FS SAMPLE LOCATIONS

DRAWN BY: DDZ SCALE: 1" = 200' PROJ. NO. 0233-001-200

CHECKED BY: GRD DATE: 3/FEB/2006 FIGURE NO. 5-10B

APPROVED BY: DPT

1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9600

NEW FIELDS

NOTES:
 1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

NORTH

AUS-0A09-IOP LOAD LINE 1

SAMPLING LEGEND

Soil Samples AUS-0A09-021		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

- FENCE
- APPROXIMATE CENTERLINE OF SURFACE DRAINAGE CHANNEL/SWALE
- EXISTING PCB OR MONITORING WELLS
- EXISTING MONITORING WELL/SOIL BORING LOCATION
- EXISTING SOIL SAMPLE LOCATION
- EXISTING SOIL/SEDIMENT SAMPLE LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED MONITORING WELL LOCATION
- PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- PROPOSED GEOPROBE/TEMPORARY WELLS
- SUMP LOCATION
- GROUNDWATER ELEVATION (WATER TABLE) SEPTEMBER 2000 (CONTOUR INTERVAL 1 ft)
- APPROXIMATE PCB OR REMEDIAL ACTION SOIL EXCAVATION EXTENTS (ORIGINAL DESIGN LIMIT)
- ADDITIONAL PCB OR EXCAVATION EXTENTS
- APPROXIMATE EXTENT OF AUGUST 2004 CENTER SWALE EXCAVATION

Soil Samples AUS-0A09-007		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-008		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-009		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-013		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Sediment Samples AUS-0A09-021		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-018		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-017		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-016		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-015		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-012		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-020		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-010		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-011		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-W01		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Groundwater Samples AUS-0A09-W01-GW		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/L	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND
ALL METALS	MG/L	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-014		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-019		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Sewer Line Samples AUS-0A09-004-SL		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-006		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-005		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

Soil Samples AUS-0A09-003		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

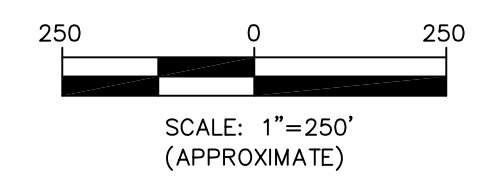
Soil Samples AUS-0A09-001		Soil Bq	SV Std	HH Std	EPA STG (DAF+20)	RPA Class 1
Constituents	Units	0-0.5 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND

- BASE MAP LEGEND
- Sidewalk
 - Building
 - Foundation
 - Fence
 - Wall
 - Tree Line
 - Stream
 - Shrub Line
 - Index Contour
 - Intermediate Contour
 - Depression Contour
 - Toll
 - Guard Rail
 - Swamp Symbol
 - Control Point
 - Single Tree
 - Paved Road
 - Unpaved Road
 - Manhole
 - Pole
 - Sign
 - Fire Hydrant
 - Light Pole
 - Inlet Symbol
 - Railroad
 - Pipe line
 - Driveway

NOTES:

- SOURCE: BASE MAP FROM "GROUNDWATER INVESTIGATION REPORT AND COULDED FEASIBILITY STUDY" REV. 0, JULY 1999, PREPARED BY RMT. RMT SITES SOURCES: BASE MAP FROM "1998 TCE INVESTIGATION, WORKPLAN AND PILOT STUDY FOR THE PCB OPERABLE UNIT AT THE CRAB ORCHARD NATIONAL WILDLIFE REFUGE SUPERFUND SITE, MARION, ILLINOIS" REV. 1, MAY 1998, PREPARED BY FLOUR DANIEL GTI.
- DASHED BUILDING OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES.
- LOCATION OF ALL WOODED AREAS NOT SHOWN.
- BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

APPROXIMATE EXTENT OF MARSH/WETLANDS ESTIMATED FROM SITE TOPOGRAPHIC MAP.



PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS

TITLE: RI/FS WORKPLAN AUS-0A09 EXISTING SAMPLE LOCATIONS AND PROPOSED RI/FS SAMPLE LOCATIONS

DRAWN BY: DOZ SCALE: 1" = 250' PROJ. NO. 0233-001-200
 CHECKED BY: GRD DATE: 3.FEB.2006 FIGURE NO. 5-11
 APPROVED BY: DPT

NEW FIELDS

1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050

AUS-0A10 – IOP FUSE AND BOOSTER STORAGE MAGAZINE

NORTH

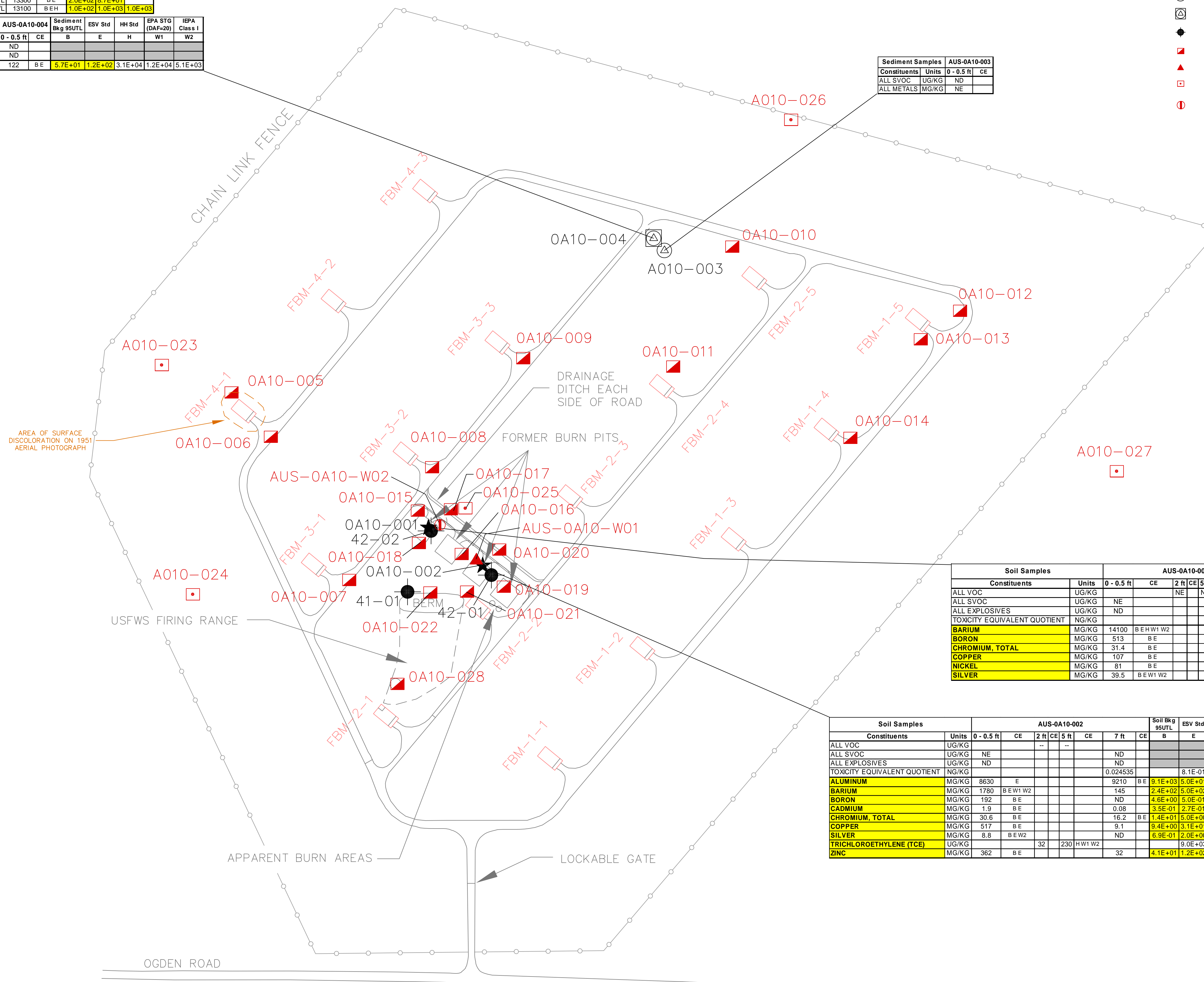
Surface Water Samples		AUS-0A10-004-SW		SW Bkg 95UTL	SW Eco Std	SW HH Std
Constituents Detected	Units	Conc.	CE	B	E	H
ALL SVOC	UG/L	ND				
ALL EXPLOSIVES	UG/L	ND				
ALUMINUM	UG/L	13300	B E	2.0E+02	8.7E+01	
IRON	UG/L	13100	B E H	1.0E+02	1.0E+03	1.0E+03

Sediment Samples		AUS-0A10-004		Sediment Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
ZINC	MG/KG	122	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Sediment Samples		AUS-0A10-003		0 - 0.5 ft	CE
Constituents	Units	ND			
ALL SVOC	UG/KG	ND			
ALL METALS	MG/KG	NE			

SAMPLING LEGEND

- ★ TEST PIT LOCATIONS
- ⊙ EXISTING SEDIMENT SAMPLE LOCATION
- ⊙ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
- ◆ USEPA 1998 SAMPLE LOCATION
- ▲ PROPOSED SOIL BORING LOCATION
- ▣ PROPOSED MONITORING WELL LOCATION
- ▣ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- Ⓜ PROPOSED GEOPROBE/TEMPORARY WELLS



Soil Samples		AUS-0A10-001						Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class 1		
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	5 ft	CE	6 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG													
ALL SVOC	UG/KG	NE												
ALL EXPLOSIVES	UG/KG	ND												
TOXICITY EQUIVALENT QUOTIENT	NG/KG												8.1E-01	1.6E+01
ALUMINUM	MG/KG	14100	B E H W1 W2					21.3		2.4E+02	5.0E+02	6.7E+03	1.6E+03	1.5E+03
BORON	MG/KG	513	B E							4.6E+00	5.0E-01	1.8E+04		
CHROMIUM, TOTAL	MG/KG	31.4	B E					14.6	B	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	107	B E					8.3		9.4E+00	3.1E+01	4.1E+03	5.9E+04	
NICKEL	MG/KG	81	B E					23	B	1.3E+01	3.0E+01	2.0E+03	1.3E+02	1.0E+02
SILVER	MG/KG	39.5	B E W1 W2							6.9E-01	2.0E+00	5.1E+02	3.4E+01	4.4E+00

Soil Samples		AUS-0A10-002						Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class 1		
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	5 ft	CE	7 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG													
ALL SVOC	UG/KG	NE												
ALL EXPLOSIVES	UG/KG	ND												
TOXICITY EQUIVALENT QUOTIENT	NG/KG												0.024535	8.1E-01
ALUMINUM	MG/KG	8630	E					9210	B E	9.1E+03	5.0E+01	9.2E+04		
BARIUM	MG/KG	1780	B E W1 W2					145		2.4E+02	5.0E+02	6.7E+03	1.6E+03	1.5E+03
BORON	MG/KG	192	B E							4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	1.9	B E					0.08		3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	30.6	B E					16.2	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	517	B E					9.1		9.4E+00	3.1E+01	4.1E+03	5.9E+04	
SILVER	MG/KG	8.8	B E W2							6.9E-01	2.0E+00	5.1E+02	3.4E+01	4.4E+00
TRICHLOROETHYLENE (TCE)	UG/KG			32		230	H W1 W2			9.0E+03	1.1E+02	6.0E+01	6.0E+01	
ZINC	MG/KG	362	B E					32		4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

NOTES:

1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT.
2. NONE OF THE BUILDINGS OR BURN PITS ARE CURRENTLY ON SITE.
3. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)



PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

TITLE: AUS-0A10
EXISTING SAMPLE LOCATIONS AND
PROPOSED RI/FS SAMPLE LOCATIONS

DRAWN BY: DDT SCALE: 1" = 120' PROJ. NO. 0233-001-200
CHECKED BY: GRD DATE: 3/FEB/2006 FIGURE NO. 5-12
APPROVED BY: DPT

1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-347-9999

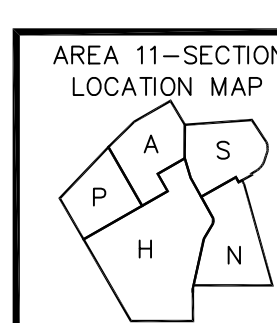
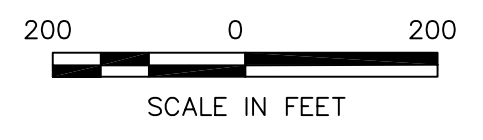
AREA 11 - GROUP II LOAD LINE



NOTES:
 1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES BASED ON DRAWINGS PREPARED BY FORMER TENANTS (U.S. POWDER/OLIN). SEE FIGURE 15-3 FOR EXPLANATION OF FORMER STRUCTURES. NOTE THAT U.S. POWDER BUILDING NUMBERS ARE USED TO DESIGNATE ALL STRUCTURES EXCEPT THOSE USED EXCLUSIVELY BY OLIN, WHICH HAVE OLIN BUILDING NUMBERS.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

BASE MAP LEGEND	

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.



PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS			
TITLE: R/F'S WORKPLAN AREA 11 SECTION LOCATION MAP			
DRAWN BY: DDZ	SCALE: 1" = 200'	PROJ. NO. 0233-001-200	
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-13	
APPROVED BY: DPT			
NEWFIELDS		1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30359 404-347-9050	

AREA A11A – ACID & AMMONIUM NITRATE PRODUCTION AREA



Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						

Surface Water Samples		AUS-A11A-032-SW		SW Bq		SW Eco		SW Ht		SW Ht	
Constituents		Units		0 - 0.5 ft		CE		B		E	
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	UG/L	289	B	2.0E+02	3.7E+01						
CALCIUM	UG/L	14000	B	7.2E+03	1.2E+04						

Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						

Surface Water Samples		AUS-A11A-026-SW		SW Bq		SW Eco		SW Ht		SW Ht	
Constituents		Units		0 - 0.5 ft		CE		B		E	
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	UG/L	528	B	2.0E+02	3.7E+01						
IRON	UG/L	2040	B	1.0E+02	1.0E+03	1.0E+03	1.0E+03				
MERCURY	UG/L	0.21	B	2.0E-01	1.3E+00	1.2E-02					

Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						

Surface Water Samples		AUS-A11A-026-SW		SW Bq		SW Eco		SW Ht		SW Ht	
Constituents		Units		0 - 0.5 ft		CE		B		E	
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	UG/L	350	B	2.0E+02	3.7E+01						
IRON	UG/L	2040	B	1.0E+02	1.0E+03	1.0E+03	1.0E+03				
MERCURY	UG/L	0.21	B	2.0E-01	1.3E+00	1.2E-02					

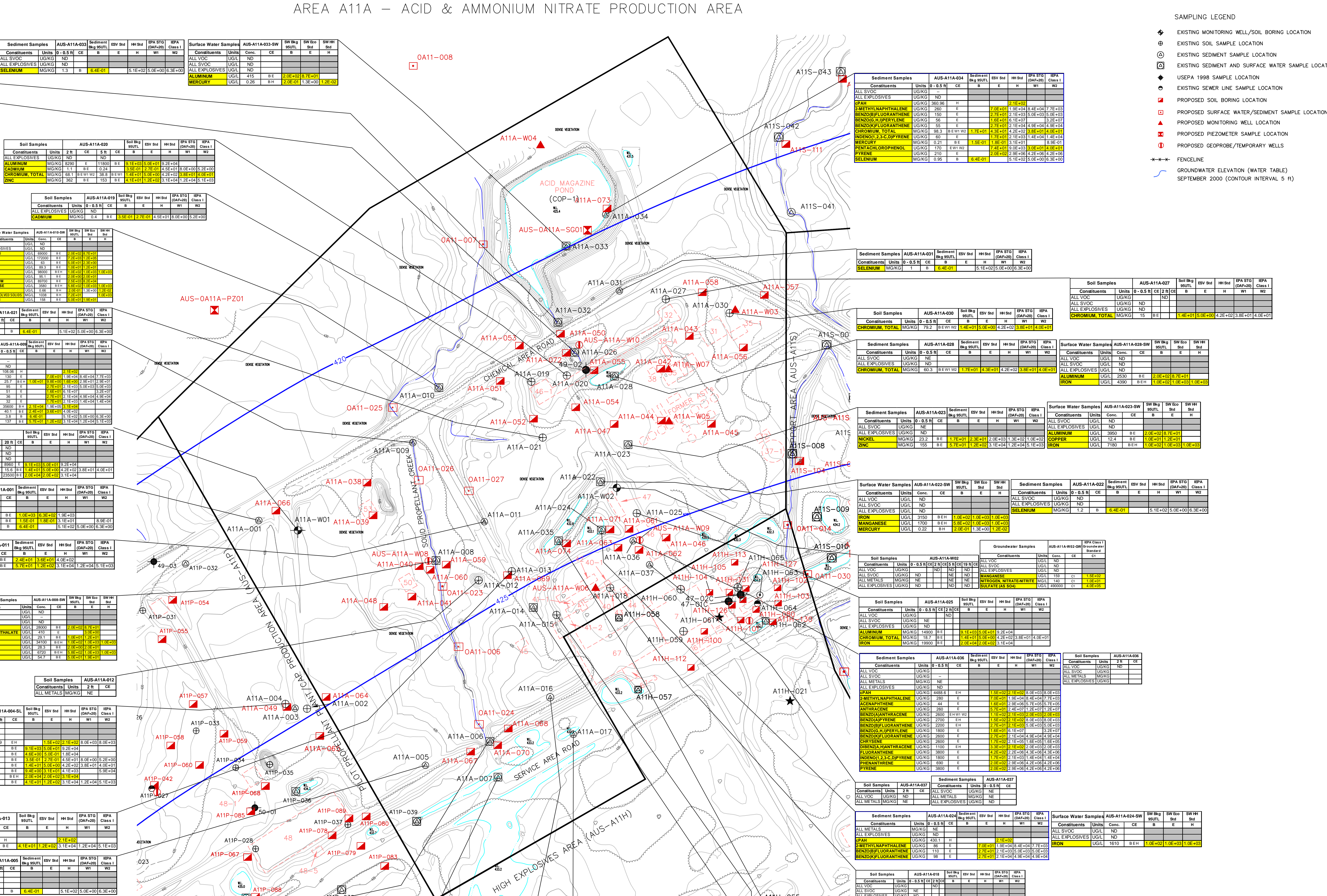
Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						

Surface Water Samples		AUS-A11A-026-SW		SW Bq		SW Eco		SW Ht		SW Ht	
Constituents		Units		0 - 0.5 ft		CE		B		E	
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	UG/L	350	B	2.0E+02	3.7E+01						
IRON	UG/L	2040	B	1.0E+02	1.0E+03	1.0E+03	1.0E+03				
MERCURY	UG/L	0.21	B	2.0E-01	1.3E+00	1.2E-02					

Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						

Surface Water Samples		AUS-A11A-026-SW		SW Bq		SW Eco		SW Ht		SW Ht	
Constituents		Units		0 - 0.5 ft		CE		B		E	
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	UG/L	350	B	2.0E+02	3.7E+01						
IRON	UG/L	2040	B	1.0E+02	1.0E+03	1.0E+03	1.0E+03				
MERCURY	UG/L	0.21	B	2.0E-01	1.3E+00	1.2E-02					

Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						



Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						

Surface Water Samples		AUS-A11A-026-SW		SW Bq		SW Eco		SW Ht		SW Ht	
Constituents		Units		0 - 0.5 ft		CE		B		E	
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	UG/L	350	B	2.0E+02	3.7E+01						
IRON	UG/L	2040	B	1.0E+02	1.0E+03	1.0E+03	1.0E+03				
MERCURY	UG/L	0.21	B	2.0E-01	1.3E+00	1.2E-02					

NOTES:
 1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLOYER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES BASED ON DRAWINGS PREPARED BY FORMER TENANTS (U.S. POWDER/OLIN). SEE FIGURE 15-3 FOR EXPLANATION OF FORMER STRUCTURES. NOTE THAT U.S. POWDER BUILDING NUMBERS ARE USED TO DESIGNATE ALL STRUCTURES EXCEPT THOSE USED EXCLUSIVELY BY OLIN, WHICH HAVE OLIN BUILDING NUMBERS.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

BASE MAP LEGEND	
Sidewalk	Index Contour
Building	Intermediate Contour
Foundation	Depression Contour
Wall	Guard Rail
Tree Line	Swamp Symbol
Stream	Control Point
Shrub Line	
Single Tree	Railroad
Located Object	Unpaved Road
Catch Basin	Trail
Manhole	Pipe Line
Sign	Driveway
Fire Hydrant	
Light Pole	
Inlet Symbol	

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.

Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						

Surface Water Samples		AUS-A11A-026-SW		SW Bq		SW Eco		SW Ht		SW Ht	
Constituents		Units		0 - 0.5 ft		CE		B		E	
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	UG/L	350	B	2.0E+02	3.7E+01						
IRON	UG/L	2040	B	1.0E+02	1.0E+03	1.0E+03	1.0E+03				
MERCURY	UG/L	0.21	B	2.0E-01	1.3E+00	1.2E-02					

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.

Sediment Samples		AUS-A11A-026		Sediment		SV St		HS St		IPA STG		IPA	
Constituents		Units		0 - 0.5 ft		CE		B		E		H	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00						

Surface Water Samples		AUS-A11A-026-SW		SW Bq		SW Eco		SW Ht		SW Ht	
Constituents		Units		0 - 0.5 ft		CE		B		E	
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	UG/L	350	B	2.0E+02	3.7E+01						
IRON	UG/L	2040	B	1.0E+02	1.0E+03	1.0E+03	1.0E+03				
MERCURY	UG/L	0.21	B	2.0E-01	1.3E+00	1.2E-02					

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.

PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS

TITLE: R/F/S WORKPLAN AUS-A11A EXISTING SAMPLE LOCATIONS AND PROPOSED R/F/S SAMPLE LOCATIONS

DRAWN BY: DDZ SCALE: 1" = 100' PROJ. NO. 0233-001-200

CHECKED BY: GDR DATE: 3.FEB.2006 FIGURE NO. 5-14

APPROVED BY: DPT

1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309

NEWFIELDS

AUS-A11N-NITROGLYCERIN AREA

SAMPLING LEGEND

- ◇ POSSIBLE FORMER TRENCH LOCATION
- ⊕ EXISTING SOIL SAMPLE LOCATION
- ⊗ EXISTING SEDIMENT SAMPLE LOCATION
- ⊕ EXISTING SOIL/SURFACE WATER SAMPLE LOCATION
- ⊕ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
- ⊕ EXISTING SOIL/SEDIMENT SAMPLE LOCATION
- ⊕ PROPOSED SOIL BORING LOCATION
- ⊕ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- ⊕ PROPOSED MONITORING WELL LOCATION
- ⊕ PROPOSED PIEZOMETER SAMPLE LOCATION
- GROUNDWATER ELEVATION (WATER TABLE) SEPTEMBER 2000 (CONTOUR INTERVAL 5 ft)



Sediment Samples		AUS-A11N-006		Sediment Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL EXPLOSIVES	UG/KG	ND							
BARIUM	MG/KG	474	B	2.0E+02			6.7E+03	1.0E+03	1.5E+03

Sediment Samples		AUS-A11N-003		Sediment Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL METALS	MG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							

Soil Samples		AUS-A11N-002		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL EXPLOSIVES	UG/KG	ND							
ALUMINIUM	MG/KG	9640	B	0.1E+03	5.0E+01		9.2E+04		
CADMIUM	MG/KG	0.55	B	3.5E-01	2.7E-01		4.5E+01	8.0E+00	5.2E+00

Sediment Samples		AUS-A11N-001		Surface Water Samples		AUS-A11N-001-SW		SW Bkg 95/TL		SW Eco Std	SW HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	Conc.	CE	B	E	H					
ALL METALS	MG/KG	ND											
ALL EXPLOSIVES	UG/KG	ND											
ALUMINIUM	UG/L	1780	B	2.0E+02	0.7E+01								
IRON	UG/L	1720	B	1.0E+02	1.0E+03								

Soil Samples		AUS-A11N-004		Sediment Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							

Soil Samples		AUS-A11N-007		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							
ALUMINIUM	MG/KG	3440	B	0.1E+03	5.0E+01		9.2E+04		
CADMIUM	MG/KG	0.57	B	3.5E-01	2.7E-01		4.5E+01	8.0E+00	5.2E+00
IRON	MG/KG	2000	B	2.0E+04	2.0E+02		3.1E+04		

Sediment Samples		AUS-A11N-010		Sediment Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL EXPLOSIVES	UG/KG	ND							
LEAD	MG/KG	67.8	B	2.4E+01	3.6E+01		4.0E+02		

Sediment Samples		AUS-A11N-014		Sediment Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL METALS	MG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							

Soil Samples		AUS-A11N-029		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							
CADMIUM	MG/KG	0.43	B	3.5E-01	2.7E-01		4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-A11N-018		Sediment Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL METALS	MG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							

Surface Water Samples		AUS-A11N-019-SW		SW Bkg 95/TL		SW Eco Std	SW HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	Conc.	CE	B	E	H			
ALL SVOC	UG/L	ND							
ALL EXPLOSIVES	UG/L	ND							
ALUMINIUM	UG/L	620	B	2.0E+02	0.7E+01				
COPPER	UG/L	17.7	B	3.0E+01	1.2E+01				
IRON	UG/L	14100	B	1.0E+02	1.0E+03				
LEAD	UG/L	93	B	2.0E+01	2.0E+01				

Sediment Samples		AUS-A11N-019		Sediment Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL EXPLOSIVES	UG/KG	ND							
COPPER	MG/KG	38.9	B	1.7E+01	3.2E+01		4.1E+03		5.9E+04
LEAD	MG/KG	568	B	2.4E+01	3.6E+01		4.0E+02		

Soil Samples		AUS-A11N-020		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	2 ft	CE	B	E	H	W1	W2	
ALL EXPLOSIVES	UG/KG	ND							
CADMIUM	MG/KG	0.39	B	3.5E-01	2.7E-01		4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	12.8	B	1.4E+01	5.0E+00		4.2E+02	3.8E+01	4.0E+01

Soil Samples		AUS-A11N-024		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							
CADMIUM	MG/KG	0.37	B	3.5E-01	2.7E-01		4.5E+01	8.0E+00	5.2E+00

