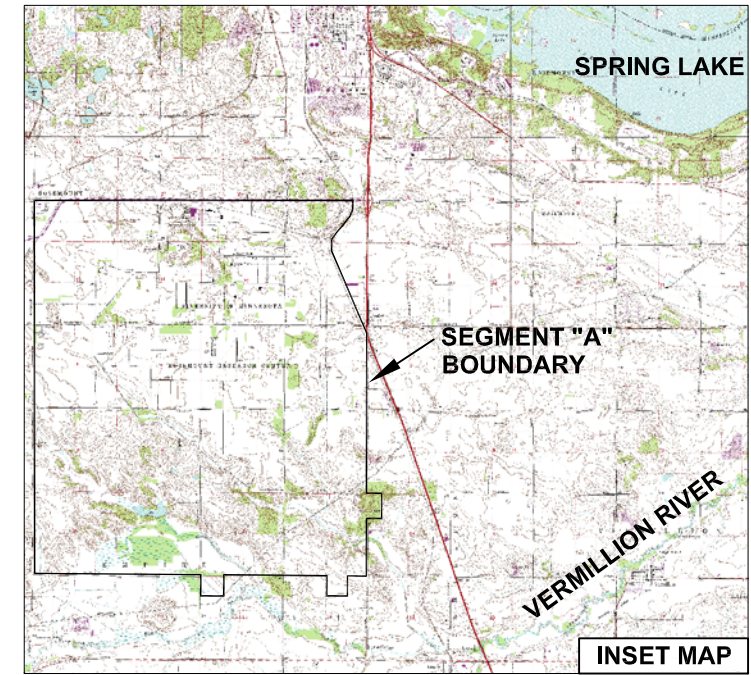