Tank Water Samples		AUS-A11N-024-TK		SW Bkg 95/TL		SW Eco Std	SW HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	Conc.	CE	B	E	H			
ALL SVOC	UG/L	ND							
ALL SVOC	UG/L	ND							
ALL EXPLOSIVES	UG/L	ND							
ALUMINIUM	UG/L	2290	B	2.0E+02	0.7E+01				
IRON	UG/L	3010	B	1.0E+02	1.0E+03				

Soil Samples		AUS-A11N-028		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							
ALUMINIUM	MG/KG	14300	B	0.1E+03	5.0E+01		9.2E+04		
CADMIUM	MG/KG	0.58	B	3.5E-01	2.7E-01		4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	17	B	1.4E+01	5.0E+00		4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	24500	B	2.0E+04	2.0E+02		3.1E+04		

Soil Samples		AUS-A11N-030		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	5 ft	CE	B	E	H	W1	W2	
ALL VOC	UG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							
TOXICITY EQUIVALENT QUOTIENT	NS/KG	ND							
CHROMIUM, TOTAL	MG/KG	14.9	B	11.5	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01

Soil Samples		AUS-A11N-031		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	3 ft	CE	B	E	H	W1	W2	
ALL VOC	UG/KG	ND							
ALL SVOC	UG/KG	ND							
ALL METALS	MG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							
TOXICITY EQUIVALENT QUOTIENT	NS/KG	ND							

Sediment Samples		AUS-A11N-025		Sediment Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL METALS	MG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							

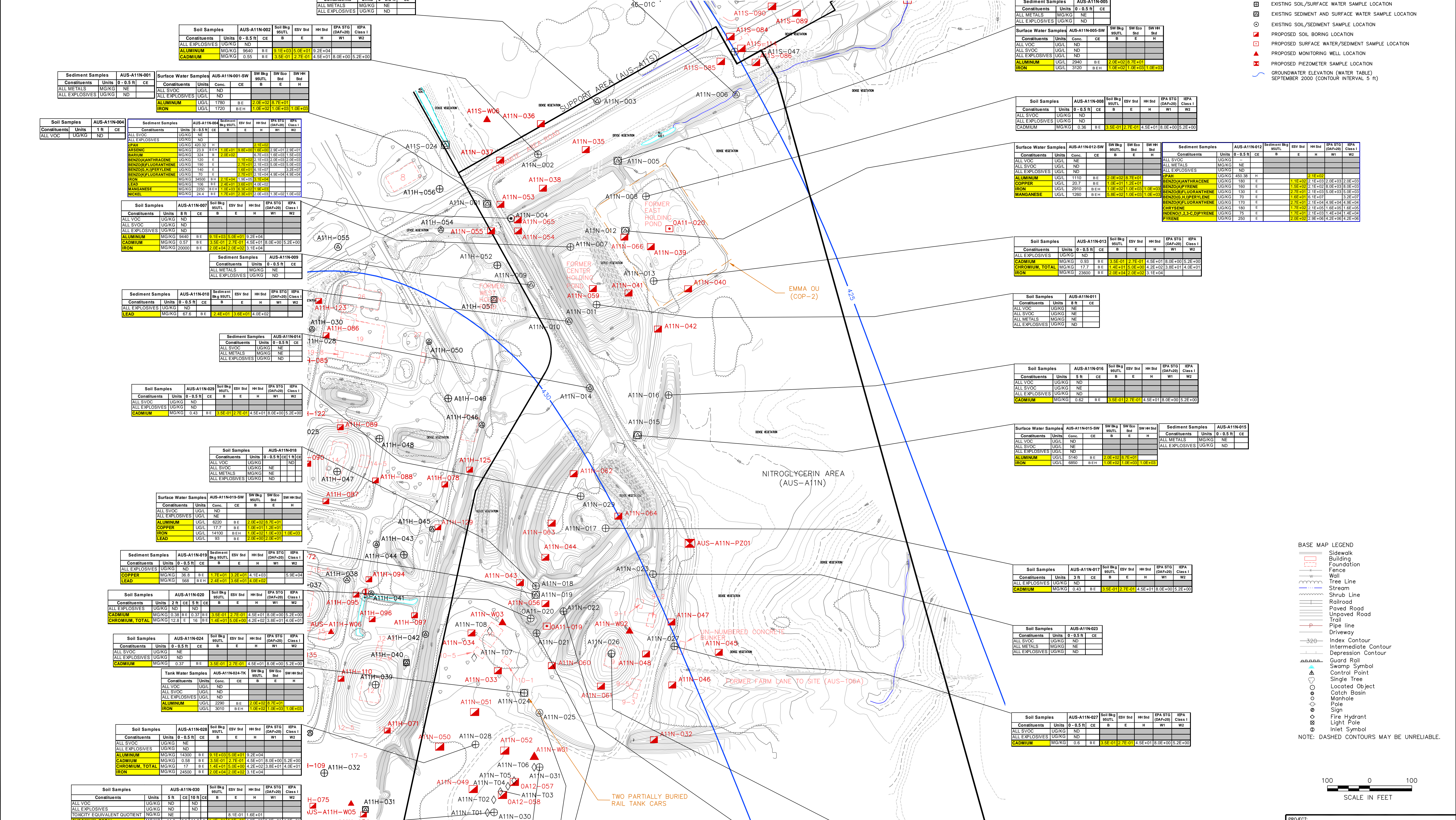
Soil Samples		AUS-A11N-021		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							
CADMIUM	MG/KG	0.43	B	3.5E-01	2.7E-01		4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-A11N-022		Soil Bkg 95/TL		ESV Std	HH Std	EPA STG (DAF+20)	IEPA Class 1
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	
ALL SVOC	UG/KG	ND							
ALL METALS	MG/KG	ND							
ALL EXPLOSIVES	UG/KG	ND							
CADMIUM	MG/KG	0.45	B	0.55	0.55		3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	13.4	B	16.4	16.4		1.4E+01	5.0E+00	4.2E+02
COPPER	MG/KG	15	B	41.5	41.5		3.4E+03	3.1E+01	4.1E+03

NOTES:

1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES BASED ON DRAWINGS PREPARED BY FORMER TENANTS (U.S. POWDER/OLIN). SEE FIGURE 15-3 FOR EXPLANATION OF FORMER STRUCTURES. NOTE THAT U.S. POWDER BUILDING NUMBERS ARE USED TO DESIGNATE ALL STRUCTURES EXCEPT THOSE USED EXCLUSIVELY BY OLIN, WHICH HAVE OLIN BUILDING NUMBERS.

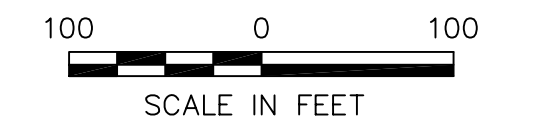
2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)



BASE MAP LEGEND

- ▭ Sidewalk
- ▭ Building
- ▭ Foundation
- ▭ Fence
- ▭ Tree Line
- ▭ Stream
- ▭ Shrub Line
- ▭ Railroad
- ▭ Paved Road
- ▭ Unpaved Road
- ▭ Trail
- ▭ Pipe line
- ▭ Driveway
- 320 — Index Contour
- 320 — Intermediate Contour
- 320 — Depression Contour
- ▭ Guard Rail
- ▭ Swamp Symbol
- ▭ Control Point
- ▭ Single Tree
- ▭ Located Object
- ▭ Catch Basin
- ▭ Manhole
- ▭ Pole
- ▭ Sign
- ▭ Fire Hydrant
- ▭ Light Pole
- ▭ Inlet Symbol

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.



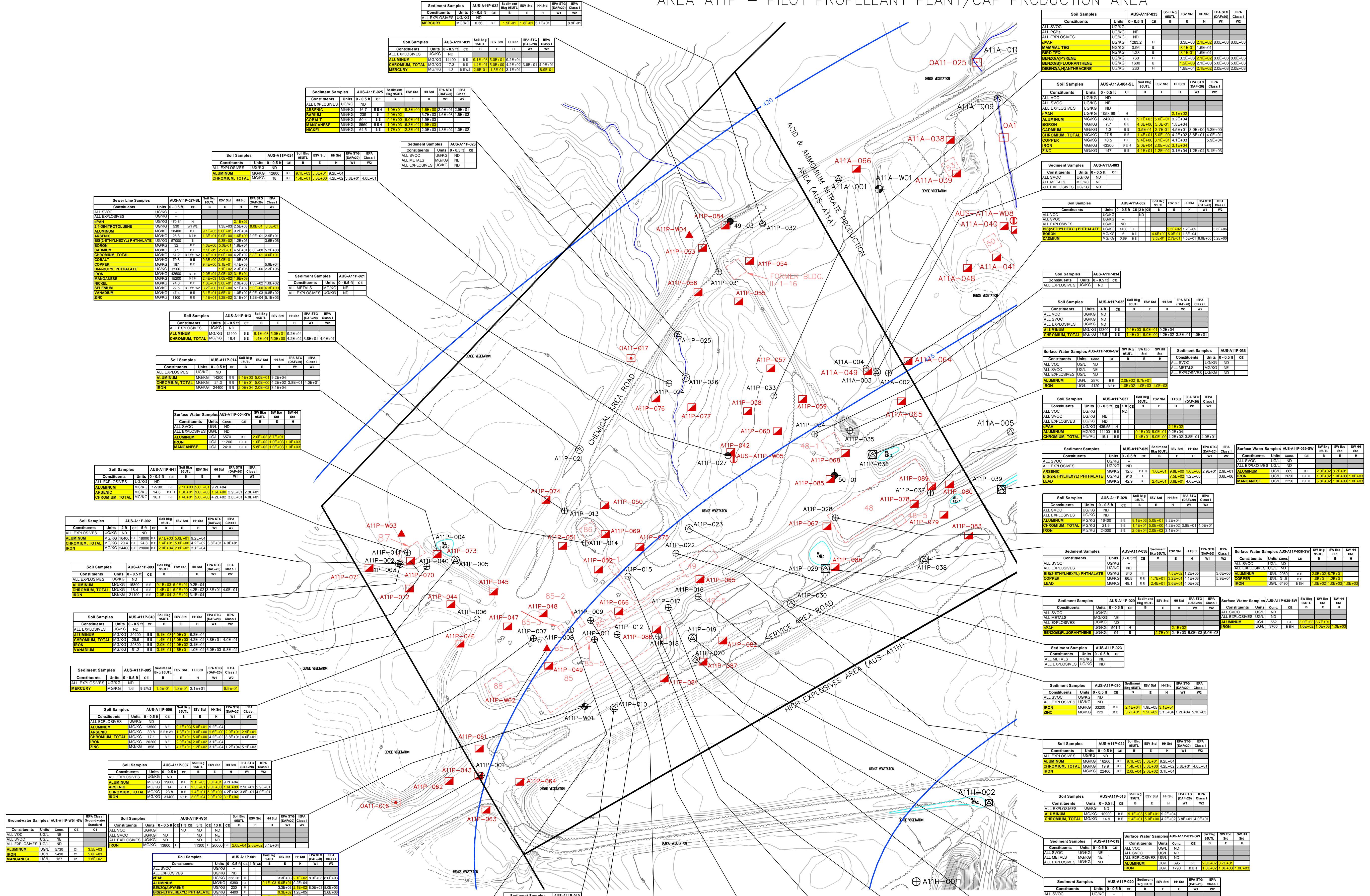
PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

NORTH



AREA A11P - PILOT PROPELLANT PLANT/CAP PRODUCTION AREA

- SAMPLING LEGEND**
- ⊕ EXISTING MONITORING WELL/SOIL BORING LOCATION
 - ⊙ EXISTING SOIL SAMPLE LOCATION
 - ⊗ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
 - ⊕ EXISTING SURFACE WATER SAMPLE LOCATION
 - ⊙ EXISTING SEWER LINE SAMPLE LOCATION
 - ◆ USEPA 1998 SAMPLE LOCATION
 - ⊕ PROPOSED SOIL BORING LOCATION
 - ⊗ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
 - ⊙ PROPOSED MONITORING WELL LOCATION
 - ⊕ PROPOSED PIEZOMETER SAMPLE LOCATION
 - ⊙ PROPOSED GEOPROBE/TEMPORARY WELLS
 - ⊕ GROUNDWATER ELEVATION (WATER TABLE) SEPTEMBER 2000 (CONTOUR INTERVAL 5 FT)



Sediment Samples AUS-A11P-001		Sediment Samples AUS-A11P-002		Sediment Samples AUS-A11P-003		Sediment Samples AUS-A11P-004		Sediment Samples AUS-A11P-005		Sediment Samples AUS-A11P-006		Sediment Samples AUS-A11P-007		Sediment Samples AUS-A11P-008		Sediment Samples AUS-A11P-009		Sediment Samples AUS-A11P-010			
Constituents	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE
ALL SVOC	UGRKG	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
ALL EXPLOSIVES	UGRKG	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
ALUMINUM	MG/KG	1400	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.
CHROMIUM TOTAL	MG/KG	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.
MERCURY	MG/KG	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.

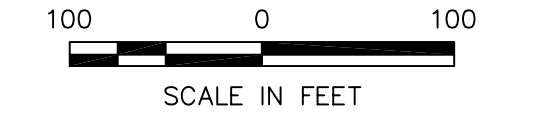
Soil Samples AUS-A11P-011		Soil Samples AUS-A11P-012		Soil Samples AUS-A11P-013		Soil Samples AUS-A11P-014		Soil Samples AUS-A11P-015		Soil Samples AUS-A11P-016		Soil Samples AUS-A11P-017		Soil Samples AUS-A11P-018		Soil Samples AUS-A11P-019		Soil Samples AUS-A11P-020			
Constituents	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE	Units	Conc.	CE
ALL SVOC	UGRKG	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
ALL EXPLOSIVES	UGRKG	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
ALUMINUM	MG/KG	1400	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.	1140	B.E.
CHROMIUM TOTAL	MG/KG	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.	17.3	B.E.
MERCURY	MG/KG	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.	1.3	B.E.

NOTES:

- BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES BASED ON DRAWINGS PREPARED BY FORMER TENANTS (U.S. POWDER/OLIVE). SEE FIGURE 15-3 FOR EXPLANATION OF FORMER STRUCTURES. NOTE THAT U.S. POWDER BUILDING NUMBERS ARE USED TO DESIGNATE ALL STRUCTURES EXCEPT THOSE USED EXCLUSIVELY BY GUN, WHICH HAVE OWN BUILDING NUMBERS.
- BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

- BASE MAP LEGEND**
- ⊕ Sidewalk
 - ▭ Building
 - ▭ Foundation
 - ▭ Fence
 - ▭ Wall
 - ▭ Tree Line
 - ▭ Stream
 - ▭ Shrub Line
 - Index Contour
 - Intermediate Contour
 - Depression Contour
 - Guard Rail
 - Swamp Symbol
 - Control Point
 - Single Tree
 - Located Object
 - Catch Basin
 - Manhole
 - Pole
 - Sign
 - Fire Hydrant
 - Light Pole
 - Inlet Symbol
 - ▭ Railroad
 - ▭ Paved Road
 - ▭ Unpaved Road
 - ▭ Trail
 - ▭ Pipe Line
 - ▭ Driveway

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.



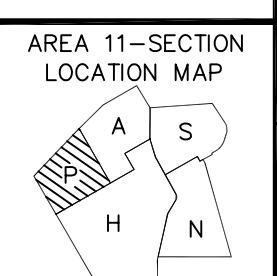
SCALE IN FEET

PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

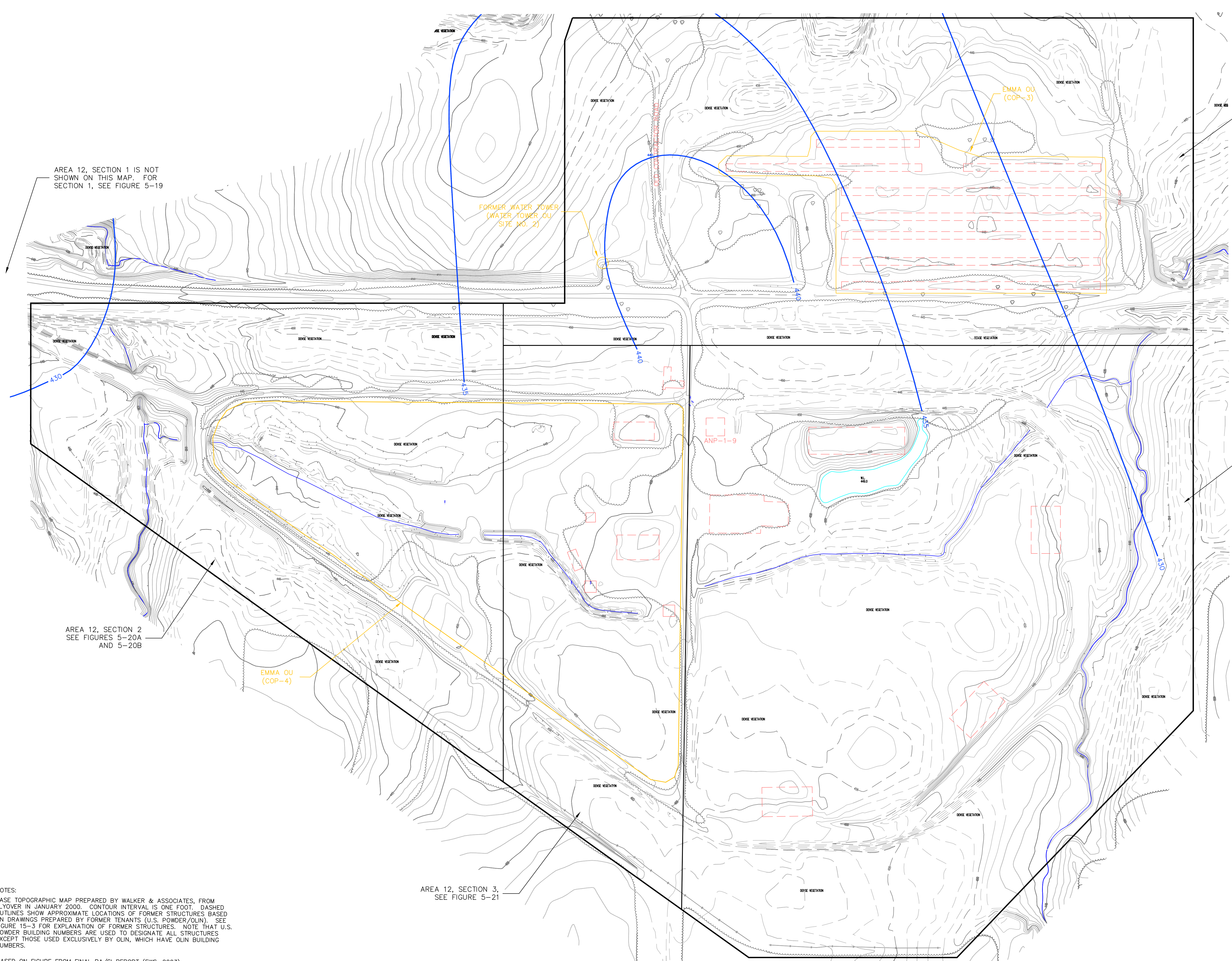
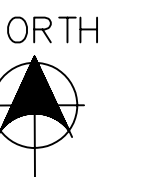
TITLE: R/F/S WORKPLAN
AUS-A11P
EXISTING SAMPLE LOCATIONS AND
PROPOSED R/F/S SAMPLE LOCATIONS

DRAWN BY: DOZ DATE: 11/11/06 PROJ. NO. 0233-001-200
CHECKED BY: GRD SCALE: 1" = 100' FIGURE NO. 5-17
APPROVED BY: DPT DATE: 3/28/2006

1346 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-367-9200



AREA 12 - AMMONIUM NITRATE PLANT



AREA 12, SECTION 1 IS NOT SHOWN ON THIS MAP. FOR SECTION 1, SEE FIGURE 5-19

FORMER WATER TOWER (WATER TOWER OU SITE NO. 2)

EMMA OU (COP-3)

ANP-1-9

EMMA OU (COP-4)

AREA 12, SECTION 4
SEE FIGURE 5-22

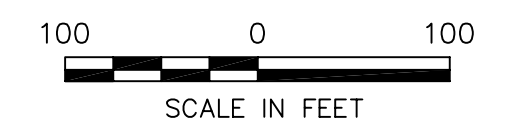
AREA 12, SECTION 5
SEE FIGURE 5-23

AREA 12, SECTION 2
SEE FIGURES 5-20A
AND 5-20B

AREA 12, SECTION 3,
SEE FIGURE 5-21

- BASE MAP LEGEND**
- Sidewalk
 - Building
 - Foundation
 - Fence
 - Wall
 - Tree Line
 - Stream
 - Shrub Line
 - Railroad
 - Paved Road
 - Unpaved Road
 - Trail
 - Pipe line
 - Driveway
 - Index Contour
 - Intermediate Contour
 - Depression Contour
 - Guard Rail
 - Swamp Symbol
 - Control Point
 - Single Tree
 - Located Object
 - Catch Basin
 - Manhole
 - Pole
 - Sign
 - Fire Hydrant
 - Light Pole
 - Inlet Symbol
- GROUNDWATER ELEVATION (WATER TABLE)
SEPTEMBER 2000 (CONTOUR INTERVAL 5 ft)

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.



NOTES:

1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES BASED ON DRAWINGS PREPARED BY FORMER TENANTS (U.S. POWDER/OLIN). SEE FIGURE 15-3 FOR EXPLANATION OF FORMER STRUCTURES. NOTE THAT U.S. POWDER BUILDING NUMBERS ARE USED TO DESIGNATE ALL STRUCTURES EXCEPT THOSE USED EXCLUSIVELY BY OLIN, WHICH HAVE OLIN BUILDING NUMBERS.
2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE: R/FS WORKPLAN AREA 12 SECTION & OTHER OU LOCATION MAP		
DRAWN BY: DOZ	SCALE: 1" = 100'	PROJ. NO. 0233-001-200
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-19
APPROVED BY: DPT		

1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-347-9050

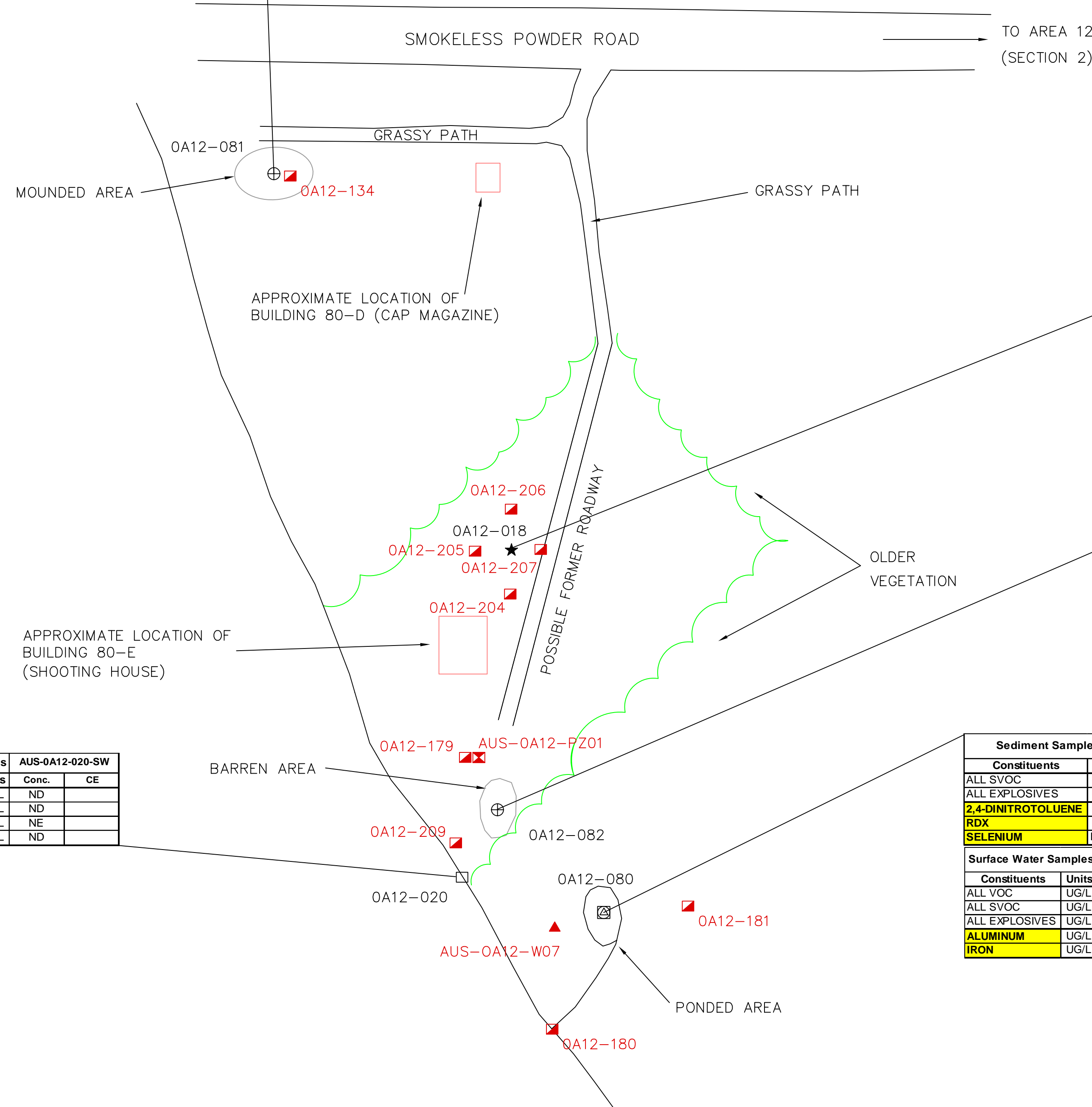
AREA 12 – SECTION 1 (AREA WEST OF AREA 12)

SAMPLING LEGEND

- ★ TEST PIT LOCATIONS
- ⊕ EXISTING SOIL SAMPLE LOCATION
- ⊗ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
- ⊖ EXISTING SURFACE WATER SAMPLE LOCATION
- ⊕ PROPOSED MONITORING WELL LOCATION
- ⊖ PROPOSED SOIL BORING LOCATION
- ⊗ PROPOSED PIEZOMETER LOCATION



Soil Samples		AUS-0A12-081		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	2 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG	NE						
ALL SVOC	UG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	481.495	H				2.1E+02	
CADMIUM	MG/KG	0.36	BE	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00



Groundwater Samples		AUS-0A12-018-GW		IEPA Class I Groundwater Standard
Constituents	Units	Conc.	CE	C1
ALL VOC	UG/L	ND		
ALL SVOC	UG/L	ND		
ALL EXPLOSIVES	UG/L	NE		
ARSENIC	UG/L	57.2	C1	5.0E+01
BERYLLIUM	UG/L	8.1	C1	4.0E+00
CHROMIUM, TOTAL	UG/L	185	C1	1.0E+02
IRON	UG/L	189000	C1	5.0E+03
LEAD	UG/L	108	C1	7.5E+00
MANGANESE	UG/L	2130	C1	1.5E+02
NICKEL	UG/L	147	C1	1.0E+02
VANADIUM	UG/L	214	C1	4.9E+01

Soil Samples		AUS-0A12-018						Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	1 ft	5 ft	8 ft	CE	B	E	H	W1	W2	
ALL VOC	UG/KG	ND										
ALL SVOC	UG/KG	--										
ALL EXPLOSIVES	UG/KG	ND										
CPAH	UG/KG	45.81	H							2.1E+02		
ALUMINUM	MG/KG	10500	BE	7250	E 7520	E	9.1E+03	5.0E+01	9.2E+04			
NAPHTHALENE	UG/KG	2500	H				4.6E+04	1.8E+03	8.4E+04	1.2E+04		

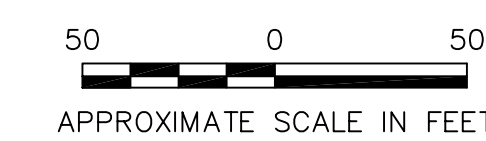
Soil Samples		AUS-0A12-082						Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	1 ft	2 ft	CE	B	E	H	W1	W2		
ALL VOC	UG/KG	--										
ALL SVOC	UG/KG	NE										
ALL EXPLOSIVES	UG/KG	ND										
ALUMINUM	MG/KG	14500	BE				9.1E+03	5.0E+01	9.2E+04			
CADMIUM	MG/KG	0.41	BE				3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00	
CHROMIUM, TOTAL	MG/KG	16.4	BE				1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01	
DI-N-BUTYL PHTHALATE	UG/KG	1700	E				7.1E+02	2.3E+06	2.3E+06	2.3E+06		
IRON	MG/KG	23300	BE				2.0E+04	2.0E+02	3.1E+04			

Surface Water Samples		AUS-0A12-020-SW	
Constituents	Units	Conc.	CE
ALL VOC	UG/L	ND	
ALL SVOC	UG/L	ND	
ALL METALS	UG/L	NE	
ALL EXPLOSIVES	UG/L	ND	

Sediment Samples		AUS-0A12-080		Sediment Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	NE						
ALL EXPLOSIVES	UG/KG	--						
2,4-DINITROTOLUENE	UG/KG	3200	EH W1 W2		6.5E+02	2.5E+03	8.0E-01	8.0E-01
RDX	UG/KG	750	EW2		2.0E+02	1.6E+04		3.6E+02
SELENIUM	MG/KG	1.3	B		6.4E-01		5.1E+02	5.0E+00

Surface Water Samples		AUS-0A12-080-SW		SW Bkg 95UTL	SW Eco Std	SW HH Std
Constituents	Units	Conc.	CE	B	E	H
ALL VOC	UG/L	ND				
ALL SVOC	UG/L	ND				
ALL EXPLOSIVES	UG/L	ND				
ALUMINUM	UG/L	1910	BE	2.0E+02	8.7E+01	
IRON	UG/L	4510	BEH	1.0E+02	1.0E+03	1.0E+03

NOTE:
1. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)



PROJECT:		CRAB ORCHARD NWR MARION, ILLINOIS	
TITLE:		R/FS WORKPLAN AUS-0A12 SECTION 1 EXISTING SAMPLE LOCATIONS AND PROPOSED R/FS SAMPLE LOCATIONS	
DRAWN BY: DOZ	SCALE: 1" = 50'	PROJ. NO. 0233-001-200	
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-20	
APPROVED BY: DPT			
NewFields		1348 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050	

Table with 4 columns: Groundwater Samples, Constituents, Units, and EPA Class 1 Groundwater Standard. Lists various contaminants like ALL VOC, ALL SVOC, and ALL EXPLOSIVES with their respective units and standards.

Table with 4 columns: Soil Samples, Constituents, Units, and EPA Class 1 Groundwater Standard. Lists various contaminants like ALL VOC, ALL SVOC, and ALL EXPLOSIVES with their respective units and standards.

Table with 4 columns: Surface Water Samples, Constituents, Units, and EPA Class 1 Groundwater Standard. Lists various contaminants like ALL VOC, ALL SVOC, and ALL EXPLOSIVES with their respective units and standards.

Table with 4 columns: Sediment Samples, Constituents, Units, and EPA Class 1 Groundwater Standard. Lists various contaminants like ALL VOC, ALL SVOC, and ALL EXPLOSIVES with their respective units and standards.

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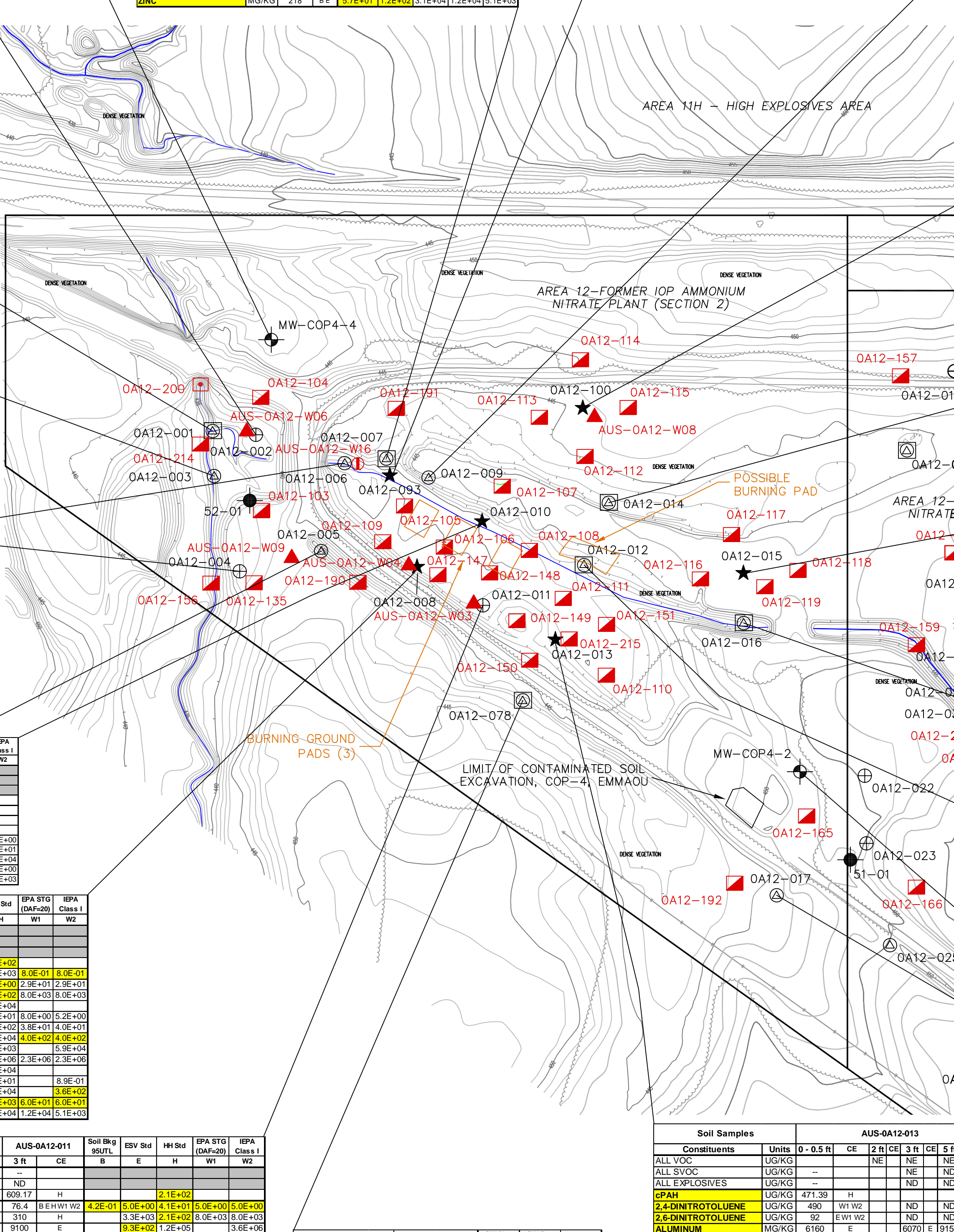


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NOTES: 1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES BASED ON DRAWINGS PREPARED BY FORMER TENANTS (U.S. POWDER/OLIN). SEE FIGURE 15-3 FOR EXPLANATION OF FORMER STRUCTURES. NOTE THAT U.S. POWDER BUILDING NUMBERS ARE USED TO DESIGNATE ALL STRUCTURES EXCEPT THOSE USED EXCLUSIVELY BY OLIN, WHICH HAVE OLIN BUILDING NUMBERS.

2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

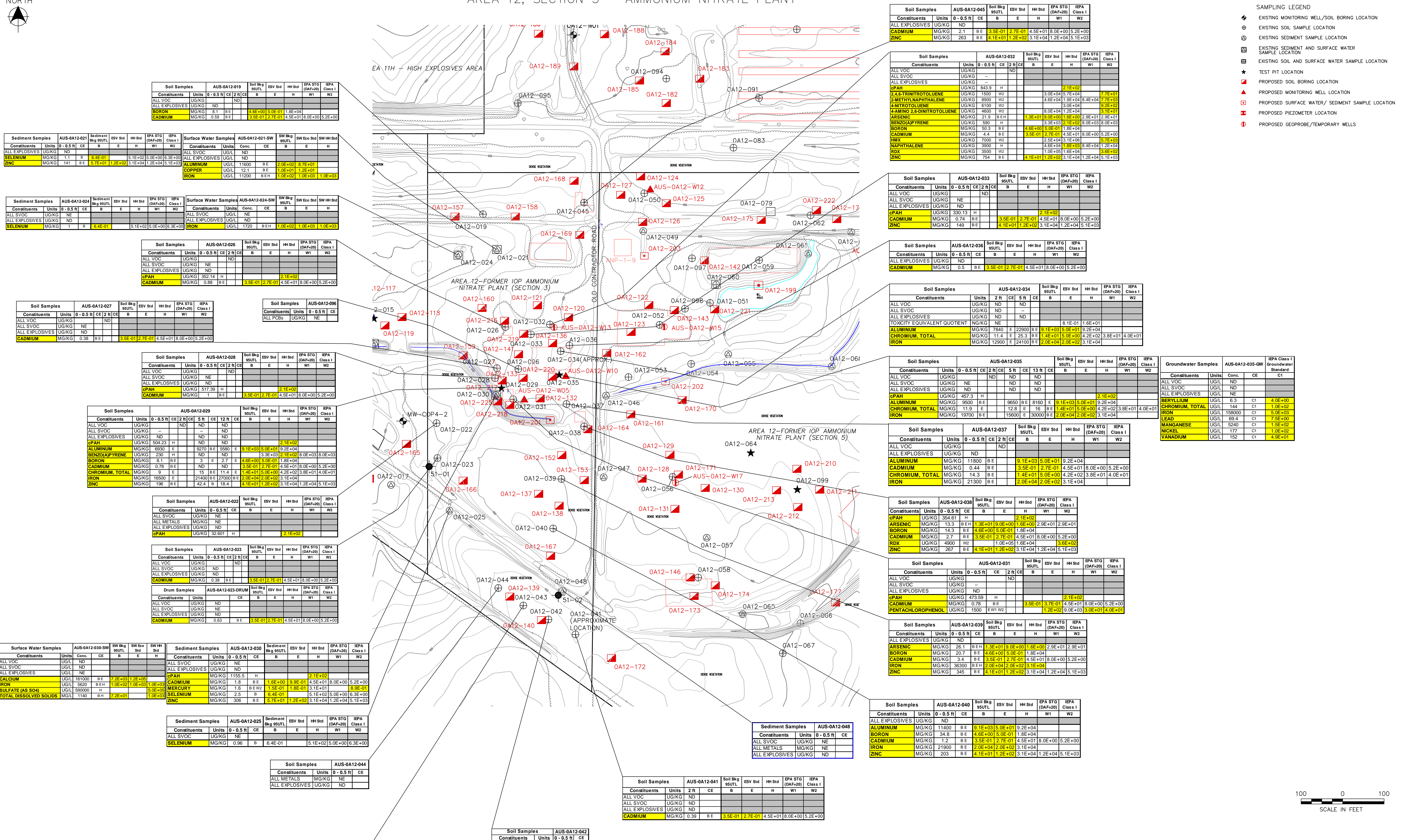
BASE MAP LEGEND

- Legend items: Sidewalk, Foundation, Fence, Wall, Tree Line, Stream, Shrub Line, Index Contour, Intermittent Contour, Depression Contour, Guard Rail, Swamp Symbol, Control Point, Single Tree Located Object, Catch Basin, Manhole, Pole, Sign, Fire Hydrant, Light Pole, Inlet Symbol, Railroad, Paved Road, Unpaved Road, Trail, Pipe line, Driveway.

PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS. TITLE: RI/S WORKPLAN. AREA 12-SECTION 2 EXISTING SAMPLE LOCATIONS AND PROPOSED RI/S SAMPLE LOCATIONS. DRAWN BY: DDZ. SCALE: 1" = 100'. PROJ. NO. 0233-001-200. CHECKED BY: GRD. DATE: 3.FEB.2006. FIGURE NO. 5-21. APPROVED BY: DPT.



AREA 12, SECTION 3 - AMMONIUM NITRATE PLANT



Soil Samples		AUS-0A12-019		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
BORON	MG/KG	8.1	B E	4.5E+00	5.0E+01	1.8E+04		
CADMIUM	MG/KG	0.59	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Sediment Samples		AUS-0A12-021		Sediment Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1.1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00	
ZINC	MG/KG	141	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Sediment Samples		AUS-0A12-024		Sediment Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	1	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00	
ZINC	MG/KG	141	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0A12-026		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	352.74	H				2.1E+02	
CADMIUM	MG/KG	0.88	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-0A12-027		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CADMIUM	MG/KG	0.38	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-0A12-028		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	517.39	H				2.1E+02	
CADMIUM	MG/KG	1	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-0A12-029		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	504.23	H				2.1E+02	
ALUMINIUM	MG/KG	6930	E	9270	9.1E+03	5.0E+01	9.2E+04	
BENZOPYRENE	MG/KG	239	H				3.3E+02	3.0E+03
BORON	MG/KG	8.1	B E	3	2.7	4.6E+00	5.0E+01	1.8E+04
CADMIUM	MG/KG	0.78	B E	ND	ND	3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	9	E	15	11.4	1.4E+01	5.0E+00	4.2E+02
IRON	MG/KG	16590	E	21490	1.6E+04	2.0E+04	3.1E+04	4.0E+01
ZINC	MG/KG	196	B E	42.4	18.4	4.1E+01	1.2E+02	3.1E+04

Soil Samples		AUS-0A12-022		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CADMIUM	MG/KG	0.38	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-0A12-023		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CADMIUM	MG/KG	0.63	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Drum Samples		AUS-0A12-023-DRUM		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CADMIUM	MG/KG	0.63	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Surface Water Samples		AUS-0A12-030-SW		SW Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/L	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/L	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/L	ND	ND	ND	ND	ND	ND	ND
CALCIUM	UG/L	161900	B E	7.2E+03	1.2E+06			
IRON	UG/L	5620	B E H	1.0E+02	1.0E+03	1.0E+03		
SULFATE (AS SO4)	UG/L	590000	H		5.0E+05			
TOTAL DISSOLVED SOLIDS	MG/L	1140	B H	7.2E+01	1.0E+03			

Sediment Samples		AUS-0A12-025		Sediment Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
SELENIUM	MG/KG	0.96	B	6.4E-01	5.1E+02	5.0E+00	6.3E+00	

Soil Samples		AUS-0A12-044		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND

Soil Samples		AUS-0A12-043		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND

Soil Samples		AUS-0A12-042		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND

NOTES:
 1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLOYER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES BASED ON DRAWINGS PREPARED BY FORMER TENANTS (U.S. POWDER/OLIN). SEE FIGURE 15-3 FOR EXPLANATION OF FORMER STRUCTURES. NOTE THAT U.S. POWDER BUILDING NUMBERS ARE USED TO DESIGNATE ALL STRUCTURES EXCEPT THOSE USED EXCLUSIVELY BY OLIN, WHICH HAVE OLIN BUILDING NUMBERS.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

Soil Samples		AUS-0A12-045		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CADMIUM	MG/KG	2.1	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
ZINC	MG/KG	263	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0A12-032		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	843.9	H				2.1E+02	
2,4,6-TRINITROTOLUENE	UG/KG	1500	W2				3.0E+04	5.7E+04
2-METHYLNAPHTHALENE	UG/KG	8900	W2				4.0E+04	1.9E+04
4-NITROTOLUENE	UG/KG	6100	W2				3.0E+04	3.7E+03
4-AMINO 2,6-DINITROTOLUENE	UG/KG	4600	W2				8.0E+04	1.2E+04
ARSENIC	MG/KG	21.9	B E H	1.3E+01	1.0E+00	1.6E+00	2.9E+01	2.9E+01
BENZOPYRENE	UG/KG	590	H				3.3E+03	2.1E+02
BORON	MG/KG	50.3	B E	4.6E+00	5.0E+01	1.8E+04		
CADMIUM	MG/KG	4.4	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
HMX	UG/KG	7000	W2				2.5E+04	3.1E+06
NAPHTHALENE	UG/KG	3900	H				4.0E+04	1.8E+03
RDX	UG/KG	3500	W2				1.0E+05	1.6E+01
ZINC	MG/KG	754	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0A12-033		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	330.13	H				2.1E+02	
CADMIUM	MG/KG	0.74	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
ZINC	MG/KG	149	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0A12-036		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/UL	B	E	H	W1 W2
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CADMIUM	MG/KG	0.5	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-0A12-034		Soil Bkg	ESV
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SAMPLING LEGEND

- ⊕ EXISTING MONITORING WELL/SOIL BORING LOCATION
- ⊙ EXISTING SOIL SAMPLE LOCATION
- ⊗ EXISTING SEDIMENT SAMPLE LOCATION
- ⊠ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
- ⊡ EXISTING SOIL AND SURFACE WATER SAMPLE LOCATION
- ★ TEST PIT LOCATION
- ⬢ PROPOSED SOIL BORING LOCATION
- ▲ PROPOSED MONITORING WELL LOCATION
- ⊠ PROPOSED SURFACE WATER/ SEDIMENT SAMPLE LOCATION
- ⊞ PROPOSED PIEZOMETER LOCATION

Soil Samples		AUS-0A12-089				Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND								
ALL SVOC	UG/KG	NE								
ALL METALS	MG/KG	NE								
ALL EXPLOSIVES	UG/KG	ND								
cPAH	UG/KG	447.32	H						2.1E+02	

Groundwater Samples		AUS-0A12-W02-GW			
Constituents	Units	Conc.	CE		
ALL VOC	UG/L	NE			
ALL SVOC	UG/L	ND			
ALL METALS	UG/L	NE			
ALL EXPLOSIVES	UG/L	ND			

Soil Samples		AUS-0A12-086				Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND								
ALL SVOC	UG/KG	ND								
ALL METALS	MG/KG	NE								
ALL EXPLOSIVES	UG/KG	ND								
BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG	1100	E						9.3E+02	1.2E+05

Soil Samples		AUS-0A12-085			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND			
ALL SVOC	UG/KG	NE			
ALL METALS	MG/KG	NE			
ALL EXPLOSIVES	UG/KG	ND			

Soil Samples		AUS-0A12-087			
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE
ALL VOC	UG/KG	ND			
ALL SVOC	UG/KG	ND			
ALL METALS	MG/KG	NE			
ALL EXPLOSIVES	UG/KG	ND			

Soil Samples		AUS-0A12-W02				Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND								
ALL SVOC	UG/KG	NE								
ALL EXPLOSIVES	UG/KG	ND								
BORON	MG/KG	5.6	B E						4.8E+00	5.0E-01
IRON	MG/KG	15000	E						2.0E+04	2.0E+02

Sediment Samples		AUS-0A12-088				Sediment	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	Bkg 95UTL	B	E	H	Class I
ALL SVOC	UG/KG	ND								
ALL EXPLOSIVES	UG/KG	ND								
RDX	UG/KG	640	E W2						2.0E+02	1.6E+04
SELENIUM	MG/KG	0.81	B						6.4E-01	5.1E+02

Soil Samples		AUS-0A12-088			
Constituents	Units	2 ft	CE		
ALL VOC	UG/KG	ND			

Sediment Samples		AUS-0A12-090				Sediment	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	Bkg 95UTL	B	E	H	Class I
ALL SVOC	UG/KG	NE								
ALL EXPLOSIVES	UG/KG	ND								
SELENIUM	MG/KG	1.2	B						6.4E-01	5.1E+02

Sediment Samples		AUS-0A12-092				Sediment	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	Bkg 95UTL	B	E	H	Class I
ALL EXPLOSIVES	UG/KG	ND								
ARSENIC	MG/KG	14.4	B E H						1.0E+01	9.8E+00
SELENIUM	MG/KG	0.96	B						6.4E-01	5.1E+02

Surface Water Samples		AUS-0A12-092-SW				SW Bkg	SW Eco	SW HH	SW Std
Constituents	Units	Conc.	CE	B	E	95UTL	B	E	H
ALL SVOC	UG/L	ND							
ALL EXPLOSIVES	UG/L	ND							
ALUMINUM	UG/L	469	B E						2.0E+02
CALCIUM	UG/L	153000	B E						7.2E+03
MAGNESIUM	UG/L	107000	B E						2.5E+03

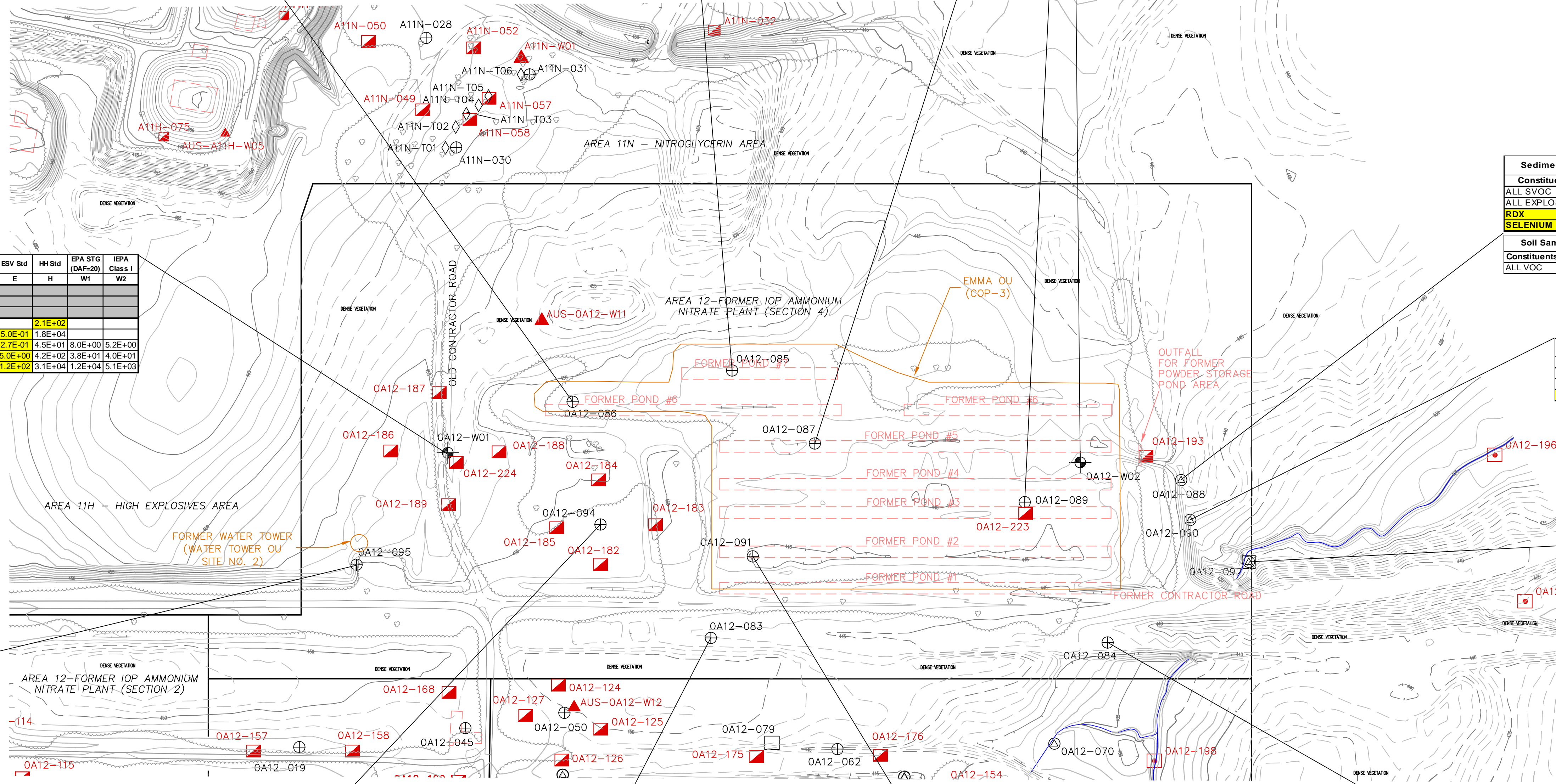
Soil Samples		AUS-0A12-095			
Constituents	Units	0 - 0.5 ft	CE		
ALL METALS	MG/KG	NE			