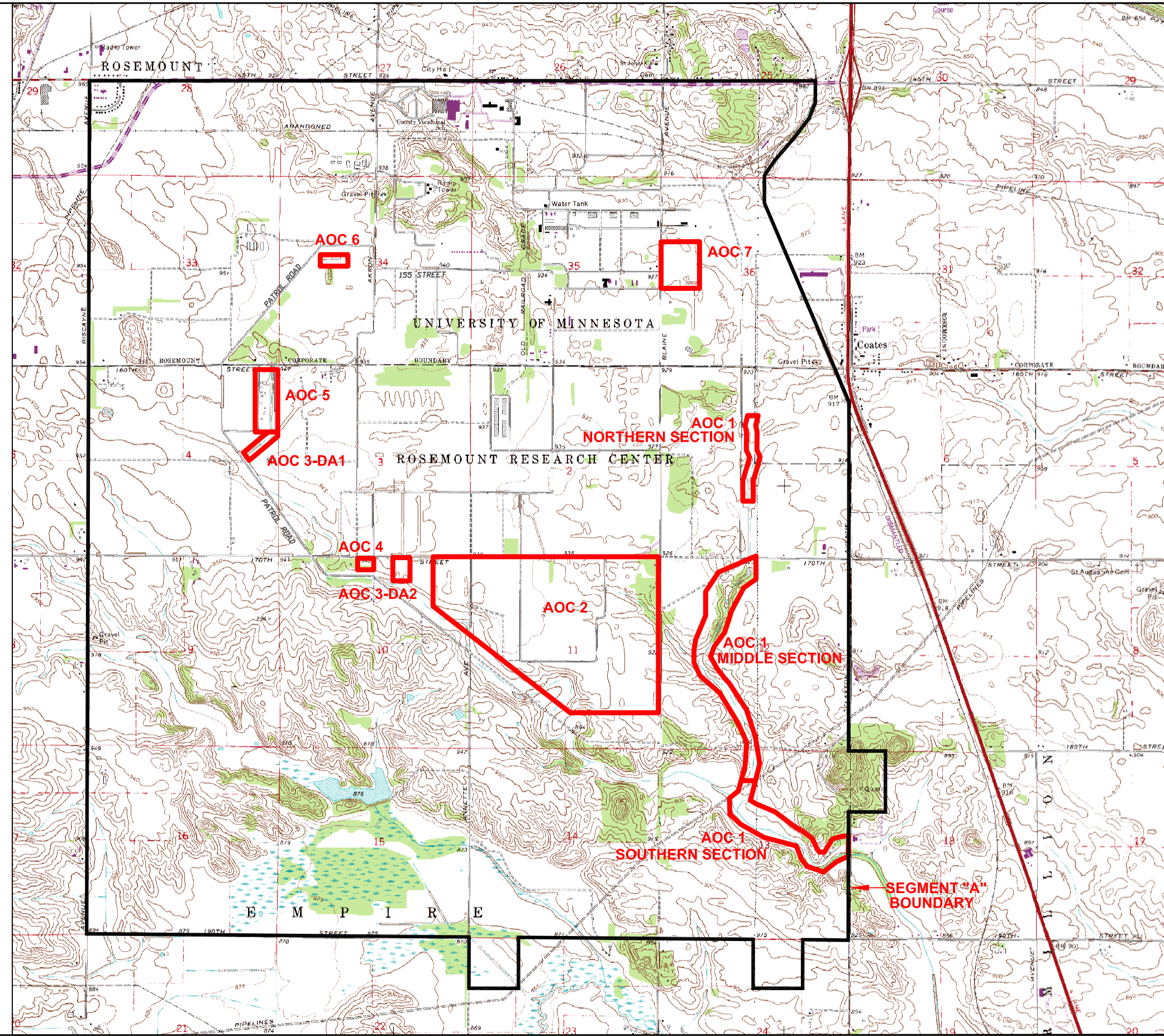


## **Figures**

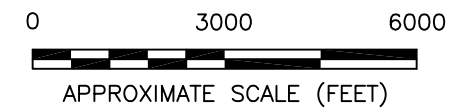
Z:\06\060631-GOPHER ORDNANCE\060631-T1.DWG



NOTE:  
AOC BOUNDARIES ARE APPROXIMATE.



SOURCE:  
USGS 7.5 MINUTE  
TOPOGRAPHIC MAP—  
COATES & VERMILLION, MN  
QUADRANGLES

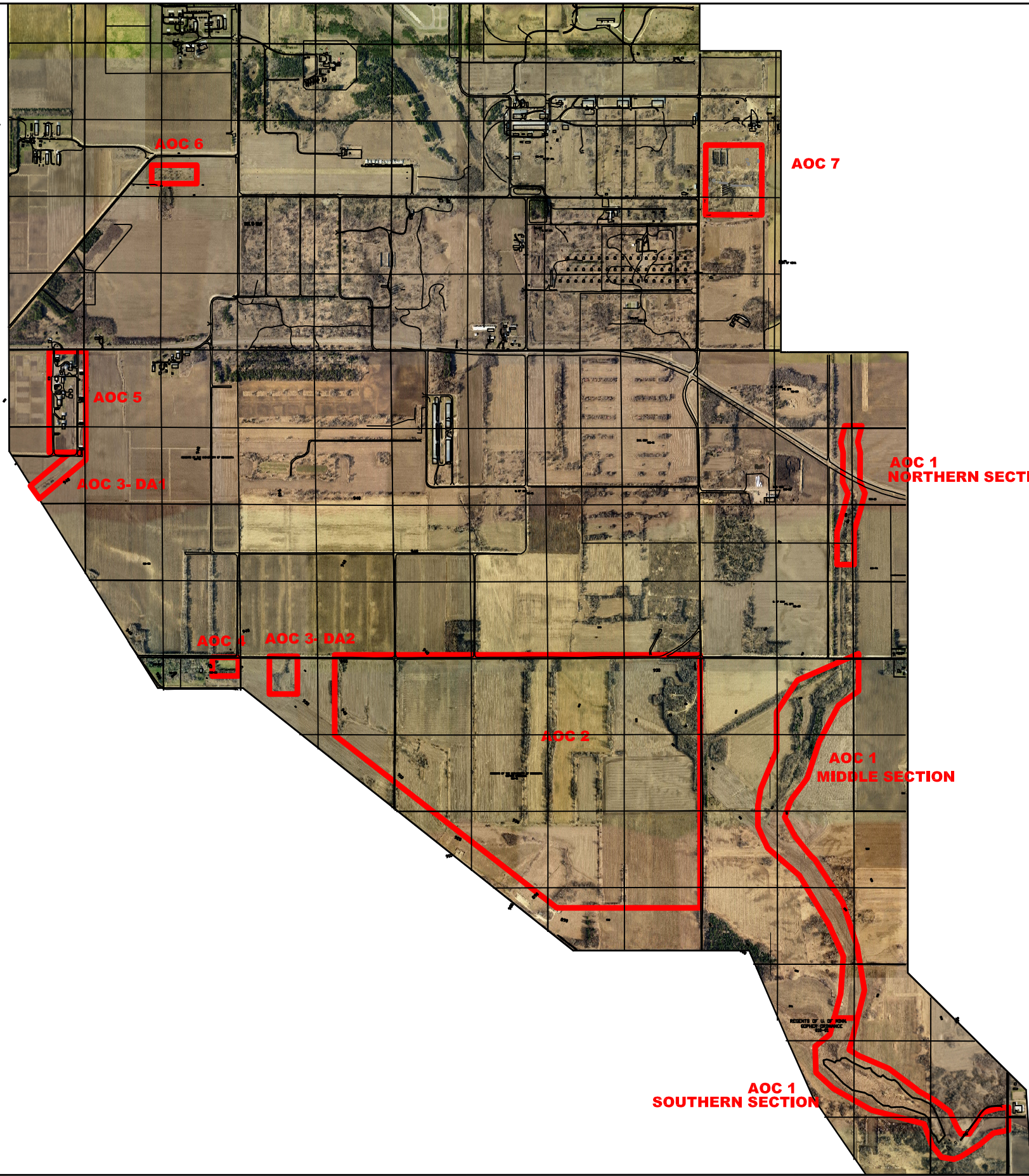


APPROXIMATE SCALE (FEET)



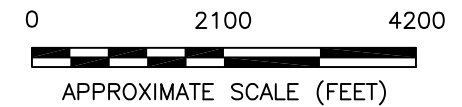
ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/26/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDNANCE			
TITLE SITE LOCATION MAP (SEGMENT "A")			
DWG. NO.	060631-T1	SCALE 1:36,000	FIGURE # 1


Z:\06\060631-GOPHER ORDNANCE\060361-B1.DWG "SITE (2)"



**KEY:**

- AOC 1- WASTE DISPOSAL DITCH, PRIMARY AND SECONDARY SETTLING PONDS
- AOC 2- SHIPPING/STORAGE BUILDINGS
- AOC 3- MISCELLANEOUS DRAINAGE AREAS
- AOC 4- SANITARY BUILDINGS
- AOC 5- DNT STORAGE BUNKERS
- AOC 6- 154TH STREET DISTURBED AREA
- AOC 7- STEAM PLANT AND ASSOCIATED 26.7 ACRES