Soil Samples		AUS-0A12-094				Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND								
ALL SVOC	UG/KG	ND								
ALL EXPLOSIVES	UG/KG	ND								
2,4-DINITROTOLUENE	UG/KG	48	W1 W2						1.3E+03	2.5E+03
CADMIUM	MG/KG	0.88	B E						3.5E-01	2.7E-01
ZINC	MG/KG	286	B E						4.1E+01	1.2E+02

Soil Samples		AUS-0A12-083			
Constituents	Units	0 - 0.5 ft	CE		
ALL SVOC	UG/KG	NE			
ALL METALS	MG/KG	NE			
ALL EXPLOSIVES	UG/KG	ND			

Soil Samples		AUS-0A12-091			
Constituents	Units	0 - 0.5 ft	CE		
ALL VOC	UG/KG	ND			
ALL SVOC	UG/KG	ND			
ALL METALS	MG/KG	NE			
ALL EXPLOSIVES	UG/KG	ND			

Soil Samples		AUS-0A12-084			
Constituents	Units	0 - 0.5 ft	CE		
ALL SVOC	UG/KG	ND			
ALL METALS	MG/KG	NE			
ALL EXPLOSIVES	UG/KG	ND			



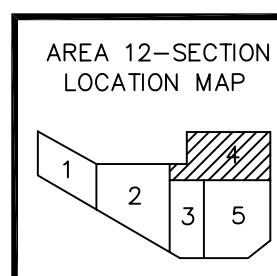
Soil Samples		AUS-0A12-W01				Soil Bkg	ESV Std	HH Std	EPA STG	IPEA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	95UTL	B	E	H	Class I
ALL VOC	UG/KG	ND								
ALL SVOC	UG/KG	NE								
ALL EXPLOSIVES	UG/KG	ND								
cPAH	UG/KG	344.29	H						2.1E+02	
BORON	MG/KG	16.5	B E						4.6E+00	5.0E-01
CADMIUM	MG/KG	1.1	B E						4.5E+01	8.0E+00
CHROMIUM, TOTAL	MG/KG	5.9	E						14.6	1.4E+01
ZINC	MG/KG	124	B E						46.8	4.1E+01

Groundwater Samples		AUS-0A12-W01-GW			
Constituents	Units	Conc.	CE		
ALL VOC	UG/L	ND			
ALL SVOC	UG/L	ND			
ALL EXPLOSIVES	UG/L	ND			
ALUMINUM	UG/L	132000	C1		
ARSENIC	UG/L	76.2	C1		
BERYLLIUM, TOTAL	UG/L	12.8	C1		
CHROMIUM, TOTAL	UG/L	215	C1		
IRON	UG/L	298000	C1		
LEAD	UG/L	119	C1		
MANGANESE	UG/L	7310	C1		
NICKEL	UG/L	290	C1		
VANADIUM	UG/L	270	C1		



NOTES:
 1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT. DASHED OUTLINES SHOW APPROXIMATE LOCATIONS OF FORMER STRUCTURES BASED ON DRAWINGS PREPARED BY FORMER TENANTS (U.S. POWDER/OLIN). SEE FIGURE 15-3 FOR EXPLANATION OF FORMER STRUCTURES. NOTE THAT U.S. POWDER BUILDING NUMBERS ARE USED TO DESIGNATE ALL STRUCTURES EXCEPT THOSE USED EXCLUSIVELY BY OLIN, WHICH HAVE OLIN BUILDING NUMBERS.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

- BASE MAP LEGEND
- Sidewalk
 - Building
 - Foundation
 - Fence
 - Wall
 - Tree Line
 - Stream
 - Shrub Line
 - Index Contour
 - Intermediate Contour
 - Depression Contour
 - Guard Rail
 - Swamp Symbol
 - Control Point
 - Single Tree
 - Located Object
 - Catch Basin
 - Manhole
 - Pole
 - Sign
 - Fire Hydrant
 - Light Pole
 - Inlet Symbol
 - Railroad
 - Paved Road
 - Unpaved Road
 - Trail
 - Pipe line
 - Driveway



PROJECT: CRAB ORCHARD NWR
 MARION, ILLINOIS

TITLE: RI/FS WORKPLAN
 AUS-0A12, SECTION 4
 EXISTING SAMPLE LOCATIONS AND
 PROPOSED RI/FS SAMPLE LOCATIONS

DRAWN BY: DDZ
 CHECKED BY: GRD
 APPROVED BY: DPT

SCALE: 1" = 100'
 DATE: 3.FEB.2006

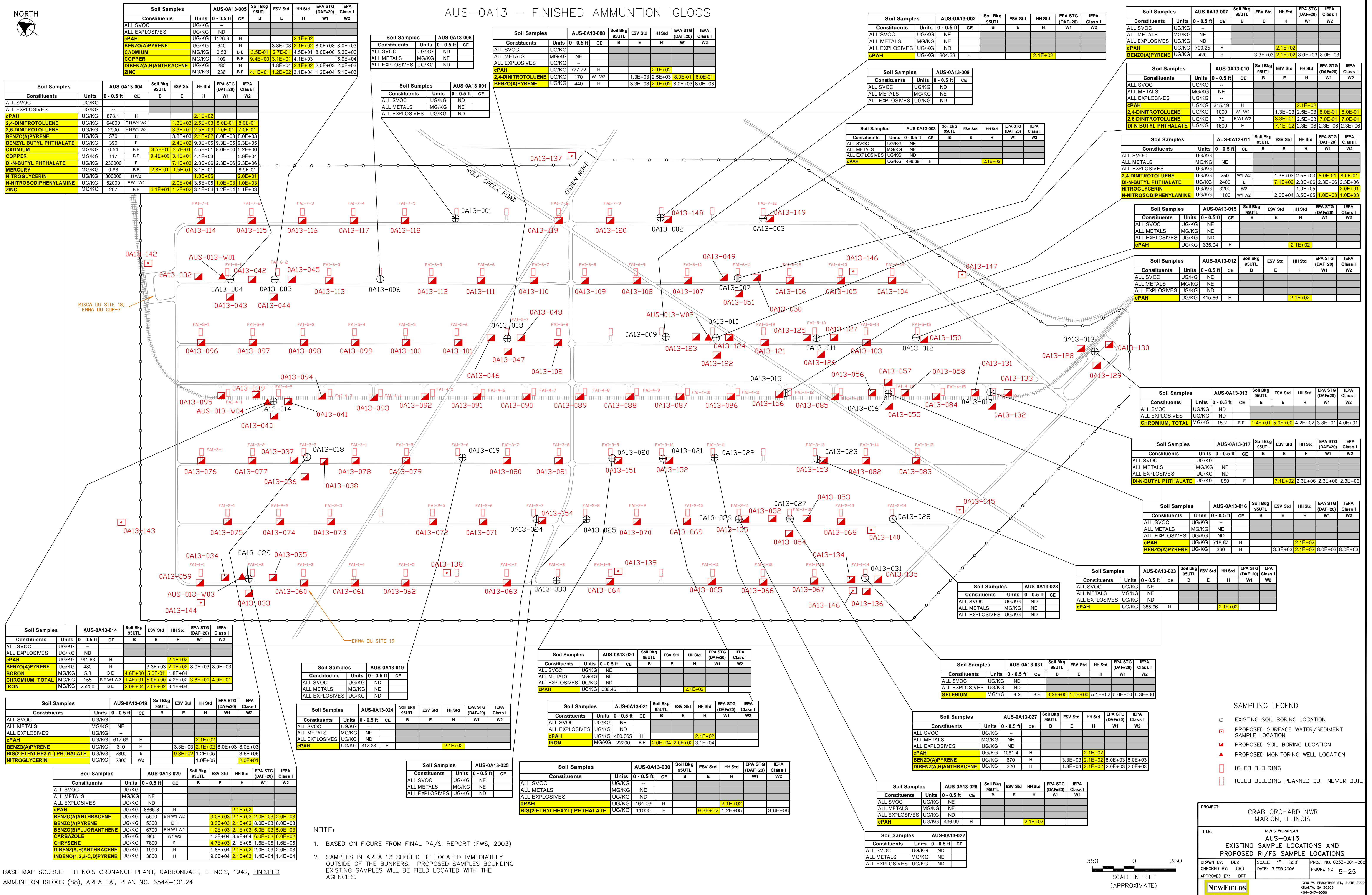
PROJ. NO. 0233-001-200
 FIGURE NO. 5-23

1349 W. PEACHTREE ST., SUITE 2000
 ATLANTA, GA 30309
 404-347-9050

NEWFIELDS



AUS-0A13 - FINISHED AMMUNITION IGLOOS



Soil Samples		AUS-0A13-014		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	781.63	H					
BENZO(A)PYRENE	UG/KG	480	H	3.3E+03	2.1E+02	8.0E+03	8.0E+03	
BORON	MG/KG	5.8	B E	4.6E+00	5.0E-01	1.8E+04	5.1	
CHROMIUM, TOTAL	MG/KG	155	B E W1 W2	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	25200	B E	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0A13-018		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	617.69	H					
BENZO(A)PYRENE	UG/KG	310	H	3.3E+03	2.1E+02	8.0E+03	8.0E+03	
BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG	2300	E	9.3E+02	1.2E+05	3.6E+06		
NITROGLYCERIN	UG/KG	2300	W2	1.0E+05				

Soil Samples		AUS-0A13-029		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	8866.8	H					
BENZO(A)ANTHRACENE	UG/KG	5500	E H W1 W2	3.0E+03	2.1E+03	2.0E+03	2.0E+03	
BENZO(A)PYRENE	UG/KG	5300	E H	3.3E+03	2.1E+02	8.0E+03	8.0E+03	
BENZO(B)FLUORANTHENE	UG/KG	6700	E H W1 W2	1.3E+03	2.1E+03	3.0E+03	6.0E+03	
CARBAZOLE	UG/KG	960	W1 W2	1.3E+04	8.6E+04	8.0E+02	6.0E+02	
CHRYSENE	UG/KG	7800	E	4.7E+03	2.1E+05	1.6E+05	1.6E+05	
DIBENZO(A,H)ANTHRACENE	UG/KG	1900	H	1.8E+04	2.1E+02	2.0E+03	2.0E+03	
INDENO(1,2,3-C,D)PYRENE	UG/KG	3800	H	9.0E+04	2.1E+03	1.4E+04	1.4E+04	

Soil Samples		AUS-0A13-019		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	312.23	H					

Soil Samples		AUS-0A13-024		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	312.23	H					

Soil Samples		AUS-0A13-025		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						

Soil Samples		AUS-0A13-030		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	464.03	H					
BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG	11000	E	9.3E+02	1.2E+05	3.6E+06		

Soil Samples		AUS-0A13-021		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	480.065	H					
IRON	MG/KG	22200	B E	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0A13-020		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	NE						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	336.46	H					

Soil Samples		AUS-0A13-022		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	385.96	H					

Soil Samples		AUS-0A13-027		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	1081.4	H					
BENZO(A)PYRENE	UG/KG	670	H	3.3E+03	2.1E+02	8.0E+03	8.0E+03	
DIBENZO(A,H)ANTHRACENE	UG/KG	220	H	1.8E+04	2.1E+02	2.0E+03	2.0E+03	

Soil Samples		AUS-0A13-026		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	436.99	H					

Soil Samples		AUS-0A13-028		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	496.69	H					

Soil Samples		AUS-0A13-002		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	304.33	H					

Soil Samples		AUS-0A13-009		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	315.19	H					

Soil Samples		AUS-0A13-010		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	315.19	H					
2,4-DINITROTOLUENE	UG/KG	1000	W1 W2	1.3E+03	2.5E+03	8.0E-01	8.0E-01	
2,6-DINITROTOLUENE	UG/KG	70	E W1 W2	3.3E+01	2.5E+03	7.0E-01	7.0E-01	
DI-N-BUTYL PHTHALATE	UG/KG	1600	E	7.1E+02	2.3E+06	2.3E+06	2.3E+06	

Soil Samples		AUS-0A13-015		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	335.94	H					

Soil Samples		AUS-0A13-012		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	415.86	H					

Soil Samples		AUS-0A13-017		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
DI-N-BUTYL PHTHALATE	UG/KG	850	E	7.1E+02	2.3E+06	2.3E+06	2.3E+06	

Soil Samples		AUS-0A13-016		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL METALS	MG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
cPAH	UG/KG	718.87	H					
BENZO(A)PYRENE	UG/KG	360	H	3.3E+03	2.1E+02	8.0E+03	8.0E+03	

Soil Samples		AUS-0A13-011		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2



AUS-0062-FORMER LANDFILL (COC-11)

- SAMPLING LEGEND**
- ⊕ EXISTING SOIL BORING LOCATION
 - ⊗ EXISTING SEDIMENT SAMPLE LOCATION
 - ⊙ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
 - ◆ USEPA 1998 SAMPLE LOCATION
 - ⊠ PROPOSED SOIL BORING LOCATION
 - ⊡ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
 - ⊞ 55-GALLON DRUM
 - ↗ DITCHLINE

Sediment Samples AUS-0062-008									
Constituents	Units	0 - 0.5 ft	CE						
ALL METALS	MG/KG	NE							
ALL EXPLOSIVES	UG/KG	ND							

Soil Samples AUS-0062-008										
Constituents	Units	0 - 0.5 ft		2 ft		4 ft		EPA STG (DAF=20)		IPEA Class I
		CE	CE	B	E	H	W1	W2		
ALL VOC	UG/KG	NE	NE							
ALL EXPLOSIVES	UG/KG	ND								
ALUMINIUM	MG/KG	28000	B E	9.1E+03	3.0E+01	9.2E+04				
CHROMIUM, TOTAL	MG/KG	29.8	B E	1.3E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01		
IRON	MG/KG	24500	B E	2.0E+04	2.0E+02	3.1E+04				

Surface Water Samples AUS-0062-004-SW										
Constituents	Units	0 - 0.5 ft		2 ft		4 ft		EPA STG (DAF=20)		IPEA Class I
		CE	CE	B	E	H	W1	W2		
ALL SVOC	UG/L	ND								
ALL EXPLOSIVES	UG/L	ND								
ALUMINIUM	UG/L	8230	B E	2.0E+02	8.7E+01					
CADMIUM	UG/L	11	B E	5.0E+00	1.1E+00					
CALCIUM	UG/L	146000	B E	7.2E+03	1.2E+05					
IRON	UG/L	6540	B E H	1.0E+02	1.0E+03	1.0E+03				
MAGNESIUM	UG/L	100000	B E	2.3E+03	8.2E+04					
MANGANESE	UG/L	3410	B E H	5.9E+02	1.0E+03	1.0E+03				

Sediment Samples AUS-0062-004									
Constituents	Units	0 - 0.5 ft	CE						
ALL EXPLOSIVES	UG/KG	ND							
COPPER	MG/KG	32.7	B E	1.7E+01	3.2E+01	4.1E+03			5.9E+04
NICKEL	MG/KG	26.4	B E	1.7E+01	2.3E+01	2.0E+03	1.3E+02	1.0E+02	

Soil Samples AUS-0062-006										
Constituents	Units	0 - 0.5 ft		2 ft		4 ft		EPA STG (DAF=20)		IPEA Class I
		CE	CE	B	E	H	W1	W2		
ALL VOC	UG/KG	ND								
ALL EXPLOSIVES	UG/KG	ND								
ALUMINIUM	MG/KG	13500	B E	9.1E+03	3.0E+01	9.2E+04				
CADMIUM	MG/KG	0.78	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00		
CHROMIUM, TOTAL	MG/KG	21.5	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01		
IRON	MG/KG	26100	B E	2.0E+04	2.0E+02	3.1E+04				

Sediment Samples AUS-0062-007									
Constituents	Units	0 - 0.5 ft	CE						
ALL EXPLOSIVES	UG/KG	ND							
ARSENIC	MG/KG	15.8	B E H	1.0E+01	9.8E+00	1.9E+00	2.9E+01	2.9E+01	
IRON	MG/KG	39700	B H	2.1E+04	1.9E+05	3.1E+04			
NICKEL	MG/KG	47.7	B E	1.7E+01	2.3E+01	2.0E+03	1.3E+02	1.0E+02	
ZINC	MG/KG	133	B E	5.7E+01	1.2E+02	3.1E+04			

Soil Samples AUS-0062-002										
Constituents	Units	0 - 0.5 ft		2 ft		4 ft		EPA STG (DAF=20)		IPEA Class I
		CE	CE	B	E	H	W1	W2		
ALL VOC	UG/KG	ND								
ALL EXPLOSIVES	UG/KG	ND								
ALUMINIUM	MG/KG	11100	B E	9.1E+03	3.0E+01	9.2E+04				
CADMIUM	MG/KG	0.63	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00		
CHROMIUM, TOTAL	MG/KG	21.3	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01		

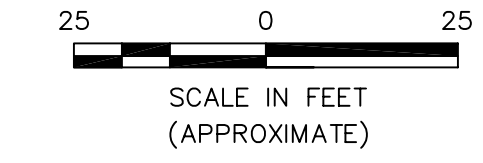
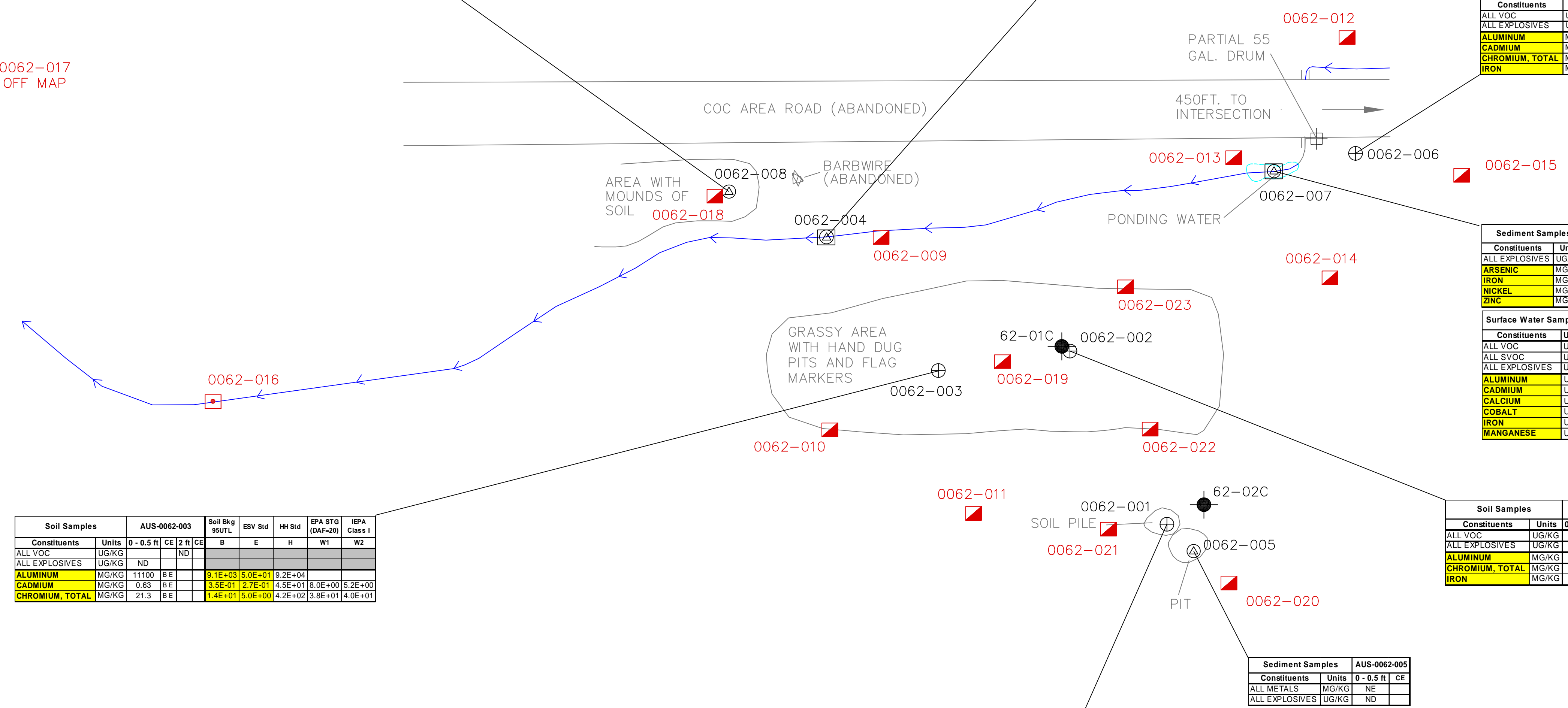
Soil Samples AUS-0062-003										
Constituents	Units	0 - 0.5 ft		2 ft		4 ft		EPA STG (DAF=20)		IPEA Class I
		CE	CE	B	E	H	W1	W2		
ALL VOC	UG/KG	ND								
ALL EXPLOSIVES	UG/KG	ND								
ALUMINIUM	MG/KG	11100	B E	9.1E+03	3.0E+01	9.2E+04				
CADMIUM	MG/KG	0.63	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00		
CHROMIUM, TOTAL	MG/KG	21.3	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01		

Soil Samples AUS-0062-001										
Constituents	Units	0 - 0.5 ft		2 ft		4 ft		EPA STG (DAF=20)		IPEA Class I
		CE	CE	B	E	H	W1	W2		
ALL VOC	UG/KG	ND								
ALL EXPLOSIVES	UG/KG	ND								
ALUMINIUM	MG/KG	12700	B E	9.1E+03	3.0E+01	9.2E+04				
CHROMIUM, TOTAL	MG/KG	18.6	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01		
IRON	MG/KG	21200	B E	2.0E+04	2.0E+02	3.1E+04				

Sediment Samples AUS-0062-005			
Constituents	Units	0 - 0.5 ft	CE
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	

← PROPOSED SAMPLE 0062-017 LOCATED 150 FEET OFF MAP

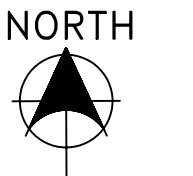
0062-017



- NOTES:
1. BASED MAP FROM SITE RECONNAISSANCE SKETCH, MARCH 30, 1999.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

PROJECT:	CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE:	RI/FS WORKPLAN AUS-0062 EXISTING SAMPLE LOCATIONS AND PROPOSED RI/FS SAMPLE LOCATIONS		
DRAWN BY: DDZ	SCALE: 1" = 25'	PROJ. NO. 0233-001-200	
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-26	
APPROVED BY: DPT			
NEWFIELDS	1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050		

AUS-0065-FOUNDATIONS NORTHEAST OF FORMER COC-1



SAMPLING LEGEND

- ⊕ EXISTING SOIL BORING LOCATION
- ◆ USEPA 1998 SAMPLE LOCATION
- ◻ PROPOSED SOIL BORING LOCATION
- ◻ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- ▲ PROPOSED MONITORING WELL LOCATION
- ☉ MOUNDS OF SOIL
- ☹ DEPRESSION

Soil Samples		AUS-0065-005		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND											
ALL EXPLOSIVES	UG/KG	ND											
cPAH	UG/KG	952.53	H			2.1E+02							
ALUMINUM	MG/KG	10400	B E	9.1E+03	5.0E+01	9.2E+04							
BENZO(A)PYRENE	UG/KG	560	H	3.3E+03	2.1E+02	8.0E+03	8.0E+03						
BORON	MG/KG	7.9	B E	4.6E+00	5.0E-01	1.8E+04							
CADMIUM	MG/KG	1.1	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00					
CHROMIUM, TOTAL	MG/KG	15.3	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01					
COPPER	MG/KG	33.3	B E	9.4E+00	3.1E+01	4.1E+03		5.9E+04					
DIBENZ(A,H)ANTHRACENE	UG/KG	220	H	1.8E+04	2.1E+02	2.0E+03	2.0E+03						
ZINC	MG/KG	351	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03					

Soil Samples		AUS-0065-002		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND											
ALL EXPLOSIVES	UG/KG	ND											
cPAH	UG/KG	19996	H			2.1E+02							
2,4-DIMETHYLPHENOL	UG/KG	1100	E			1.0E+01	1.2E+06	9.0E+03	9.0E+03				
2-METHYLNAPHTHALENE	UG/KG	3500	H			4.6E+04	1.8E+03	8.4E+04	1.2E+04				
4-NITROTOLUENE	UG/KG	1700	W2			3.0E+04			9.2E+02				
ACENAPHTHYLENE	UG/KG	7200	H			8.3E+03	1.8E+03	8.4E+04	1.2E+04				
ALUMINUM	MG/KG	11700	B E	9.1E+03	5.0E+01	9.2E+04							
BENZO(A)ANTHRACENE	UG/KG	11000	EH W1 W2			3.0E+03	2.1E+03	2.0E+03	2.0E+03				
BENZO(A)PYRENE	UG/KG	12000	EH W1 W2			3.3E+03	2.1E+02	8.0E+03	8.0E+03				
BENZO(B)FLUORANTHENE	UG/KG	11000	EH W1 W2			1.2E+03	2.1E+03	5.0E+03	5.0E+03				
CADMIUM	MG/KG	1.3	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00					
CARBAZOLE	UG/KG	5600	W1 W2			1.3E+04	8.6E+04	6.0E+02	6.0E+02				
CHROMIUM, TOTAL	MG/KG	20.2	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01					
CHRYSENE	UG/KG	14000	E			4.7E+03	2.1E+05	1.6E+05	1.6E+05				
COPPER	MG/KG	33.4	B E	9.4E+00	3.1E+01	4.1E+03		5.9E+04					
DIBENZ(A,H)ANTHRACENE	UG/KG	4700	HW1 W2			1.8E+04	2.1E+02	2.0E+03	2.0E+03				
INDENO(1,2,3-C,D)PYRENE	UG/KG	9900	H			9.0E+04	2.1E+03	1.4E+04	1.4E+04				
MERCURY	MG/KG	0.48	B E	2.8E-01	1.5E-01	3.1E+01			8.9E-01				
NAPHTHALENE	UG/KG	4700	H			4.6E+04	1.8E+03	8.4E+04	1.2E+04				
PHENANTHRENE	UG/KG	27000	E			1.8E+04	2.9E+06	4.2E+06	4.2E+06				
ZINC	MG/KG	316	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03					

Soil Samples		AUS-0065-006		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND											
ALL EXPLOSIVES	UG/KG	ND											
cPAH	UG/KG	638.23	H			2.1E+02							
ALUMINUM	MG/KG	12700	B E	9.1E+03	5.0E+01	9.2E+04							
CHROMIUM, TOTAL	MG/KG	16.6	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01					

Soil Samples		AUS-0065-007		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND											
ALL EXPLOSIVES	UG/KG	ND											
ALUMINUM	MG/KG	10900	B E	9.1E+03	5.0E+01	9.2E+04							
CHROMIUM, TOTAL	MG/KG	14.5	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01					

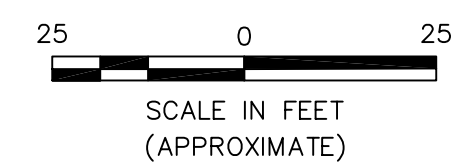
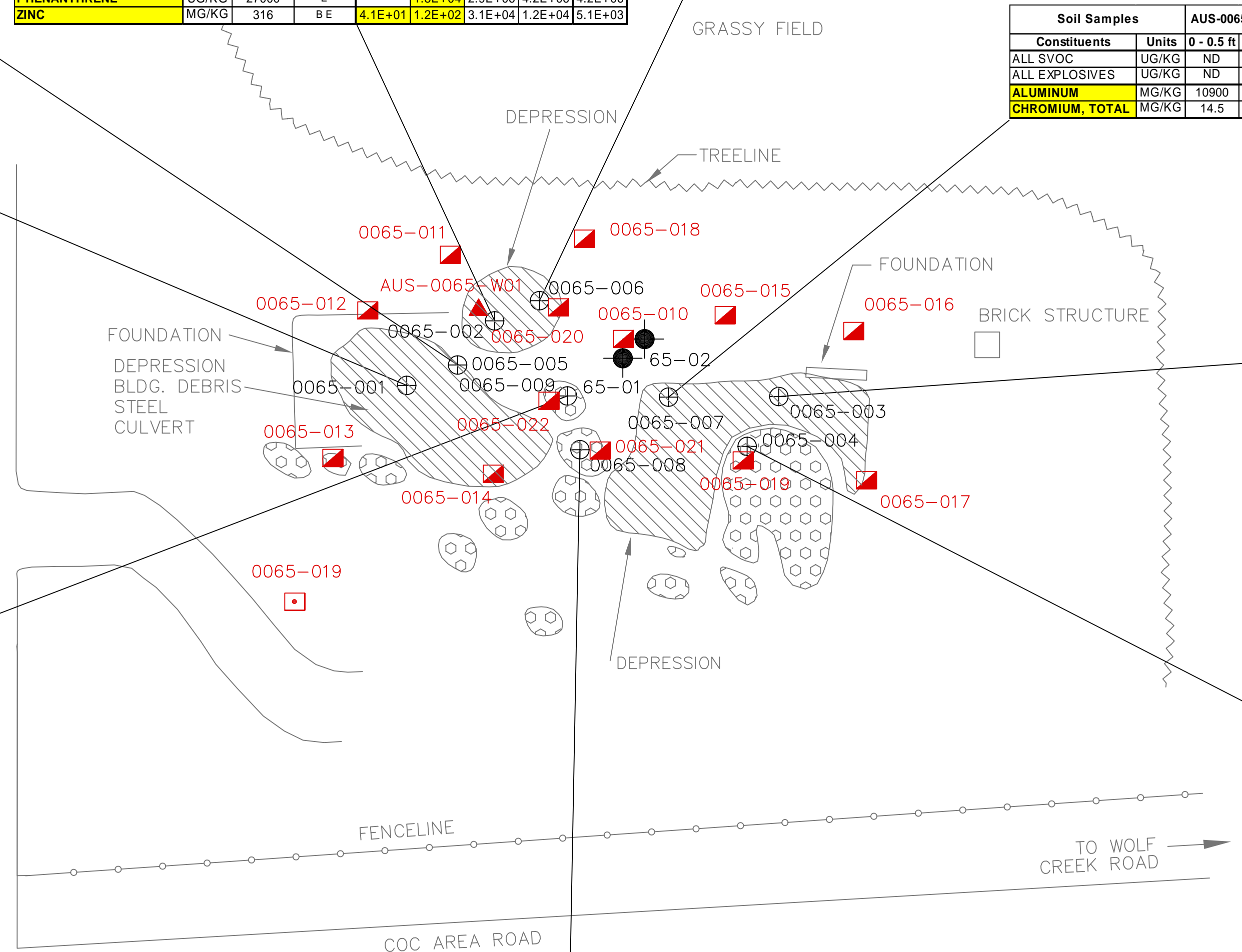
Soil Samples		AUS-0065-001		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND											
ALL EXPLOSIVES	UG/KG	ND											
cPAH	UG/KG	548.57	H			2.1E+02							
ALUMINUM	MG/KG	10700	B E	9.1E+03	5.0E+01	9.2E+04							
BENZO(A)PYRENE	UG/KG	220	H	3.3E+03	2.1E+02	8.0E+03	8.0E+03						
BORON	MG/KG	5.1	B E	4.6E+00	5.0E-01	1.8E+04							
CHROMIUM, TOTAL	MG/KG	20.6	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01					

Soil Samples		AUS-0065-003		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND											
ALL EXPLOSIVES	UG/KG	ND											
cPAH	UG/KG	427.15	H			2.1E+02							
ALUMINUM	MG/KG	10100	B E	9.1E+03	5.0E+01	9.2E+04							
BENZO(A)PYRENE	UG/KG	250	H	3.3E+03	2.1E+02	8.0E+03	8.0E+03						
BORON	MG/KG	8.5	B E	4.6E+00	5.0E-01	1.8E+04							
CADMIUM	MG/KG	0.69	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00					
ZINC	MG/KG	257	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03					

Soil Samples		AUS-0065-009		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	3 ft	CE	B	E	H	W1	W2	W1	W2	
ALL SVOC	UG/KG	NE		NE									
ALL EXPLOSIVES	UG/KG	ND		ND									
cPAH	UG/KG	311.24	H	398.198	H			2.1E+02					
ALUMINUM	MG/KG	9000	E	9160	B E	9.1E+03	5.0E+01	9.2E+04					
BORON	MG/KG	11.7	B E	5.3	B E	4.6E+00	5.0E-01	1.8E+04					
CADMIUM	MG/KG	0.73	B E	ND		3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00			
ZINC	MG/KG	233	B E	66.5	B	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03			

Soil Samples		AUS-0065-004		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	4 ft	CE	B	E	H	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND		ND									
ALL EXPLOSIVES	UG/KG	ND		ND									
cPAH	UG/KG	457.82	H					2.1E+02					
BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG	1400	E	ND				9.3E+02				3.6E+06	
CHROMIUM, TOTAL	MG/KG	11.5	E	14.8	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01			

Soil Samples		AUS-0065-008		Soil Bkg 95UTL		ESV Std		HH Std		EPA STG (DAF=20)		IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	3 ft	CE	B	E	H	W1	W2	W1	W2	
ALL SVOC	UG/KG	NE		NE									
ALL EXPLOSIVES	UG/KG	ND		ND									
cPAH	UG/KG	450.507	H	401.79	H			2.1E+02					
BORON	MG/KG	4.8	B E	5	B E	4.6E+00	5.0E-01	1.8E+04					



- NOTES:
- BASED MAP FROM SITE RECONNAISSANCE SKETCH, MARCH 30, 1999.
 - BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

TITLE: RI/FS WORKPLAN
AUS-0065
EXISTING SAMPLE LOCATIONS AND
PROPOSED RI/FS SAMPLE LOCATIONS

DRAWN BY: DDZ SCALE: 1" = 25' PROJ. NO. 0233-001-206
CHECKED BY: GRD DATE: 3.FEB.2006 FIGURE NO. 5-27
APPROVED BY: DPT

NEWFIELDS 1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-347-9050

AUS-0066-FORMER EMMA OU SITE COC-14

SAMPLING LEGEND

- ⊕ EXISTING SOIL BORING LOCATION
- ⊗ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
- ◆ USEPA 1998 SAMPLE LOCATION
- ▣ PROPOSED SOIL BORING LOCATION
- ⊠ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- ⊕ PROPOSED GEOPROBE/TEMPORARY WELLS
- DITCHLINE
- ▭ DEPRESSION

Soil Samples AUS-0066-002											
Constituents	Units	0 - 0.5 ft				2 ft				CE	
		B	E	H	W1	W2	W1	W2	W1	W2	
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	MG/KG	14400	BE		9.1E+03	5.0E+01	9.2E+04				
CHROMIUM, TOTAL	MG/KG	20.7	BE		1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01		
COBALT	MG/KG	22.8	BE		9.3E+00	2.0E+01	1.9E+03				
IRON	MG/KG	21800	BE		2.0E+04	2.0E+02	3.1E+04				

Sediment Samples AUS-0066-003											
Constituents	Units	0 - 0.5 ft				2 ft				CE	
		B	E	H	W1	W2	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	739.52	H		7.0E+01	2.1E+02					
2-METHYLNAPHTHALENE	UG/KG	370	E		1.9E+04	8.4E+04	7.7E+03				
CADMIUM	MG/KG	3.8	BE		1.6E+00	9.9E-01	4.5E+01	8.0E+00	5.2E+00		
IRON	MG/KG	86300	BEH		2.1E+04	1.9E+05	3.1E+04				
NICKEL	MG/KG	65.6	BE		1.7E+01	2.3E+01	2.0E+03	1.3E+02	1.0E+02		
ZINC	MG/KG	325	BE		5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03		

Surface Water Samples AUS-0066-003-SW									
Constituents	Units	Conc.	CE	SW Bkg 95UTL		SW Eco Std		SW HH Std	
				B	E	B	E	H	H
ALL VOC	UG/L	ND							
ALL SVOC	UG/L	ND							
ALL EXPLOSIVES	UG/L	ND							
ALUMINIUM	UG/L	55500	BE		2.0E+02	8.7E+01			
BERYLLIUM	UG/L	16.5	BE		5.0E+00	5.3E-01			
CADMIUM	UG/L	33.9	BE		5.0E+00	1.1E+00			
COBALT	UG/L	278	BE		5.0E+01	2.3E+00			
COPPER	UG/L	40.1	BE		1.0E+01	1.2E+01			
IRON	UG/L	346000	BEH		1.0E+02	1.0E+03	1.0E+03		
LEAD	UG/L	48.4	BE		2.0E+00	2.0E+01			
MANGANESE	UG/L	6850	BEH		5.8E+02	1.0E+03	1.0E+03		
VANADIUM	UG/L	76.8	BE		5.0E+01	1.9E+01			
ZINC	UG/L	2240	BEH		2.0E+01	1.0E+03	1.0E+03		

Soil Samples AUS-0066-001											
Constituents	Units	0 - 0.5 ft				2 ft				CE	
		B	E	H	W1	W2	W1	W2	W1	W2	
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sediment Samples AUS-0066-007									
Constituents	Units	0 - 0.5 ft				CE			
		B	E	H	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND
ALL METALS	MG/KG	NE	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND

Surface Water Samples AUS-0066-007-SW									
Constituents	Units	Conc.	CE	SW Bkg 95UTL		SW Eco Std		SW HH Std	
				B	E	B	E	H	H
ALL VOC	UG/L	ND							
ALL SVOC	UG/L	ND							
ALL EXPLOSIVES	UG/L	ND							
ALUMINIUM	UG/L	6030	BE		2.0E+02	8.7E+01			
COPPER	UG/L	13.3	BE		1.0E+01	1.2E+01			
IRON	UG/L	12000	BEH		1.0E+02	1.0E+03	1.0E+03		
MANGANESE	UG/L	3890	BEH		5.8E+02	1.0E+03	1.0E+03		

Surface Water Samples AUS-0066-006-SW									
Constituents	Units	Conc.	CE	SW Bkg 95UTL		SW Eco Std		SW HH Std	
				B	E	B	E	H	H
ALL VOC	UG/L	ND							
ALL SVOC	UG/L	ND							
ALL EXPLOSIVES	UG/L	ND							
ALUMINIUM	UG/L	5580	BE		2.0E+02	8.7E+01			
COPPER	UG/L	13.2	BE		1.0E+01	1.2E+01			
IRON	UG/L	12700	BEH		1.0E+02	1.0E+03	1.0E+03		
MANGANESE	UG/L	2480	BEH		5.8E+02	1.0E+03	1.0E+03		

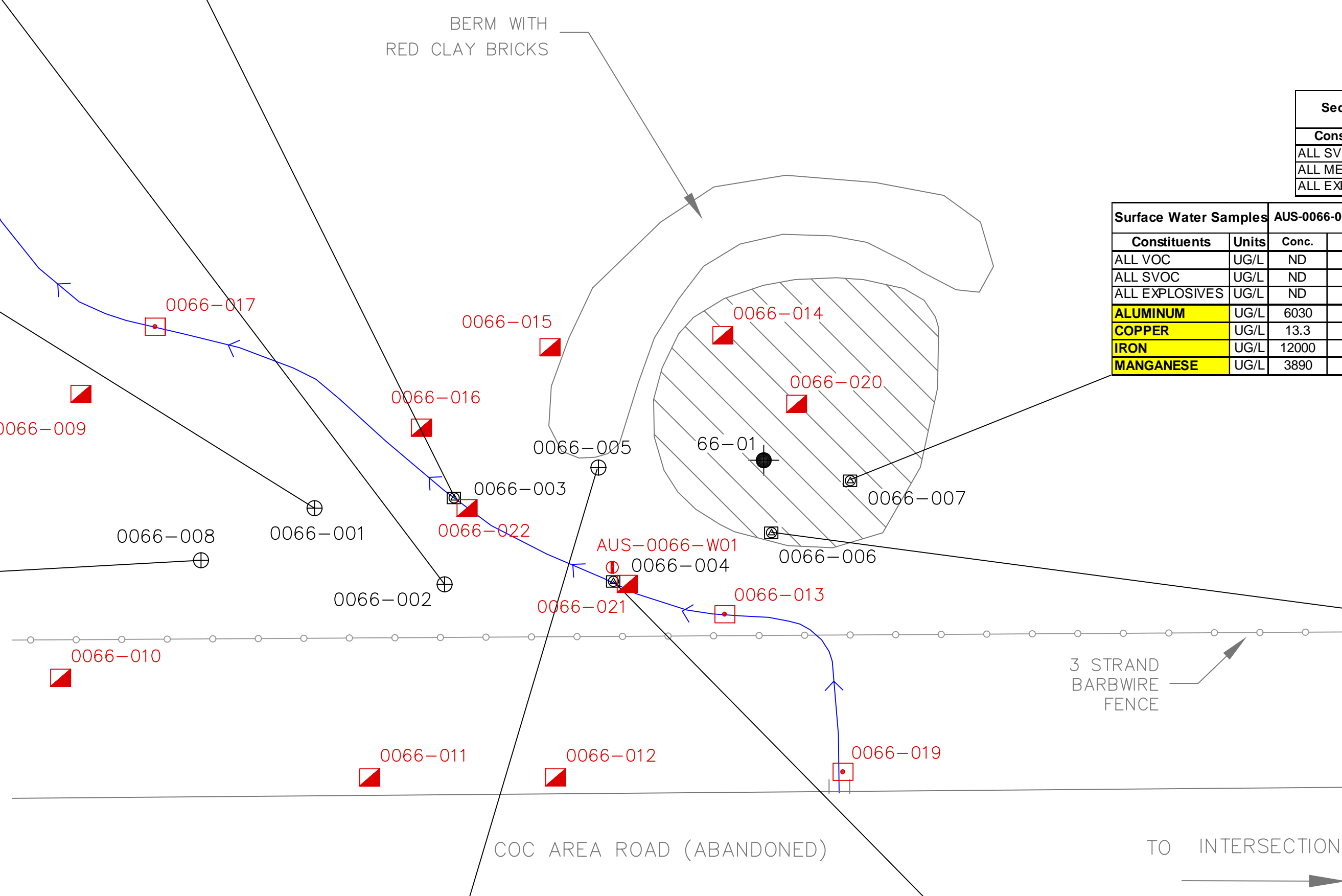
Sediment Samples AUS-0066-006				
Constituents	Units	0 - 0.5 ft		
		B	E	CE
ALL SVOC	UG/KG	NE	ND	
ALL METALS	MG/KG	NE	ND	
ALL EXPLOSIVES	UG/KG	ND	ND	

Soil Samples AUS-0066-008											
Constituents	Units	0 - 0.5 ft				2 ft				CE	
		B	E	H	W1	W2	W1	W2	W1	W2	
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALUMINIUM	MG/KG	10100	BE		9.1E+03	5.0E+01	1.0E+05				
CHROMIUM, TOTAL	MG/KG	18.5	BE		1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01		
IRON	MG/KG	19700	BE		2.0E+04	2.0E+02	3.1E+04				

Soil Samples AUS-0066-005											
Constituents	Units	0 - 0.5 ft				2 ft				CE	
		B	E	H	W1	W2	W1	W2	W1	W2	
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM	MG/KG	0.69	BE		3.5E-01	3.7E-01	4.5E+01	8.0E+00	5.2E+00		

Sediment Samples AUS-0066-004											
Constituents	Units	0 - 0.5 ft				2 ft				CE	
		B	E	H	W1	W2	W1	W2	W1	W2	
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	451.51	H		7.0E+01	2.1E+02					
2-METHYLNAPHTHALENE	UG/KG	210	E		1.9E+04	8.4E+04	7.7E+03				
BENZO(A)ANTHRACENE	UG/KG	160	E		1.1E+02	2.1E+03	2.0E+03	2.0E+03			
BENZO(B)FLUORANTHENE	UG/KG	220	E		2.7E+01	2.1E+03	5.0E+03	5.0E+03			
BENZO(G,H)PERYLENE	UG/KG	71	E		1.6E+01						
BENZO(K)FLUORANTHENE	UG/KG	73	E		2.7E+01	2.1E+04	4.9E+04	4.9E+04			
CADMIUM	MG/KG	35.7	BEH	W2	1.6E+00	9.9E-01	4.5E+01	8.0E+00	5.2E+00		
CHRYSENE	UG/KG	180	E		1.7E+02	2.1E+05	1.6E+05	1.6E+05			
INDENO(1,2,3-C,D)PYRENE	UG/KG	78	E		1.7E+01	2.1E+03	1.4E+04	1.4E+04			
NICKEL	MG/KG	27.9	BE		1.7E+01	2.3E+01	2.0E+03	1.3E+02	1.0E+02		
ZINC	MG/KG	447	BE		5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03		

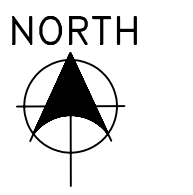
Surface Water Samples AUS-0066-004-SW									
Constituents	Units	Conc.	CE	SW Bkg 95UTL		SW Eco Std		SW HH Std	
				B	E	B	E	H	H
ALL VOC	UG/L	ND							
ALL SVOC	UG/L	ND							
ALL EXPLOSIVES	UG/L	ND							
ALUMINIUM	UG/L	1490	BE		2.0E+02	8.7E+01			
CADMIUM	UG/L	7.1	BE		5.0E+00	1.1E+00			
COBALT	UG/L	61.7	BE		5.0E+01	2.3E+00			
IRON	UG/L	4260	BEH		1.0E+02	1.0E+03	1.0E+03		
MANGANESE	UG/L	4240	BEH		5.8E+02	1.0E+03	1.0E+03		



- NOTES:
1. BASED MAP FROM SITE RECONNAISSANCE SKETCH, MARCH 30, 1999.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

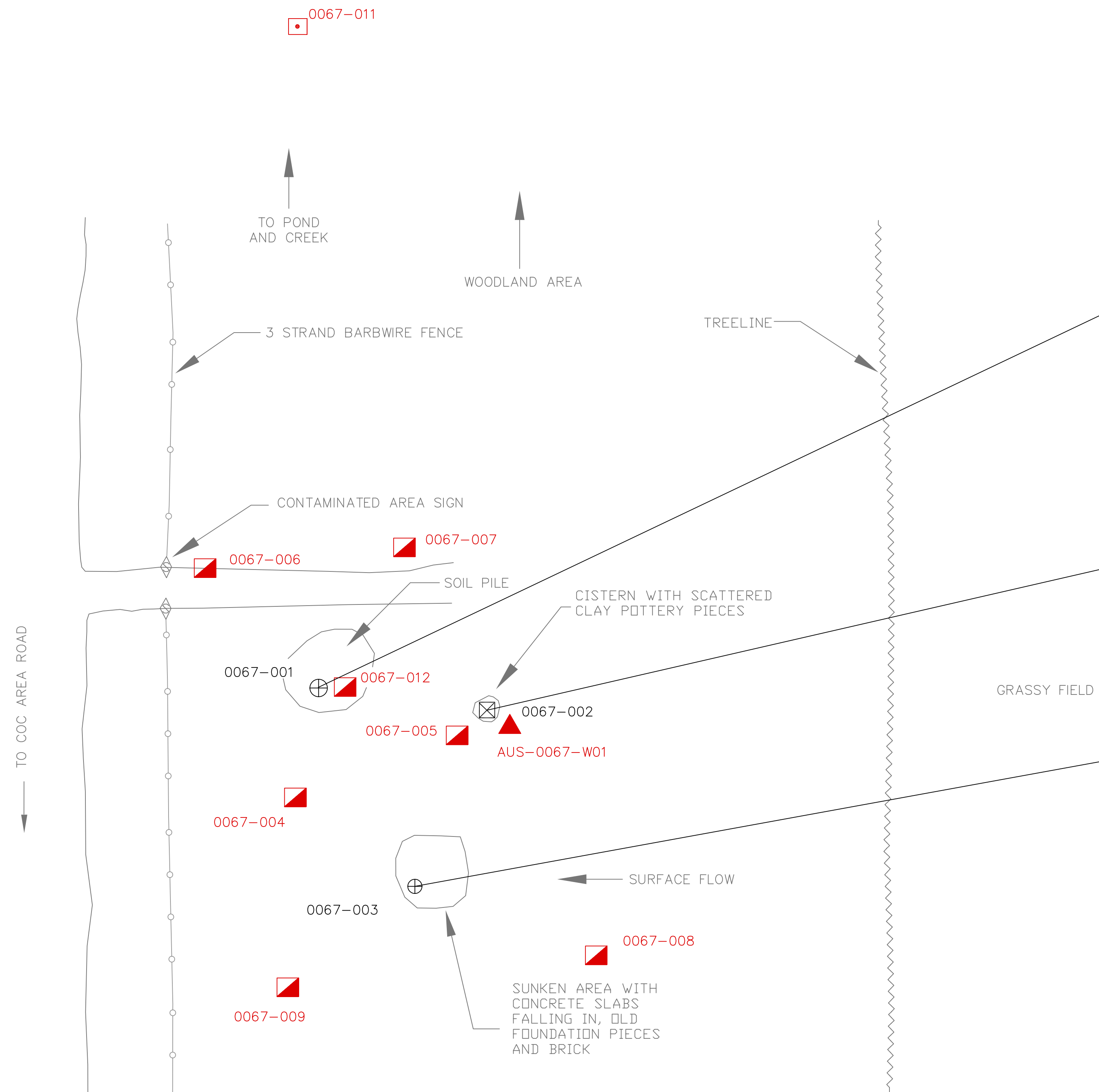
PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE: RI/FS WORKPLAN AUS-0066 EXISTING SAMPLE LOCATIONS AND PROPOSED RI/FS SAMPLE LOCATIONS		
DRAWN BY: DDZ	SCALE: 1" = 25'	PROJ. NO. 0233-001-206
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-28
APPROVED BY: DPT		
NEWFIELDS		1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050

AUS-0067-FENCE WITH "CONTAMINATED AREA" SIGN, NORTHWEST OF FORMER COC-6



SAMPLING LEGEND

- ⊕ EXISTING SOIL BORING LOCATION
- ⊗ CISTERN WATER SAMPLE LOCATION
- ▲ PROPOSED MONITORING WELL LOCATION
- ⊠ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- ▣ PROPOSED SOIL BORING LOCATION



Soil Samples		AUS-0067-001				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG		ND							
ALL SVOC	UG/KG	NE		NE						
ALL EXPLOSIVES	UG/KG	NE		ND						
CPAH	UG/KG	451.26	H	324.8	H				2.1E+02	
ALUMINUM	MG/KG	12900	B E	14900	B E	9.1E+03	5.0E+01	9.2E+04		
ARSENIC	MG/KG	14.2	B E H	11.9	E H	1.3E+01	9.0E+00	1.6E+00	2.9E+01	2.9E+01
BORON	MG/KG	7.2	B E	3.4	E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	1.5	B E	0.77	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	22.2	B E	21.3	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	36.1	B E	21.8	B	9.4E+00	3.1E+01	4.1E+03		5.9E+04
IRON	MG/KG	30700	B E H	35100	B E H	2.0E+04	2.0E+02	3.1E+04		
ZINC	MG/KG	355	B E	171	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Groundwater Samples		AUS-0067-002-GW		IEPA Class I
Constituents	Units	Conc.	CE	Groundwater Standard
ALL VOC	UG/L	ND		
ALL SVOC	UG/L	--		
ALL METALS	UG/L	NE		
ALL EXPLOSIVES	UG/L	ND		
2,6-DINITROTOLUENE	UG/L	6.5	C1	3.1E-01

Soil Samples		AUS-0067-003				Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG		ND							
ALL SVOC	UG/KG	ND								
ALL EXPLOSIVES	UG/KG	ND								
ALUMINUM	MG/KG	17700	B E			9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	20.3	B E			1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	24000	B E			2.0E+04	2.0E+02	3.1E+04		