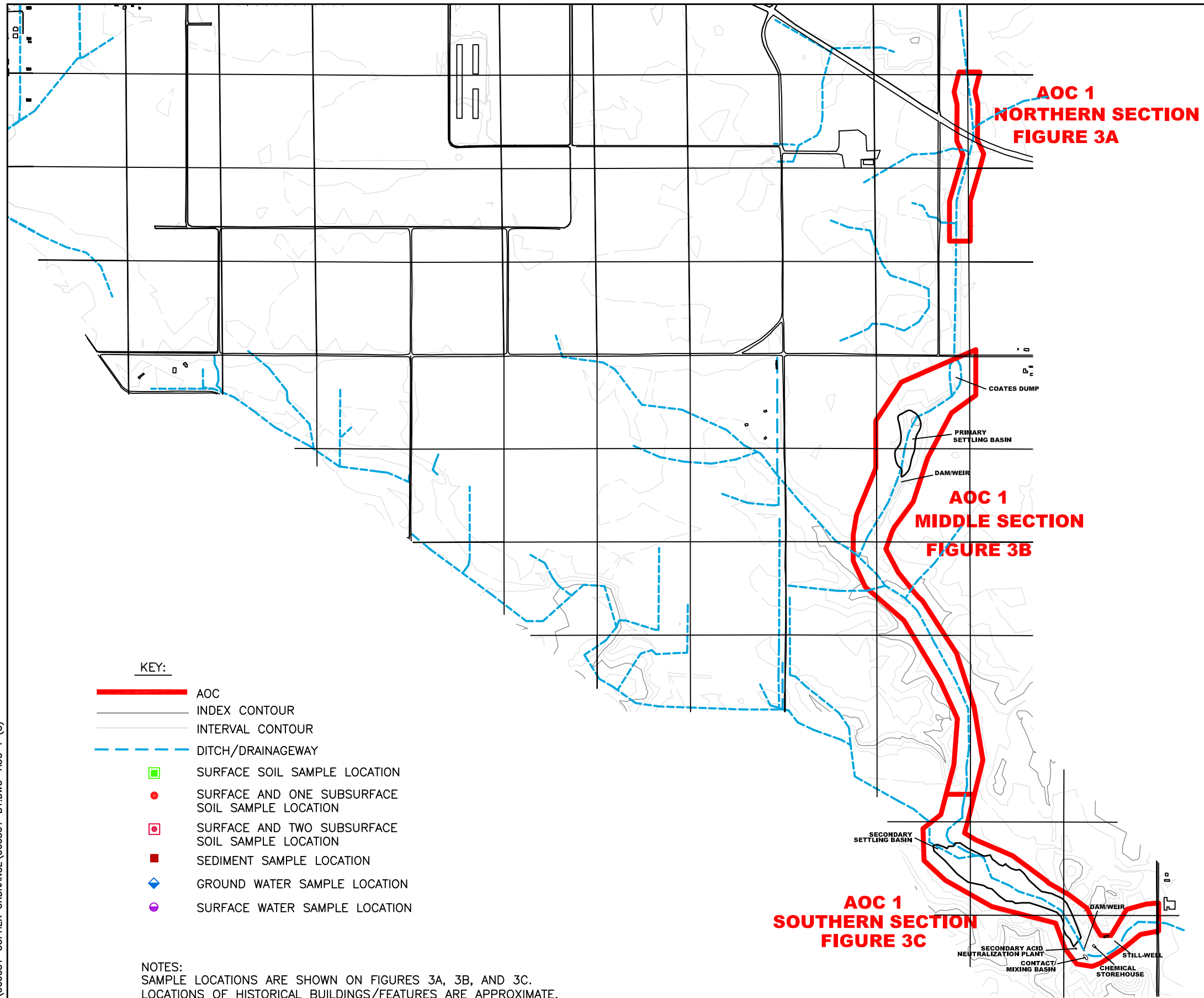
ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	12/19/07		
PROJECT NAME GOPHER ORDNANCE			
TITLE AREAS OF CONCERN			
DWG. NO.	060361-B1	SCALE 1:25,200	FIGURE # 2

**AOC 1 SOUTHERN SECTION**

**AOC 1 MIDDLE SECTION**

**AOC 1 NORTHERN SECTION**

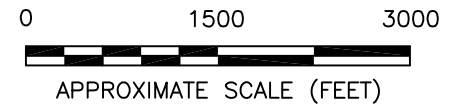
Z:\06\060631-GOPHER ORDNANCE\060361-B1.DWG "AOC 1 (3)"




**KEY:**

- AOC
- INDEX CONTOUR
- INTERVAL CONTOUR
- - - DITCH/DRAINAGEWAY
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- ◻ SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION