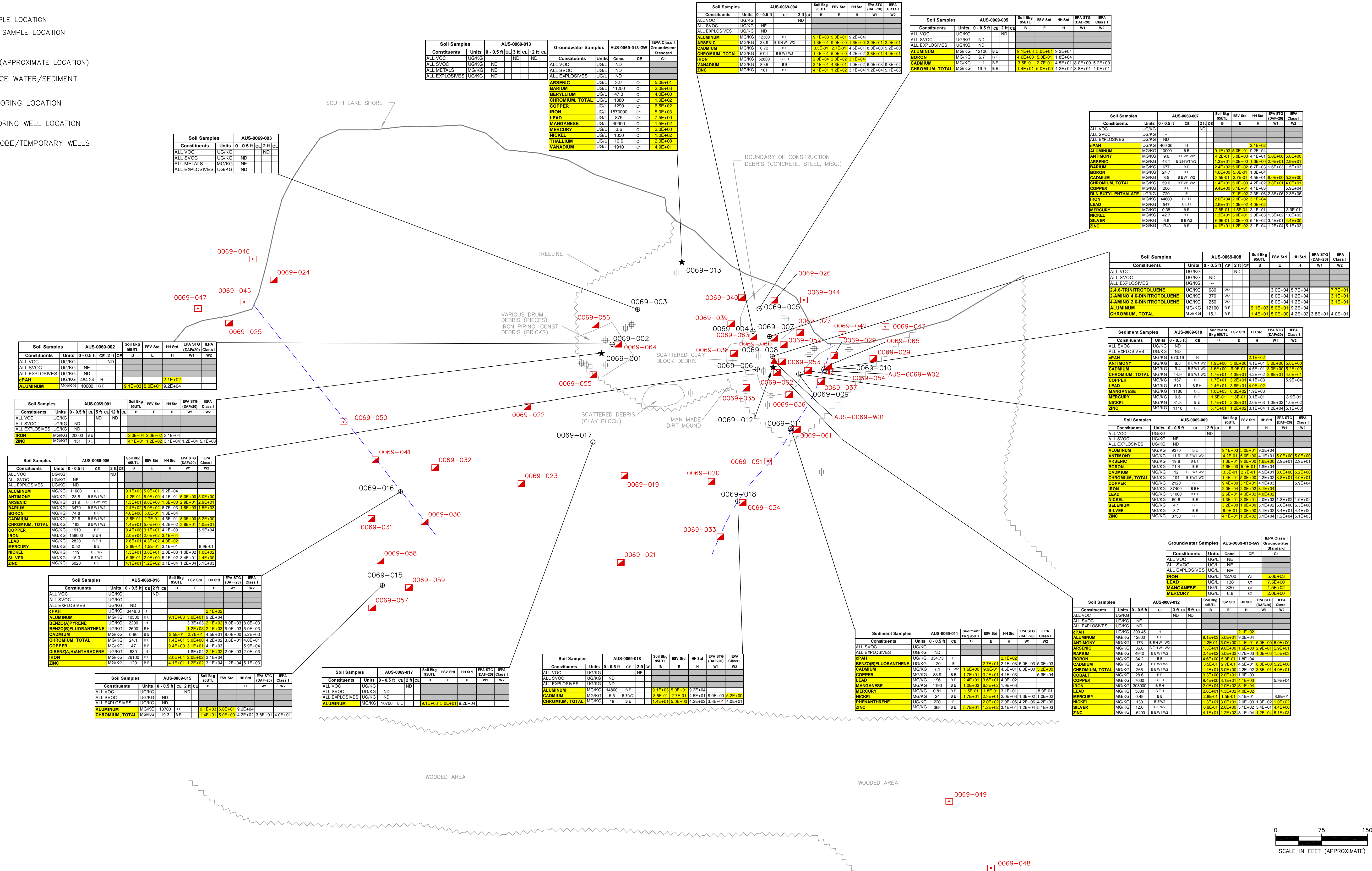
- NOTES:
1. BASED MAP FROM SITE RECONNAISSANCE SKETCH, MARCH 31, 1999.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE: RI/FS WORKPLAN AUS-0067 EXISTING SAMPLE LOCATIONS AND PROPOSED RI/FS SAMPLE LOCATIONS		
DRAWN BY: DDZ	SCALE: 1" = 20'	PROJ. NO. 0233-001-200
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-29
APPROVED BY: DPT		
		1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30359 404-347-9050



SAMPLING LEGEND

- ★ TEST PIT LOCATION
- ⊕ EXISTING SOIL SAMPLE LOCATION
- ⊕ EXISTING SEDIMENT SAMPLE LOCATION
- - - DITCHLINE
- 55-GALLON DRUM (APPROXIMATE LOCATION)
- PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED MONITORING WELL LOCATION
- PROPOSED GEOPROBE/TEMPORARY WELLS



Soil Samples		AUS-0069-003		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL METALS	MG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND

Soil Samples		AUS-0069-002		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	464.24	H			2.1E+02		
ALUMINUM	MG/KG	10000	B E	9.1E+03	5.0E+01	9.2E+04		

Soil Samples		AUS-0069-001		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
IRON	MG/KG	2000	B E	2.0E+04	2.0E+02	3.1E+04		
ZINC	MG/KG	151	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0069-006		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALUMINUM	MG/KG	11600	B E	9.1E+03	5.0E+01	9.2E+04		
ANTIMONY	MG/KG	38.8	B E W1 W2	4.2E-01	5.0E+00	4.4E-01	5.0E+00	5.0E+00
ARSENIC	MG/KG	31.9	B E W1 W2	1.3E-01	9.0E+00	1.2E+00	2.2E+01	2.2E+01
BARIUM	MG/KG	3470	B E W1 W2	2.4E+03	5.0E+00	6.7E+01	1.6E+03	1.6E+03
BORON	MG/KG	74.8	B E	4.6E+00	5.0E+01	1.5E+01	5.9E+04	
CADMIUM	MG/KG	22.6	B E W1 W2	3.5E-01	2.7E-01	4.5E-01	8.1E+01	3.2E+00
CHROMIUM TOTAL	MG/KG	183	B E W1 W2	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	1910	B E	9.4E+00	3.1E+01	4.1E+01	5.9E+04	
IRON	MG/KG	18000	B E H	2.0E+04	2.0E+02	3.1E+04		
LEAD	MG/KG	2600	B E H	2.6E+01	4.1E+01	4.4E+01		
MANGANESE	MG/KG	9.52	B E	2.8E-01	1.3E-01	3.1E+01	8.9E-01	
MERCURY	MG/KG	119	B E W2	1.3E+01	3.0E+01	2.0E+03	1.3E+02	1.0E+02
NICKEL	MG/KG	15.3	B E W2	6.3E-01	2.2E+00	5.1E+00	3.3E+01	6.4E+00
SILVER	MG/KG	5020	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0069-016		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
CPAH	UG/KG	3448.8	H			2.1E+02		
ALUMINUM	MG/KG	12000	B E	9.1E+03	5.0E+01	9.2E+04		
BENZ(a)PYRENE	UG/KG	2200	H			3.3E+03	2.1E+02	8.0E+03
BENZ(b)FLUORANTHENE	UG/KG	2600	H			1.2E+03	2.1E+02	5.0E+03
CADMIUM	MG/KG	0.96	B E	3.5E-01	3.7E-01	4.4E-01	8.0E+01	5.0E+00
CHROMIUM TOTAL	MG/KG	24.1	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	47	B E	9.4E+00	3.1E+01	4.1E+01	5.9E+04	
DIBENZO(a,h)ANTHRACENE	UG/KG	600	H			1.1E+04	9.7E+02	2.0E+03
IRON	MG/KG	20100	B E	2.0E+04	2.0E+02	3.1E+04		
ZINC	MG/KG	129	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0069-015		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALUMINUM	MG/KG	13700	B E	9.1E+03	5.0E+01	9.2E+04		
CHROMIUM TOTAL	MG/KG	19.3	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01

Soil Samples		AUS-0069-016		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALUMINUM	MG/KG	12000	B E	9.1E+03	5.0E+01	9.2E+04		
BENZ(a)PYRENE	UG/KG	2200	H			3.3E+03	2.1E+02	8.0E+03
BENZ(b)FLUORANTHENE	UG/KG	2600	H			1.2E+03	2.1E+02	5.0E+03
CADMIUM	MG/KG	0.96	B E	3.5E-01	3.7E-01	4.4E-01	8.0E+01	5.0E+00
CHROMIUM TOTAL	MG/KG	24.1	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	47	B E	9.4E+00	3.1E+01	4.1E+01	5.9E+04	
DIBENZO(a,h)ANTHRACENE	UG/KG	600	H			1.1E+04	9.7E+02	2.0E+03
IRON	MG/KG	20100	B E	2.0E+04	2.0E+02	3.1E+04		
ZINC	MG/KG	129	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0069-017		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALUMINUM	MG/KG	14800	B E	9.1E+03	5.0E+01	9.2E+04		
CADMIUM	MG/KG	5.9	B E W2	3.5E-01	2.7E-01	1.5E-01	8.0E+00	5.0E+00
CHROMIUM TOTAL	MG/KG	19	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01

Soil Samples		AUS-0069-018		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALUMINUM	MG/KG	10700	B E	9.1E+03	5.0E+01	9.2E+04		

Soil Samples		AUS-0069-013-QM		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ARSENIC	UG/L	327	C1	5.0E+01				
BERYLLIUM	UG/L	11200	C1	2.0E+03				
CHROMIUM TOTAL	UG/L	47.3	C1	4.0E+00				
COPPER	UG/L	1290	C1	6.5E+02				
IRON	UG/L	1870000	C1	5.0E+03				
LEAD	UG/L	975	C1	7.5E+01				
MANGANESE	UG/L	49900	C1	1.5E+02				
MERCURY	UG/L	3.6	C1	2.0E+00				
NICKEL	UG/L	1360	C1	3.0E+02				
THALLIUM	UG/L	10.6	C1	2.0E+00				
VANADIUM	UG/L	1910	C1	4.9E+01				

Soil Samples		AUS-0069-004		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALUMINUM	MG/KG	12300	B E	9.1E+03	5.0E+01	9.2E+04		
ARSENIC	MG/KG	33.9	B E W1 W2	1.3E-01	9.0E+00	1.6E+00	2.2E+01	2.2E+01
CADMIUM	MG/KG	0.72	B E	3.5E-01	3.7E-01	4.4E-01	8.0E+01	5.0E+00
CHROMIUM TOTAL	MG/KG	67.1	B E W1 W2	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	89.3	B E	9.1E+00	3.1E+01	4.1E+01	5.9E+04	
IRON	MG/KG	52800	B E H	2.0E+04	2.0E+02	3.1E+04		
NICKEL	MG/KG	89.3	B E	9.1E+00	3.1E+01	4.1E+01	5.9E+04	
ZINC	MG/KG	161	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0069-005		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL SVOC	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALL EXPLOSIVES	UG/KG	ND	ND	ND	ND	ND	ND	ND
ALUMINUM	MG/KG	12100	B E	9.1E+03	5.0E+01	9.2E+04		
ARSENIC	MG/KG	6.2	B E	6.6E+00	5.0E+01	1.0E+04		
CADMIUM	MG/KG	1.1	B E	3.5E-01	2.7E-01	1.5E-01	8.0E+00	5.0E+00
CHROMIUM TOTAL	MG/KG	19.9	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01

Soil Samples		AUS-0069-007		Soil Bg	ESV Std	HI Std	EPA STG	RPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	2 ft	CE	2 ft
ALL VOC	UG/KG	ND</						

AUS-0001-IOP FIRE AND POLICE HEADQUARTERS

SAMPLING LEGEND

- ⊕ EXISTING MONITORING WELL/SOIL BORING LOCATION
- ⊕ EXISTING SOIL SAMPLE LOCATION
- ⊕ EXISTING SEDIMENT SAMPLE LOCATION
- ⊕ UESPA 1998 SAMPLE LOCATION (APPROXIMATE)
- ⊕ PROPOSED SOIL BORING LOCATION
- ⊕ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- DITCHLINE



Groundwater Samples		AUS-0001-W01-GW		IEPA Class I Groundwater Standard	
Constituents	Units	Conc.	CE	C1	
ALL VOC	UG/L	NE			
ALL SVOC	UG/L	ND			
MANGANESE	UG/L	1410	C1	1.5E+02	

Soil Samples		AUS-0001-W01		IEPA Class I	
Constituents	Units	5 ft CE	23 ft CE	C1	
ALL VOC	UG/KG	ND	ND		
ALL SVOC	UG/KG	ND	ND		

Soil Samples		AUS-0001-003		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE 2 ft	B	E	H	W1	W2
ALL VOC	UG/KG		ND					
ALL SVOC	UG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
CADMIUM	MG/KG	1.2	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	22.4	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	24500	B E	2.0E+04	2.0E+02	3.1E+04		
LEAD	MG/KG	1050	B E H	2.6E+01	4.3E+02	4.0E+02		

Soil Samples		AUS-0001-002	
Constituents	Units	0 - 0.5 ft	CE 1 ft
ALL VOC	UG/KG		ND
ALL SVOC	UG/KG	NE	
ALL METALS	MG/KG	NE	
ALL EXPLOSIVES	UG/KG	ND	

Soil Samples		AUS-0001-004		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE 2 ft	B	E	H	W1	W2
ALL VOC	UG/KG		ND					
ALL SVOC	UG/KG		ND					
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	826	H				2.1E+02	
ARSENIC	MG/KG	535	B E H W1 W2	1.3E+01	9.0E+00	1.6E+00	2.9E+01	2.9E+01
BENZO(A)PYRENE	UG/KG	330	H	3.3E+03	2.1E+02	8.0E+03	8.0E+03	
BENZO(B)FLUORANTHENE	UG/KG	1700	E	1.2E+03	2.1E+03	5.0E+03	5.0E+03	
BORON	MG/KG	36.8	B E	4.6E+00	5.0E-01	1.8E+04		
CADMIUM	MG/KG	1.3	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	27	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	94	B E	9.4E+00	3.1E+01	4.1E+03	5.9E+04	
SELENIUM	MG/KG	12.9	B E H W1 W2	3.2E+00	1.0E+00	5.1E+02	5.0E+00	6.3E+00
SILVER	MG/KG	3.4	B E	6.9E-01	2.0E+00	5.1E+02	3.4E+01	4.4E+00
THALLIUM	MG/KG	2.4	B E	5.1E-01	1.0E+00	6.7E+00		2.6E+00
VANADIUM	MG/KG	55.7	B E	3.1E+01	4.6E+01	1.0E+02	6.0E+03	9.8E+02
ZINC	MG/KG	195	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0001-001		Soil Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE 2 ft	B	E	H	W1	W2
ALL VOC	UG/KG		ND					
ALL SVOC	UG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
ALUMINIUM	MG/KG	13200	B E	9.1E+03	5.0E+01	9.2E+04		
CADMIUM	MG/KG	2.7	B E	3.5E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00
CHROMIUM, TOTAL	MG/KG	23	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COPPER	MG/KG	37.2	B E	9.4E+00	3.1E+01	4.1E+03	5.9E+04	
IRON	MG/KG	24800	B E	2.0E+04	2.0E+02	3.1E+04		
ZINC	MG/KG	1410	B E	4.1E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

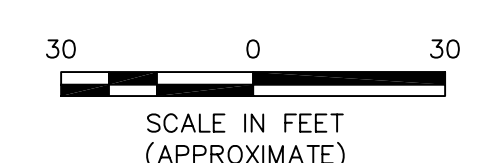
Sediment Samples		AUS-0001-005		Sediment Bkg 95/UL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG		ND					
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	333.4	H				2.1E+02	
ARSENIC	MG/KG	16.8	B E H	1.0E+01	9.8E+00	1.6E+00	2.9E+01	2.9E+01
BENZO(B)FLUORANTHENE	UG/KG	170	E	2.7E+01	2.1E+03	5.0E+03	5.0E+03	
BENZO(G,H,I)PERYLENE	UG/KG	70	E	1.6E+01	6.1E+07		3.2E+07	
INDENO(1,2,3-C,D)PYRENE	UG/KG	77	E	1.7E+01	2.1E+03	1.4E+04	1.4E+04	
LEAD	MG/KG	94.9	B E	2.4E+01	3.6E+01	4.0E+02		
PHENANTHRENE	UG/KG	250	E	2.0E+02	2.9E+06	4.2E+06	4.2E+06	
ZINC	MG/KG	122	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03

Soil Samples		AUS-0001-005	
Constituents	Units	2 ft	CE
ALL VOC	UG/KG	ND	

0001-016

PROPOSED SAMPLE 0001-016 LOCATED 270 FEET OFF MAP

- NOTES:
1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)



PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS

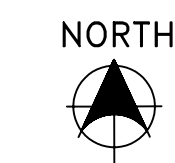
TITLE: RI/FS WORKPLAN AUS-0001 EXISTING SAMPLE LOCATIONS AND PROPOSED RI/FS SAMPLE LOCATIONS

DRAWN BY: DDZ	SCALE: 1" = 30'	PROJ. NO. 0233-001-200
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-31
APPROVED BY: DPT		

1349 N. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050

AUS-0002-FORMER IOP ADMINISTRATIVE AREA WASTEWATER TREATMENT PLANT

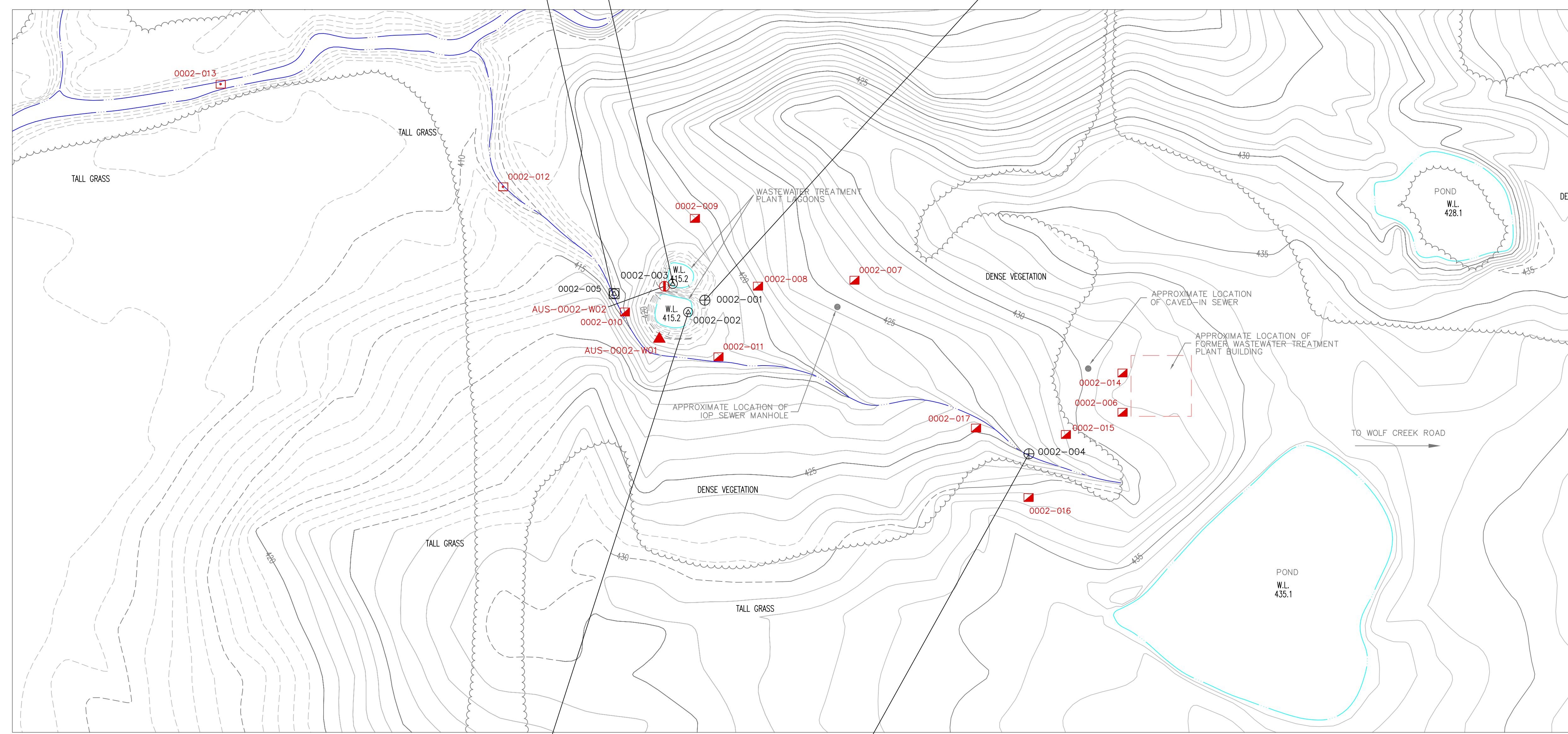
- SAMPLING LEGEND**
- ⊕ EXISTING SOIL SAMPLE LOCATION
 - ⊗ EXISTING SEDIMENT SAMPLE LOCATION
 - ⊗ EXISTING SEDIMENT AND SURFACE WATER SAMPLE LOCATION
 - ⊠ PROPOSED SOIL BORING LOCATION
 - ⊠ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
 - ▲ PROPOSED MONITORING WELL LOCATION
 - ⊕ PROPOSED GEOPROBE/TEMPORARY WELLS



Sediment Samples		AUS-0002-005		SW Bkg		SW 95UL		SW Std		SW Hgt	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2			
ALL EXPLOSIVES	UG/KG	ND									
ALL METALS	MG/KG	NE									
ALL EXPLOSIVES	UG/KG	ND									

Sediment Samples		AUS-0002-003		Sediment Bkg 95UL		ESV Std		HH Std		EPA STG (DAF=20)		EPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2					
ALL EXPLOSIVES	UG/KG	ND											
ANTIMONY	MG/KG	7.7	B E W1 W2	1.0E+00	3.0E+00	4.1E+01	5.0E+00	5.0E+00					
CHROMIUM, TOTAL	MG/KG	737	B E W1 W2	1.7E+01	4.3E+01	4.2E+02	3.8E+01	4.0E+01					
COPPER	MG/KG	35.8	B E	1.7E+01	3.2E+01	4.1E+03		5.9E+04					
LEAD	MG/KG	70.8	B E	2.4E+01	3.6E+01	4.0E+02							
MERCURY	MG/KG	0.37	B E	1.5E-01	1.8E-01	3.1E-01		8.9E-01					
SILVER	MG/KG	56.7	B E W1 W2	3.0E+00	1.0E+01	5.1E+02	3.4E+01	4.4E+00					
THALLIUM	MG/KG	0.81	B	3.1E-01		6.7E-00		2.8E+00					
VANADIUM	MG/KG	30.8	B	3.8E-01		1.0E+02	6.0E+03	9.8E+02					
ZINC	MG/KG	226	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03					

Soil Samples		AUS-0002-001		Soil Bkg 95UL		ESV Std		HH Std		EPA STG (DAF=20)		EPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2					
ALL VOC	UG/KG	ND											
ALL EXPLOSIVES	UG/KG	ND											
ALUMINIUM	MG/KG	12300	B E	8.1E+03	5.0E+01	9.2E+04							
CADMIUM	MG/KG	2	B E	3.3E-01	1.2E-01	3.5E+01	8.0E+00	5.2E+00					
CHROMIUM, TOTAL	MG/KG	18.3	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01					
IRON	MG/KG	20700	B E	2.0E+04	2.0E+02	3.1E+04							



Sediment Samples		AUS-0002-002		Sediment Bkg 95UL		ESV Std		HH Std		EPA STG (DAF=20)		EPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2					
ALL EXPLOSIVES	UG/KG	ND											
CHROMIUM, TOTAL	MG/KG	191	B E W1 W2	1.7E+01	4.3E+01	4.2E+02	3.8E+01	4.0E+01					
LEAD	MG/KG	69.5	B E	2.4E+01	3.6E+01	4.0E+02							
SILVER	MG/KG	87	B E W1 W2	3.0E+00	1.0E+01	5.1E+02	3.4E+01	4.4E+00					
VANADIUM	MG/KG	84.3	B	2.8E+01		1.0E+02	6.0E+03						

Soil Samples		AUS-0002-004		Soil Bkg 95UL		ESV Std		HH Std		EPA STG (DAF=20)		EPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2					
ALL EXPLOSIVES	UG/KG	ND											
ALUMINIUM	MG/KG	10700	B E	9.1E+03	5.0E+01	9.2E+04							
CHROMIUM, TOTAL	MG/KG	16.2	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01					

NOTES:
 1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

- BASE MAP LEGEND**
- Sidewalk
 - ▭ Building
 - ▭ Foundation
 - Fence
 - Wall
 - Tree Line
 - Stream
 - Shrub Line
 - 320 Index Contour
 - Intermediate Contour
 - Depression Contour
 - Guard Rail
 - ▲ Swamp Symbol
 - ▲ Control Point
 - Single Tree
 - Located Object
 - Catch Basin
 - Manhole
 - Pole
 - Sign
 - Fire Hydrant
 - Light Pole
 - ⊕ Inlet Symbol
 - Railroad
 - Paved Road
 - Unpaved Road
 - Trail
 - Pipe line
 - Driveway
- NOTE: DASHED CONTOURS MAY BE UNRELIABLE.

PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

TITLE: RI/FS WORKPLAN
AUS-0002
EXISTING SAMPLE LOCATIONS AND
PROPOSED RI/FS SAMPLE LOCATIONS

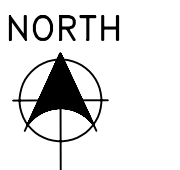
DRAWN BY: DDZ SCALE: 1" = 50' PROJ. NO. 0233-001-200
 CHECKED BY: GRD DATE: 3.FEB.2006 FIGURE NO. 5-32
 APPROVED BY: DPT

NEWFIELDS 1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-347-9050

AUS-0018-IOP RAILROAD CLASSIFICATION YARD

SAMPLING LEGEND

- ⊕ EXISTING SOIL SAMPLE LOCATION
- APPROXIMATE USEPA 1998 SAMPLE LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION

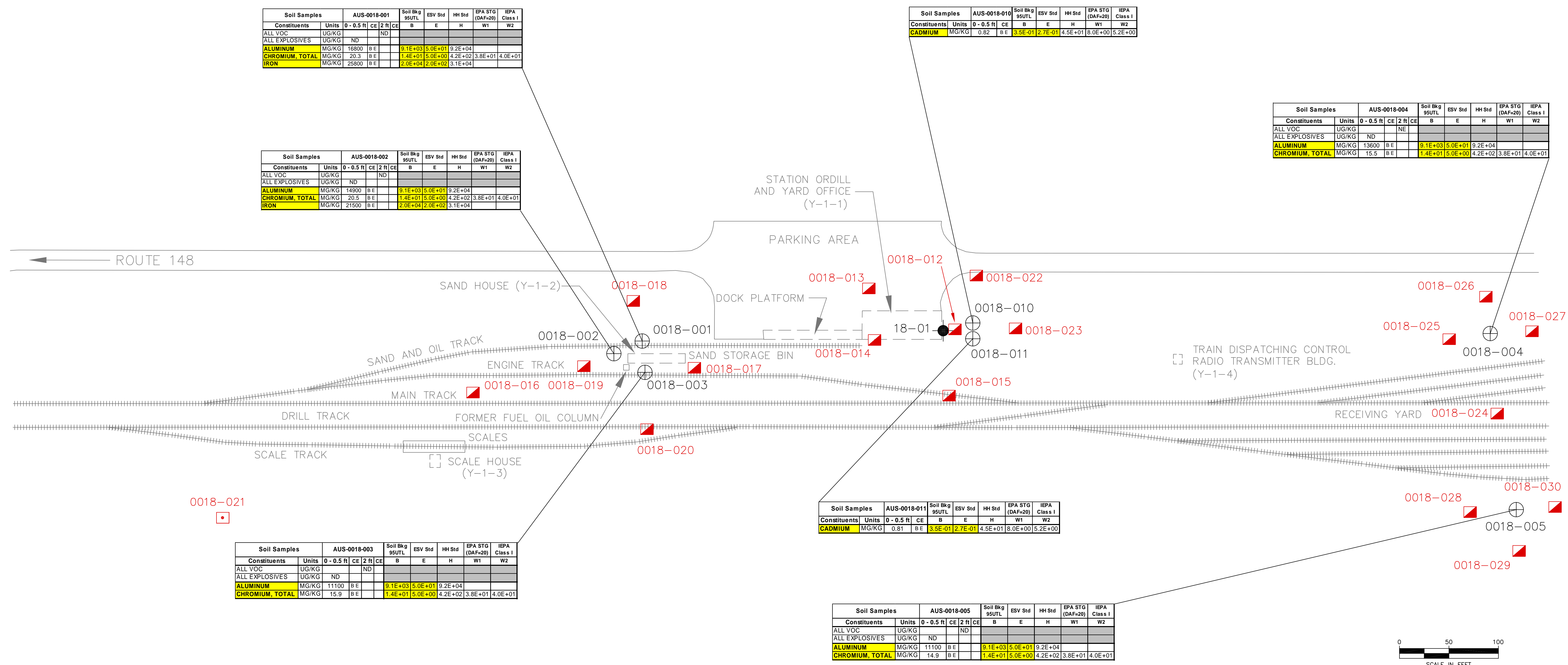


Soil Samples		AUS-0018-001				Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG		ND							
ALL EXPLOSIVES	UG/KG	ND								
ALUMINUM	MG/KG	16800	B E			9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	20.3	B E			1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	25800	B E			2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0018-010				Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
CADMIUM	MG/KG	0.82	B E			3.9E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-0018-002				Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG		ND							
ALL EXPLOSIVES	UG/KG	ND								
ALUMINUM	MG/KG	14900	B E			9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	20.5	B E			1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	21500	B E			2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0018-004				Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG		ND							
ALL EXPLOSIVES	UG/KG	ND								
ALUMINUM	MG/KG	13600	B E			9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	15.5	B E			1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01



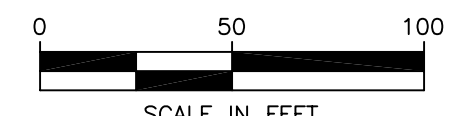
0018-021



Soil Samples		AUS-0018-003				Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG		ND							
ALL EXPLOSIVES	UG/KG	ND								
ALUMINUM	MG/KG	11100	B E			9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	15.9	B E			1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01

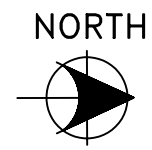
Soil Samples		AUS-0018-011				Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
CADMIUM	MG/KG	0.81	B E			3.9E-01	2.7E-01	4.5E+01	8.0E+00	5.2E+00

Soil Samples		AUS-0018-005				Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	2 ft	CE	B	E	H	W1	W2
ALL VOC	UG/KG		ND							
ALL EXPLOSIVES	UG/KG	ND								
ALUMINUM	MG/KG	11100	B E			9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	14.9	B E			1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01



NOTES:
 1. BASE MAP IS FROM IOP DRAWING: LOCATION LAYOUT, CLASSIFICATION YARD AND STATION ORDILL, PLAN NO. 6544-101.18, REVISION DATED 6-30-42.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

PROJECT:	CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE:	RI/FS WORKPLAN AUS-0018 EXISTING SAMPLE LOCATIONS AND PROPOSED RI/FS SAMPLE LOCATIONS		
DRAWN BY:	DDZ	SCALE: 1" = 50'	PROJ. NO. 0233-001-200
CHECKED BY:	GRD	DATE: 3.FEB.2006	FIGURE NO. 5-33
APPROVED BY:	DPT		
NEWFIELDS		1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050	



AUS 0021 – AREA 7 FIRE STATION

SAMPLING LEGEND

- ⊕ EXISTING SEDIMENT SAMPLE LOCATIONS
- ⊕ EXISTING HAND AUGER SAMPLE LOCATIONS
- ⊠ PROPOSED SOIL BORING LOCATION
- DITCHLINE

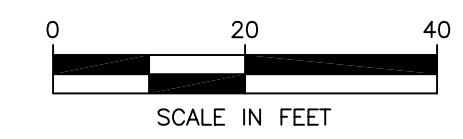
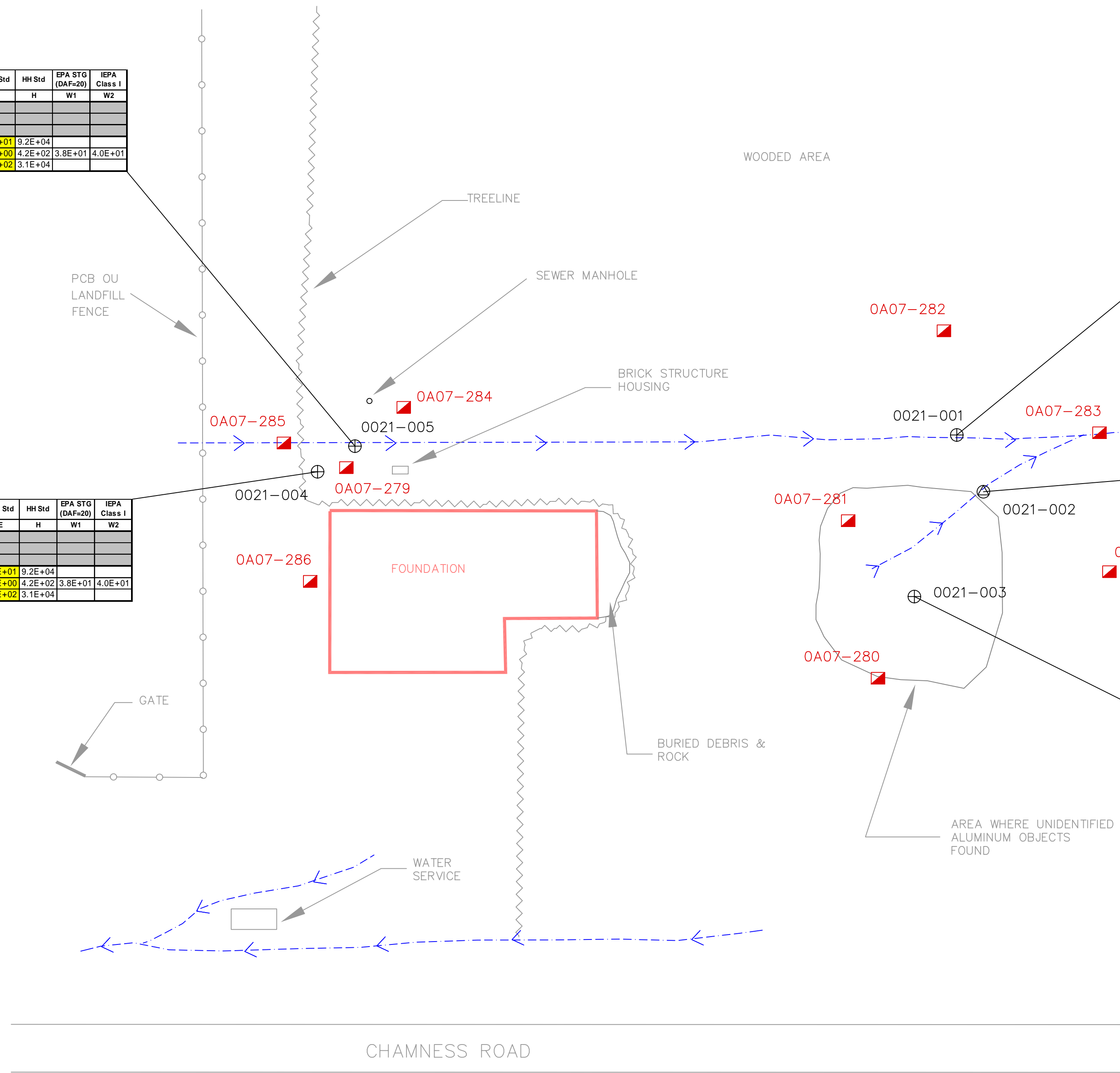
Soil Samples		AUS-0021-005		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	B	E	H	Class I
ALL SVOC	UG/KG	ND	NE					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINIUM	MG/KG	20500	B E	9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	23.1	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	28700	B E	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0021-001		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
ALUMINIUM	MG/KG	15700	B E	9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	20.9	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	24100	B E	2.0E+04	2.0E+02	3.1E+04		

Soil Samples		AUS-0021-004		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	2 ft	B	E	H	Class I
ALL SVOC	UG/KG	ND	NE					
ALL SVOC	UG/KG	ND	ND					
ALL EXPLOSIVES	UG/KG	ND	ND					
ALUMINIUM	MG/KG	12600	B E	9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	21	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
IRON	MG/KG	20000	B E	2.0E+04	2.0E+02	3.1E+04		

Sediment Samples		AUS-0021-002		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
ARSENIC	MG/KG	11.5	B E H	1.0E+01	9.8E+00	1.6E+02	2.9E+01	2.9E+01
MANGANESE	MG/KG	1440	B E	1.0E+03	6.5E+02	1.9E+03		

Soil Samples		AUS-0021-003		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
ALUMINIUM	MG/KG	11000	B E	9.1E+03	5.0E+01	9.2E+04		
CHROMIUM, TOTAL	MG/KG	13.9	B E	1.4E+01	5.0E+00	4.2E+02	3.8E+01	4.0E+01
COBALT	MG/KG	23.2	B E	9.3E+02	2.0E+01	1.9E+03		
MANGANESE	MG/KG	3030	B E H	2.4E+03	1.0E+02	1.9E+03		



NOTES:

1. BASE MAP IS FROM SKETCH PREPARED DURING SITE RECONNAISSANCE, MARCH 26, 1999. THE BUILDING FOUNDATION MEASURES APPROXIMATELY 75 FT. BY 55 FT. IN MAXIMUM DIMENSIONS.
2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

PROJECT: CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE: RI/FS WORKPLAN AUS 0021 – AREA 7 FIRE STATION EXISTING SAMPLE LOCATIONS AND PROPOSED RI/FS SAMPLE LOCATIONS		
DRAWN BY: DDZ	SCALE: 1" = 20'	PROJ. NO. 0233-001-200
CHECKED BY: GRD	DATE: 3.FEB.2006	FIGURE NO. 5-34
APPROVED BY: DPT		
1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9550		

AUS-0043-AREA 11/12 FIRE STATION

SAMPLING LEGEND

- ⊕ EXISTING SOIL SAMPLING LOCATION
- ◆ USEPA 1998 SAMPLE LOCATION
- ⊗ EXISTING SURFACE WATER LOCATION
- ▣ PROPOSED SOIL BORING LOCATION
- ⊠ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- ▲ PROPOSED MONITORING WELL LOCATION
- ← DITCHLINE



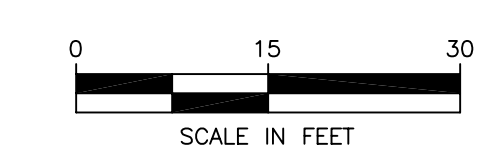
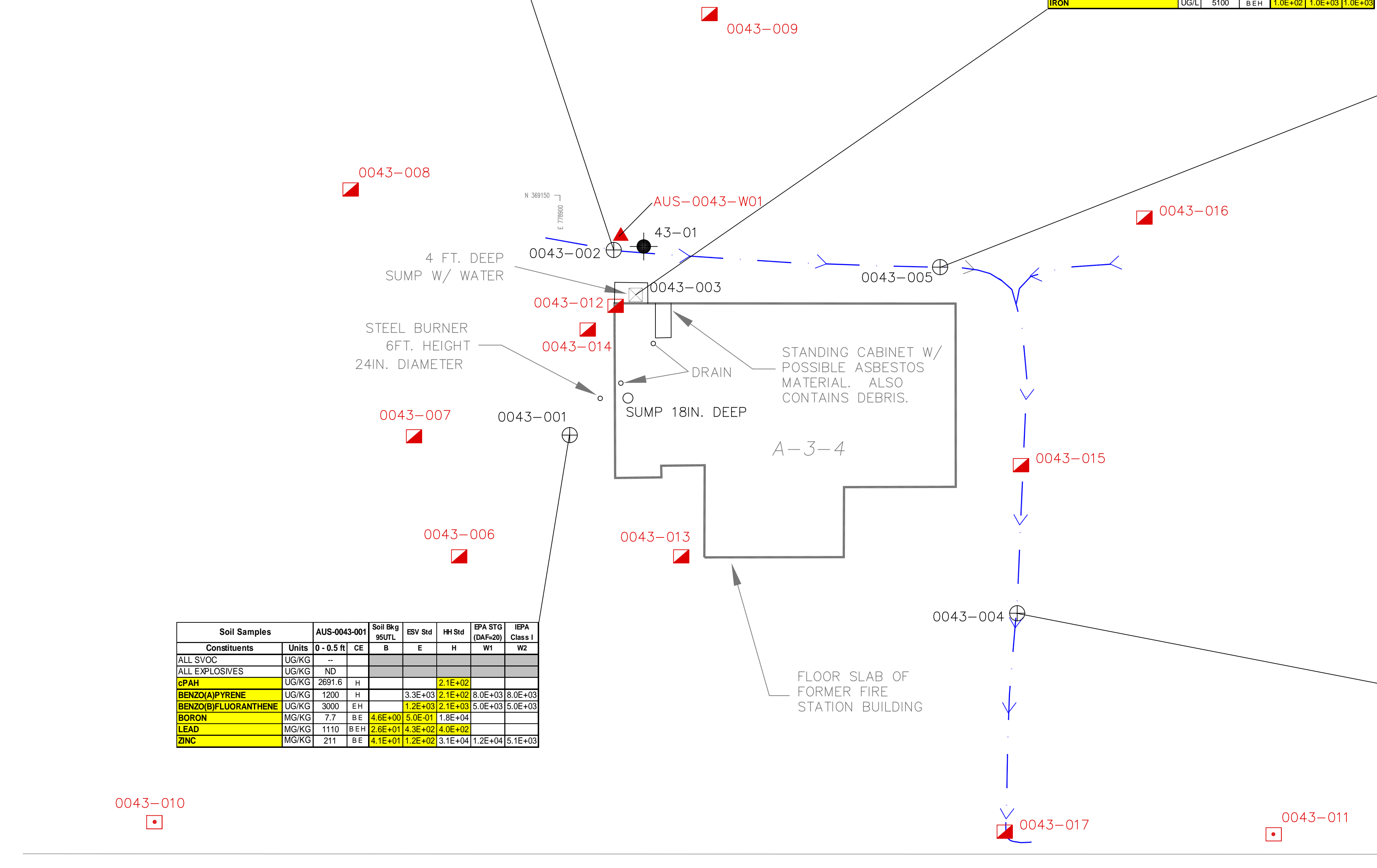
Soil Samples		AUS-0043-002		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/TL	B	E	H	Class I
ALL SVOC	UG/KG	--						
ALL EXPLOSIVES	UG/KG	NE						
2,4-DINITROTOLUENE	UG/KG	950	E/W/W2		3.3E+01	2.5E+03	7.0E-01	7.0E-01
ALUMINIUM	MG/KG	13800	B/E		9.1E+03	3.0E+01	9.2E+04	
CADMIUM	MG/KG	0.62	B/E		3.5E-01	2.7E-01	4.5E+01	8.0E+00
CHROMIUM, TOTAL	MG/KG	19.4	B/E		1.4E+01	5.0E+00	4.2E+02	3.8E+01
ZINC	MG/KG	156	B/E		4.3E+01	1.2E+02	3.1E+04	1.2E+04

Surface Water Samples		AUS-0043-003-SW		SW Bkg	SW Eco	SW HH
Constituents	Units	Conc.	CE	95/TL	Std	Std
ALL VOC	UG/L	ND				
ALL SVOC	UG/L	--				
ALL EXPLOSIVES	UG/L	ND				
BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	4.4	E		3.0E+00	
IRON	UG/L	5100	B/EH		1.0E+02	1.0E+03

Soil Samples		AUS-0043-005		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/TL	B	E	H	Class I
ALL VOC	UG/KG	ND						
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
ALUMINIUM	MG/KG	12200	B/E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	16.6	B/E		1.4E+01	5.0E+00	4.2E+02	3.8E+01

Soil Samples		AUS-0043-001		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/TL	B	E	H	Class I
ALL SVOC	UG/KG	--						
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	2691.6	H			2.1E+02		
BENZO(A)PYRENE	UG/KG	1200	H		3.3E+03	2.1E+02	8.0E+03	8.0E+03
BENZO(B)FLUORANTHENE	UG/KG	3000	E/H		1.2E+03	2.1E+03	5.0E+03	5.0E+03
BORON	MG/KG	7.7	B/E		4.0E+00	5.3E-01	1.8E+04	
LEAD	MG/KG	1110	B/EH		3.6E+01	4.3E+02	4.0E+02	
ZINC	MG/KG	211	B/E		4.1E+01	1.2E+02	3.1E+04	1.2E+04

Soil Samples		AUS-0043-004		Soil Bkg	ESV Std	HH Std	EPA STG	IEPA
Constituents	Units	0 - 0.5 ft	CE	95/TL	B	E	H	Class I
ALL VOC	UG/KG	ND						
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
ALUMINIUM	MG/KG	13100	B/E		9.1E+03	5.0E+01	9.2E+04	
CHROMIUM, TOTAL	MG/KG	17.8	B/E		1.4E+01	5.0E+00	4.2E+02	3.8E+01



- NOTES:
1. BASE MAP IS FROM SKETCH PREPARED DURING SITE RECONNAISSANCE, MARCH 26, 1999. THE BUILDING FOUNDATION MEASURES APPROXIMATELY 75 FT. BY 55 FT. IN MAXIMUM DIMENSIONS.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

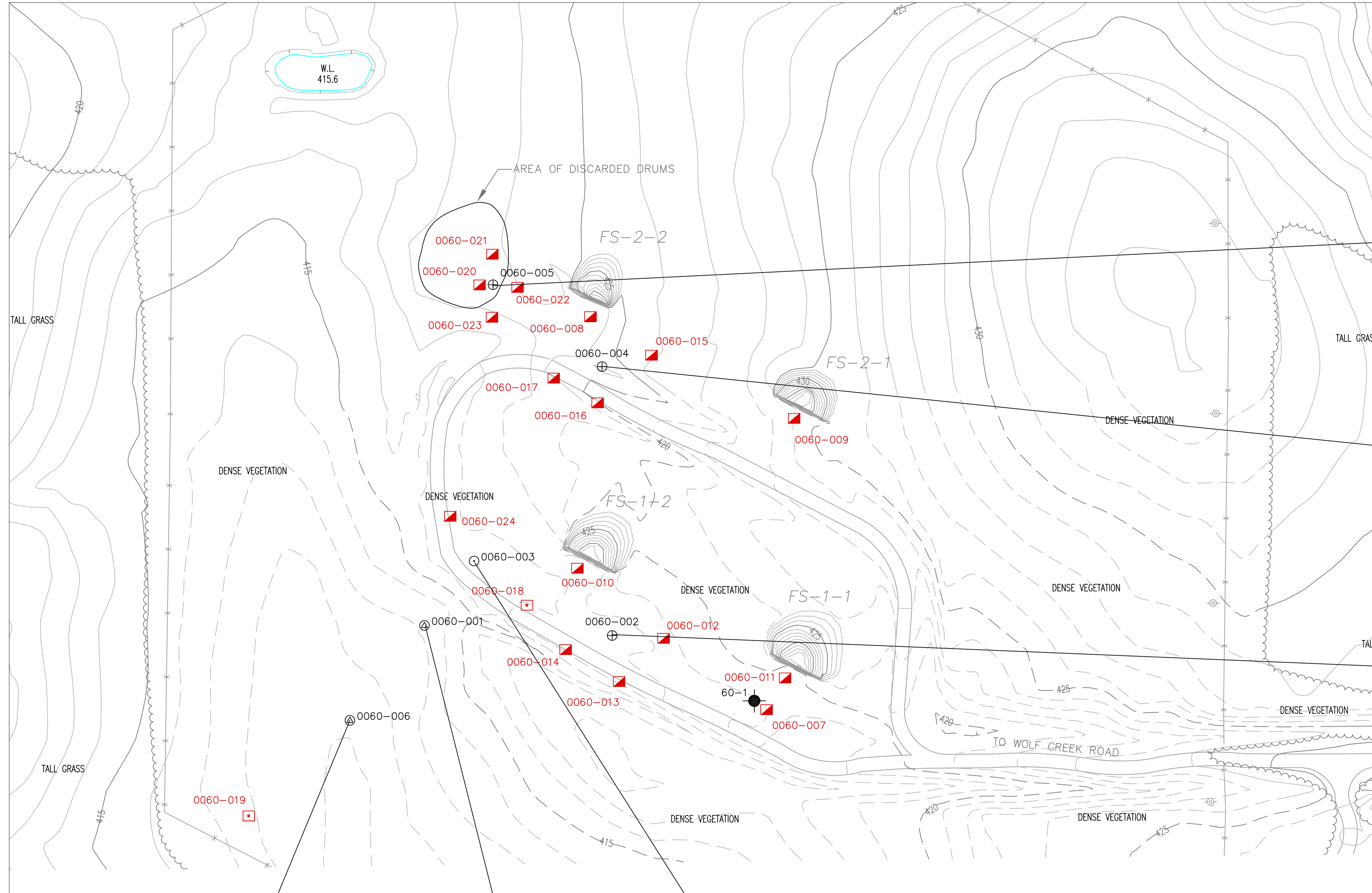
PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

TITLE: RI/FS WORKPLAN
AUS-0043
EXISTING SAMPLE LOCATIONS AND
PROPOSED RI/FS SAMPLE LOCATIONS

DRAWN BY: DDZ SCALE: 1" = 15'
CHECKED BY: GRD DATE: 3.FEB.2006 PROJ. NO. 0233-001-203
APPROVED BY: DPT FIGURE NO. 5-35

NEWFIELDS
1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-347-9050

AUS-0060-AREA 14 LEAD AZIDE/MERCURY FULMINATE STORAGE IGLOOS



SAMPLING LEGEND

- ⊕ EXISTING SOIL SAMPLE LOCATION
- ⊗ EXISTING SEDIMENT SAMPLE LOCATION
- EXISTING SOIL/SEDIMENT SAMPLE LOCATION
- ◆ USEPA 1998 SAMPLE LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION

Soil Samples		AUS-0060-005				Soil Bkg 95UTL		ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	1 ft	CE	B	E	H	W1	W2		
ALL VOC	UG/KG											
ALL EXPLOSIVES	UG/KG	ND										
ALUMINIUM	MG/KG	15100	B E			9.1E+03	5.0E+01		9.2E+04			
CHROMIUM, TOTAL	MG/KG	17.5	B E			1.4E+01	5.0E+00		4.2E+02	3.8E+01	4.0E+01	

Soil Samples		AUS-0060-004				Soil Bkg 95UTL		ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	1 ft	CE	B	E	H	W1	W2		
ALL SVOC	UG/KG	ND										
ALL EXPLOSIVES	UG/KG	ND										
ALUMINIUM	MG/KG	13100	B E			9.1E+03	5.0E+01		9.2E+04			
CHROMIUM, TOTAL	MG/KG	19.6	B E			1.4E+01	5.0E+00		4.2E+02	3.8E+01	4.0E+01	
IRON	MG/KG	22600	B E			2.0E+04	2.0E+02		3.1E+04			

Soil Samples		AUS-0060-002				Soil Bkg 95UTL		ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	1 ft	CE	B	E	H	W1	W2		
ALL VOC	UG/KG											
ALL EXPLOSIVES	UG/KG	ND										
ALUMINIUM	MG/KG	12700	B E			9.1E+03	5.0E+01		9.2E+04			
CHROMIUM, TOTAL	MG/KG	17.6	B E			1.4E+01	5.0E+00		4.2E+02	3.8E+01	4.0E+01	
IRON	MG/KG	20100	B E			2.0E+04	2.0E+02		3.1E+04			

Sediment Samples		AUS-0060-006			
Constituents	Units	0 - 0.5 ft	CE		
ALL METALS	MG/KG	NE			
ALL EXPLOSIVES	UG/KG	ND			

Soil Samples		AUS-0060-003			
Constituents	Units	1 ft	CE		
ALL VOC	UG/KG	ND			

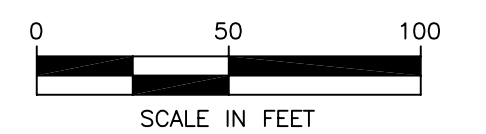
Sediment Samples		AUS-0060-003				Sediment Bkg 95UTL		ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2				
ALL EXPLOSIVES	UG/KG	ND										
ARSENIC	MG/KG	11.2	B E H	1.0E+01	9.8E+00	1.6E+00	2.9E+01	2.9E+01				
MANGANESE	MG/KG	3170	B E H	1.0E+03	6.3E+02	1.9E+03						

Sediment Samples		AUS-0060-001				Sediment Bkg 95UTL		ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I	
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2				
ALL EXPLOSIVES	UG/KG	ND										
ARSENIC	MG/KG	13.5	B E H	1.0E+01	9.8E+00	1.6E+00	2.9E+01	2.9E+01				
ZINC	MG/KG	149	B E	5.7E+01	1.2E+02	3.1E+04	1.2E+04	5.1E+03				

BASE MAP LEGEND

- Sidewalk
- Building
- Foundation
- Fence
- Wall
- Tree Line
- Stream
- Shrub Line
- Index Contour
- Intermediate Contour
- Depression Contour
- Guard Rail
- Swamp Symbol
- Control Point
- Single Tree
- Located Object
- Catch Basin
- Manhole
- Pole
- Sign
- Fire Hydrant
- Light Pole
- Inlet Symbol
- Railroad
- Paved Road
- Unpaved Road
- Trail
- Pipe line
- Driveway

NOTES:
 1. BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVAL IS ONE FOOT.
 2. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)



PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

TITLE: RI/FS WORKPLAN
AUS-0060/AREA 14
EXISTING SAMPLE LOCATIONS AND
PROPOSED RI/FS SAMPLE LOCATIONS

DRAWN BY: DDZ SCALE: 1" = 50' PROJ. NO. 0233-001-200
 CHECKED BY: GRD DATE: 3.FEB.2006 FIGURE NO. 5-36
 APPROVED BY: DPT

NEWFIELDS 1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-347-9050

AUS-0061-IOP DETONATION AND DISPOSAL AREA

SAMPLING LEGEND

- ⊕ EXISTING MONITORING WELL/SOIL BORING LOCATION
- ⊕ EXISTING SOIL SAMPLE LOCATION
- ⊕ USEPA 1998 SAMPLE LOCATION
- FORMER TRENCH
- ⊕ PROPOSED SOIL BORING LOCATION
- ⊕ PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- ▲ PROPOSED MONITORING WELL LOCATION
- APPROXIMATE EXTENT JOBS CORP LANDFILL

NORTH

Soil Samples		AUS-0061-002		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	4521.7	H			2.1E+02		
BENZO(A)ANTHRACENE	UG/KG	2300	H W1 W2			3.0E+03	2.1E+03	2.0E+03
BENZO(A)PYRENE	UG/KG	2800	H			3.3E+03	2.1E+03	5.0E+03
BENZO(B)FLUORANTHENE	UG/KG	4800	E H			1.2E+03	2.1E+03	5.0E+03
BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG	980	E			9.3E+02	1.2E+03	3.6E+03
BORON	MG/KG	34.9	B E			4.8E+00	5.0E+01	1.8E+04
CADMIUM	MG/KG	31.2	B E W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	15.7	B E			1.4E+01	5.0E+00	4.2E+02
DIBENZO(A,H)ANTHRACENE	UG/KG	750	H			1.8E+04	2.1E+03	2.0E+03
INDENO(1,2,3-C,D)PYRENE	UG/KG	2200	H			9.0E+04	2.1E+03	1.4E+04
MERCURY	MG/KG	1.1	B E W2			2.8E-01	1.5E-01	3.1E+01
ZINC	MG/KG	272	B E			4.1E+01	1.2E+02	3.1E+04

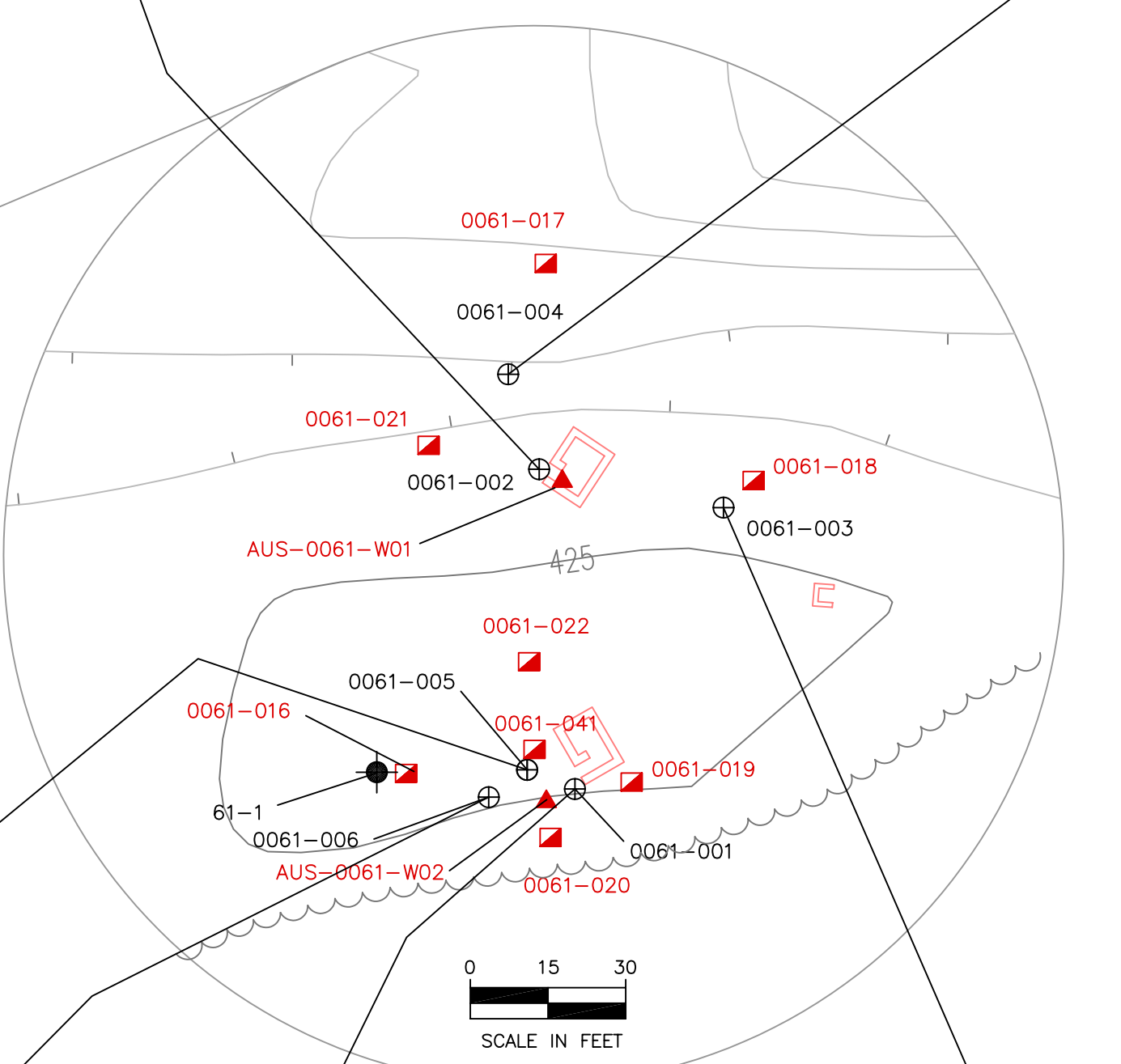
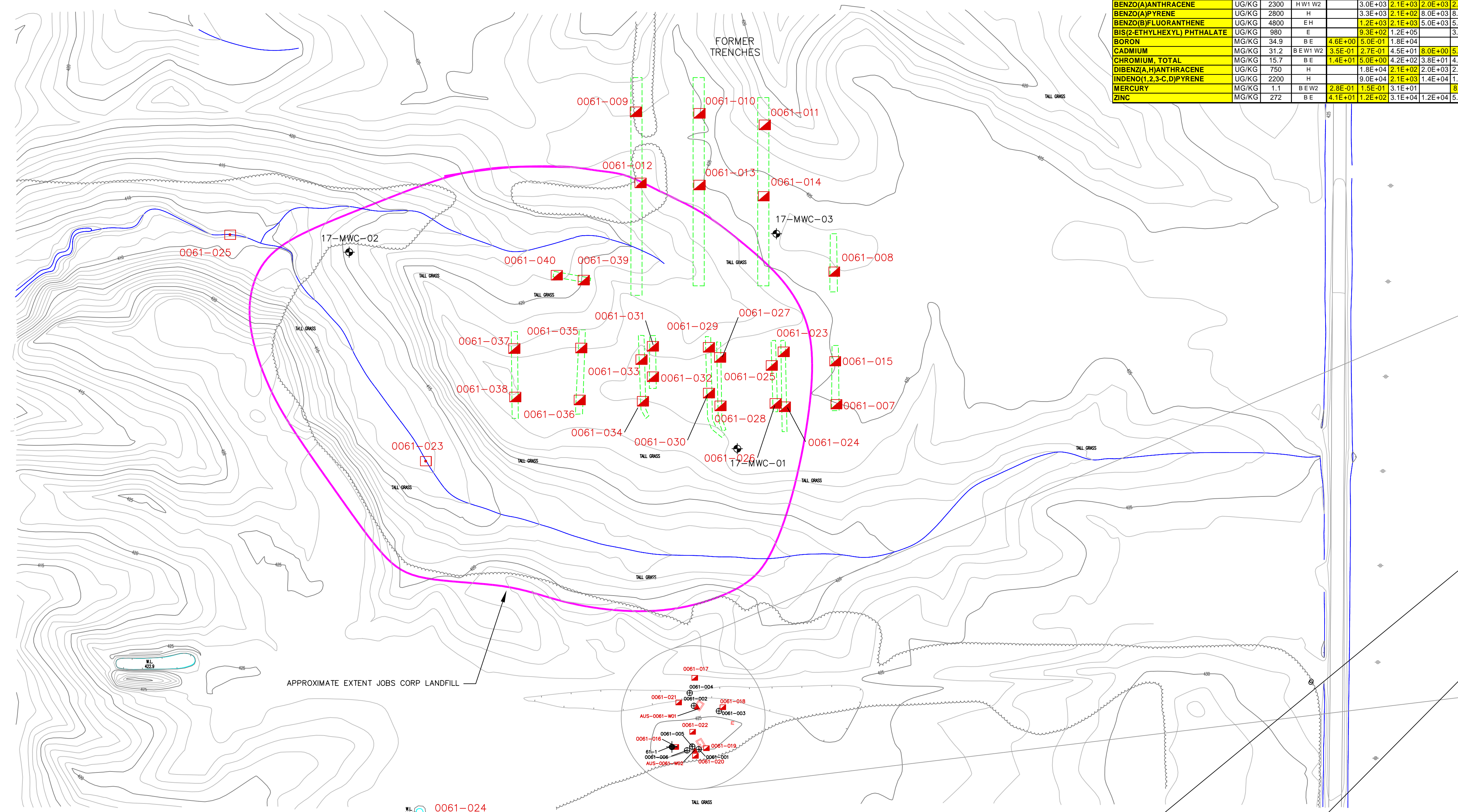
Soil Samples		AUS-0061-004		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
ALUMINIUM	MG/KG	12800	B E			9.1E+03	5.0E+01	9.2E+04
CADMIUM	MG/KG	2.1	B E			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	14.1	B E			1.4E+01	5.0E+00	4.2E+02

Soil Samples		AUS-0061-005		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	404.25	H			2.1E+02		
CADMIUM	MG/KG	61.3	H W1 V			3.5E-01	2.7E-01	4.5E+01
COPPER	MG/KG	54.7	B E			9.4E+00	3.1E+01	4.1E+03
IRON	MG/KG	34700	B E H			2.0E+04	2.0E+02	3.1E+04
MERCURY	MG/KG	0.46	B E			2.8E-01	1.5E-01	3.1E+01
ZINC	MG/KG	245	B E			4.1E+01	1.2E+02	3.1E+04

Soil Samples		AUS-0061-003		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
BORON	MG/KG	6.2	B E			4.6E+00	5.0E-01	1.8E+04
CADMIUM	MG/KG	1.3	B E			3.5E-01	2.7E-01	4.5E+01

Soil Samples		AUS-0061-006		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	NE						
ALL EXPLOSIVES	UG/KG	ND						
CADMIUM	MG/KG	4.8	B E			3.5E-01	2.7E-01	4.5E+01
MERCURY	MG/KG	0.3	B E			2.8E-01	1.5E-01	3.1E+01

Soil Samples		AUS-0061-001		Soil Bkg 95UTL	ESV Std	HH Std	EPA STG (DAF=20)	IEPA Class I
Constituents	Units	0 - 0.5 ft	CE	B	E	H	W1	W2
ALL SVOC	UG/KG	ND						
ALL EXPLOSIVES	UG/KG	ND						
CPAH	UG/KG	5279.6	H			2.1E+02		
ANTIMONY	MG/KG	7.3	B E W1 W2			4.2E-01	5.0E+00	4.1E+01
ARSENIC	MG/KG	13.6	B E H			1.3E+01	1.0E+00	2.9E+01
BENZO(A)ANTHRACENE	UG/KG	3000	H W1 W2			3.0E+03	2.1E+03	2.0E+03
BENZO(A)PYRENE	UG/KG	3300	H			3.3E+03	2.1E+03	8.0E+03
BENZO(B)FLUORANTHENE	UG/KG	5400	E H W1 W2			1.2E+03	2.1E+03	5.0E+03
BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG	100	E			9.3E+02	1.2E+03	3.6E+03
CADMIUM	MG/KG	80.9	B E H W1 W2			3.5E-01	2.7E-01	4.5E+01
CHROMIUM, TOTAL	MG/KG	23.9	B E			1.4E+01	5.0E+00	4.2E+02
COPPER	MG/KG	69.9	B E			9.4E+00	3.1E+01	4.1E+03
DIBENZO(A,H)ANTHRACENE	UG/KG	850	H			1.8E+04	2.1E+03	2.0E+03
INDENO(1,2,3-C,D)PYRENE	UG/KG	2400	H			9.0E+04	2.1E+03	1.4E+04
IRON	MG/KG	70400	B E H			2.0E+04	2.0E+02	3.1E+04
LEAD	MG/KG	544	B E H			2.6E+01	4.3E+02	4.0E+02
MERCURY	MG/KG	0.7	B E			2.8E-01	1.5E-01	3.1E+01
NICKEL	MG/KG	44.6	B E			1.3E+01	3.0E+01	2.0E+03
SELENIUM	MG/KG	5.8	B E W1			3.2E+00	1.0E+00	5.1E+02
ZINC	MG/KG	893	B E			4.1E+01	1.2E+02	3.1E+04



SCALE IN FEET

SCALE IN FEET

BASE MAP LEGEND

- Sidewalk
- Building
- Foundation
- Fence
- Well
- Tree Line
- Stream
- Shrub Line
- Index Contour
- Intermediate Contour
- Depression Contour
- Guard Rail
- Swamp Symbol
- Control Point
- Single Tree
- Located Object
- Catch Basin
- Manhole
- Pole
- Sign
- Fire Hydrant
- Light Pole
- Inlet Symbol
- Railroad
- Paved Road
- Unpaved Road
- Trail
- Pipe line
- Driveway

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.

NOTES:

- BASE TOPOGRAPHIC MAP PREPARED BY WALKER & ASSOCIATES, FROM FLYOVER IN JANUARY 2000. CONTOUR INTERVALS IS ONE FOOT.
- DATA BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)

PROJECT: CRAB ORCHARD NWR
MARION, ILLINOIS

TITLE: RI/FS WORKPLAN
AUS-0061
EXISTING SAMPLE LOCATIONS AND
PROPOSED RI/FS SAMPLE LOCATIONS

DRAWN BY: DDZ SCALE: 1" = 100' PROJ. NO. 0233-001-200
CHECKED BY: GRD DATE: 3.FEB.2006 FIGURE NO. 5-37
APPROVED BY: DPT


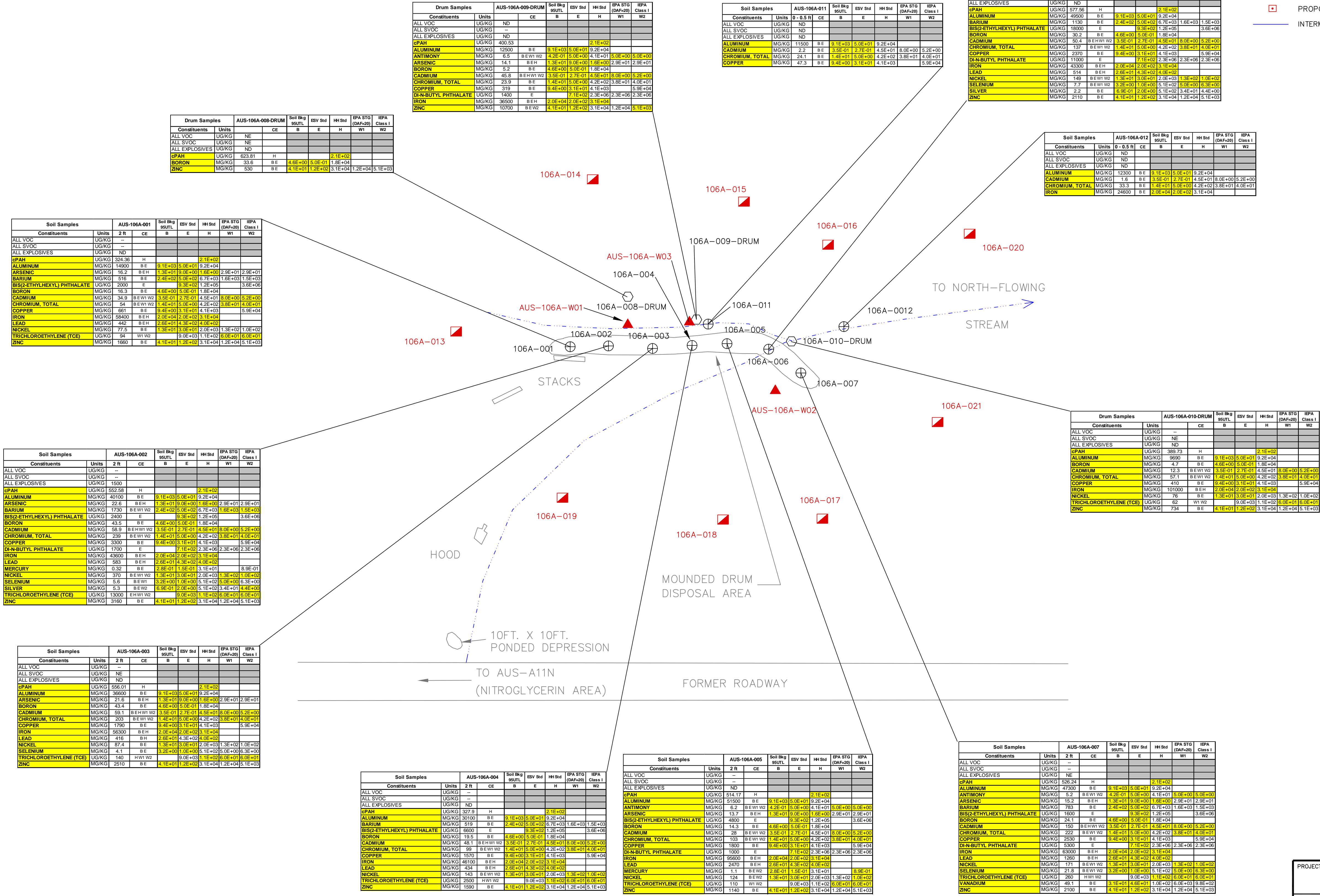
NEWFIELDS 1349 W. PEACHTREE ST., SUITE 2000
ATLANTA, GA 30309
404-347-9050

AUS-106A-DRUM DISPOSAL AREA

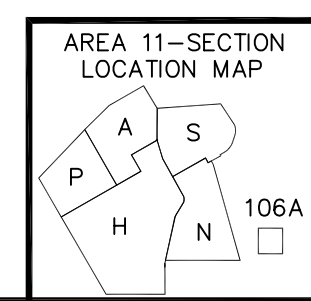
SAMPLING LEGEND

- ⊕ EXISTING SOIL SAMPLE LOCATION
- EXISTING DRUM SAMPLE LOCATION
- ▲ PROPOSED MONITORING WELL LOCATION
- ▴ PROPOSED SOIL BORING LOCATION
- ▣ PROPOSED SURFACE WATER/SEDIMENT
- INTERMITTENT STREAM

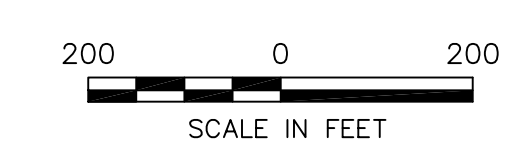
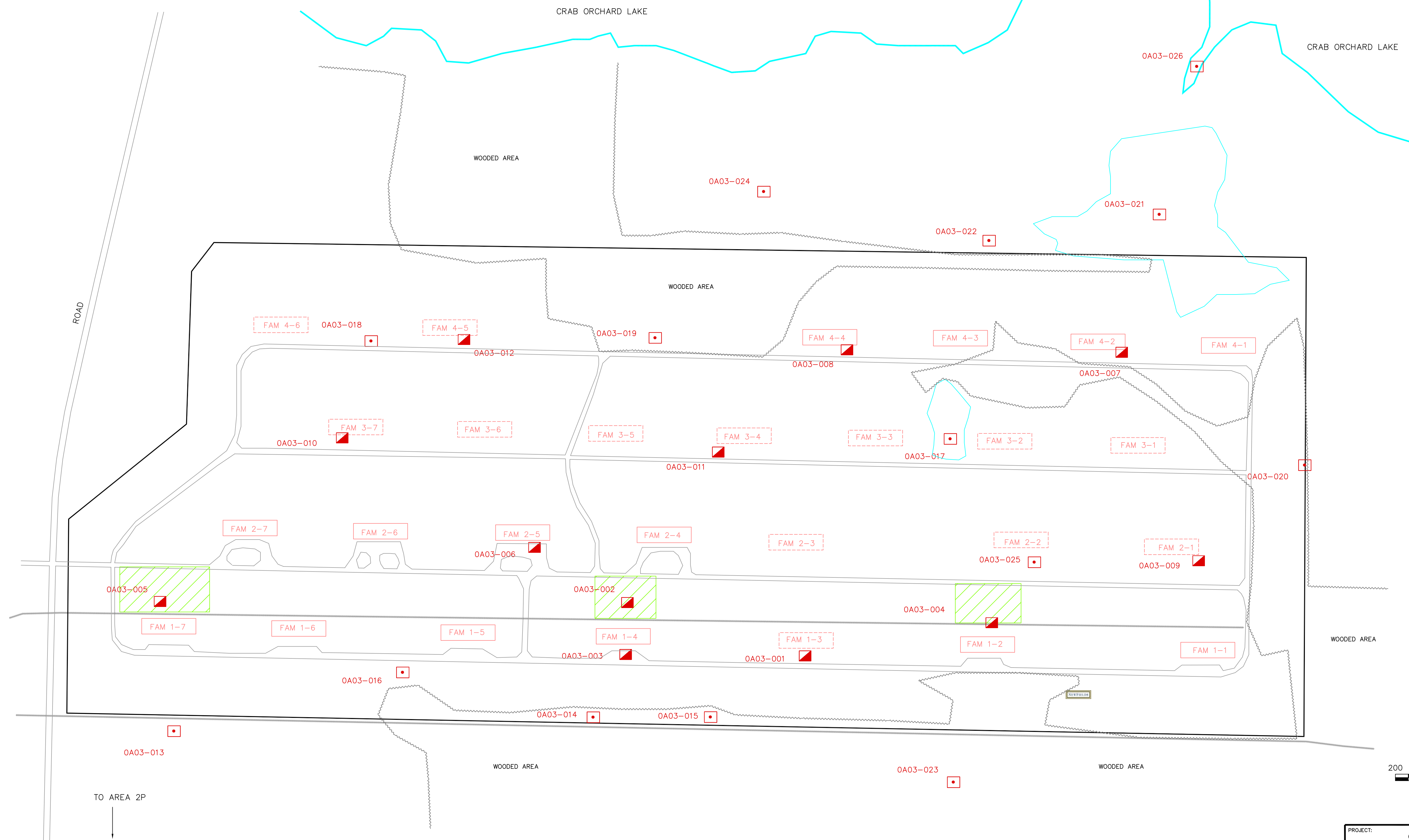
NORTH

NOTES:
 1. BASED ON FIGURE FROM FINAL PA/SI REPORT (FWS, 2003)
 2. DRUM SAMPLES 008, 009, AND 010 WERE COLLECTED FROM MATERIAL INSIDE DRUMS, EXACT LOCATIONS ARE UNKNOWN.



AREA 0A03 – FINISHED AMMUNITION GROUP 1



NOTES:
 BASE MAP PREPARED FROM NEWFIELDS ARCGIS AND 1998 AERIAL PHOTOGRAPH.

SAMPLING LEGEND
 [Red square with black dot] PROPOSED SOIL BORING LOCATION
 [Red square with black dot] PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION

BASE MAP LEGEND
 [Symbol] Sidewalk
 [Symbol] Building
 [Symbol] Foundation
 [Symbol] Fence
 [Symbol] Wall
 [Symbol] Tree Line
 [Symbol] Stream
 [Symbol] Shrub Line
 [Symbol] 320
 [Symbol] Index Contour
 [Symbol] Intermediate Contour
 [Symbol] Depression Contour
 [Symbol] Guard Rail
 [Symbol] Swamp Symbol
 [Symbol] Control Point
 [Symbol] Lake/Pond
 [Symbol] Single Tree
 [Symbol] Located Object
 [Symbol] Catch Basin
 [Symbol] Manhole
 [Symbol] Pole
 [Symbol] Sign
 [Symbol] Fire Hydrant
 [Symbol] Light Pole
 [Symbol] Inlet Symbol
 [Symbol] Railroad
 [Symbol] Paved Road
 [Symbol] Unpaved Road
 [Symbol] Trail
 [Symbol] Pipe line
 [Symbol] Driveway
 [Symbol] Former Loading Platform

NOTE: DASHED CONTOURS MAY BE UNRELIABLE.

PROJECT:	CRAB ORCHARD NWR MARION, ILLINOIS		
TITLE:	R/FS WORKPLAN AUS-0A03 PROPOSED RI/FS SAMPLE LOCATIONS		
DRAWN BY:	DOZ	SCALE: 1" = 200'	PROJ. NO. 0233-001-200
CHECKED BY:	GRD	DATE: 3.FEB.2006	FIGURE NO. 5-39
APPROVED BY:	DPT		
NEWFIELDS		1349 W. PEACHTREE ST., SUITE 2000 ATLANTA, GA 30309 404-347-9050	