NOTES:  
 SAMPLE LOCATIONS ARE SHOWN ON FIGURES 3A, 3B, AND 3C.  
 LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	12/20/07		
PROJECT NAME			GOPHER ORDNANCE
TITLE			AOC 1 – SAMPLING LOCATIONS
DWG. NO.	060361-B1	SCALE	1:18,000
		FIGURE #	3

Z:\06\060631-GOPHER ORDINANCE\060361-B1.DWG "AOC 1 NORTH (3A)"

# AOC 1 NORTHERN SECTION

**KEY:**

- AOC
- INDEX CONTOUR
- - - INTERVAL CONTOUR
- - - DITCH/DRAINAGEWAY
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION

(DUP) DUPLICATE  
(RE2) RE-ANALYZED

NOTE:  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

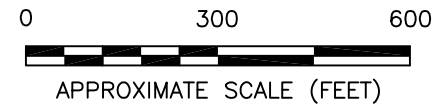
FGOW-AOC1N-	SS-GP1	S-GP1	S-GP1	
Depth	0-6 INCHES	2-4 FEET	8-10 FEET	
Sample Date	9/18/2007	9/18/2007	9/18/2007	
2,4-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
2,6-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
Arsenic	8.3	4	1.1	mg/kg
Lead	27	5.5	1.5	mg/kg
Benzo(a)pyrene	<440	<400	<350	ug/kg
bis(2-Ethylhexyl) phthalate	94	<400	86	ug/kg
Dibenz(a,h)anthracene	<440	<400	<350	ug/kg
Nitrocellulose	2500	<5.6	9.7	mg/kg


FGOW-AOC1N-W-GP1		(DUP)	
Sample Date	9/18/2007	9/18/2007	
2,4-Dinitrotoluene	0.26	0.18	ug/L
2,6-Dinitrotoluene	<0.40	<0.40	ug/L
Arsenic	<25	<25	ug/L
Lead	<15	<15	ug/L
Benzo(a)pyrene	<10	<10	ug/L
bis(2-Ethylhexyl) phthalate	74	11	ug/L
Dibenz(a,h)anthracene	<10	<10	ug/L
Nitrocellulose	<0.50	<0.50	mg/L

FGOW-AOC1N-SS-SS1	0-6 INCHES	0-6 IN (DUP)	
Sample Date	9/27/2007	9/27/2007	
2,4-Dinitrotoluene	0.55	0.4	mg/kg
2,6-Dinitrotoluene	0.12	<0.25	mg/kg
Arsenic	3.7	2.7	mg/kg
Lead	78	67	mg/kg
Benzo(a)pyrene	<550000	<460000	ug/kg
bis(2-Ethylhexyl) phthalate	<550000	<460000	ug/kg
Dibenz(a,h)anthracene	<550000	<460000	ug/kg
Nitrocellulose	18000	16000	mg/kg

Screening Criteria	Drinking Water Criterion	Drinking Water Basis	Units
2,4-Dinitrotoluene			ug/L
2,6-Dinitrotoluene			ug/L
Arsenic	10	MCL	ug/L
Lead	NA	NA	ug/L
Benzo(a)pyrene	BaP	BaP	ug/L
bis(2-Ethylhexyl) phthalate	20	HRL	ug/L
Dibenz(a,h)anthracene	BaP		ug/L
Nitrocellulose			mg/L

Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
2,4-Dinitrotoluene	50	0.001	mg/kg
2,6-Dinitrotoluene	25	0.001	mg/kg
Arsenic	5	15.1	mg/kg
Lead	300	525	mg/kg
Benzo(a)pyrene	2000	10200	ug/kg
bis(2-Ethylhexyl) phthalate	570000	40000	ug/kg
Dibenz(a,h)anthracene	BaP	BaP	ug/kg
Nitrocellulose			mg/kg



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDINANCE			
TITLE AOC 1 - NORTHERN SECTION SAMPLING LOCATIONS			
DWG. NO.	060361-B1	SCALE	1:3,600
		FIGURE # 3A	

DAK. CO.? 012-25

030-18

010-76

BG-GP10

AOC1N-GP1

AOC1N-SS1

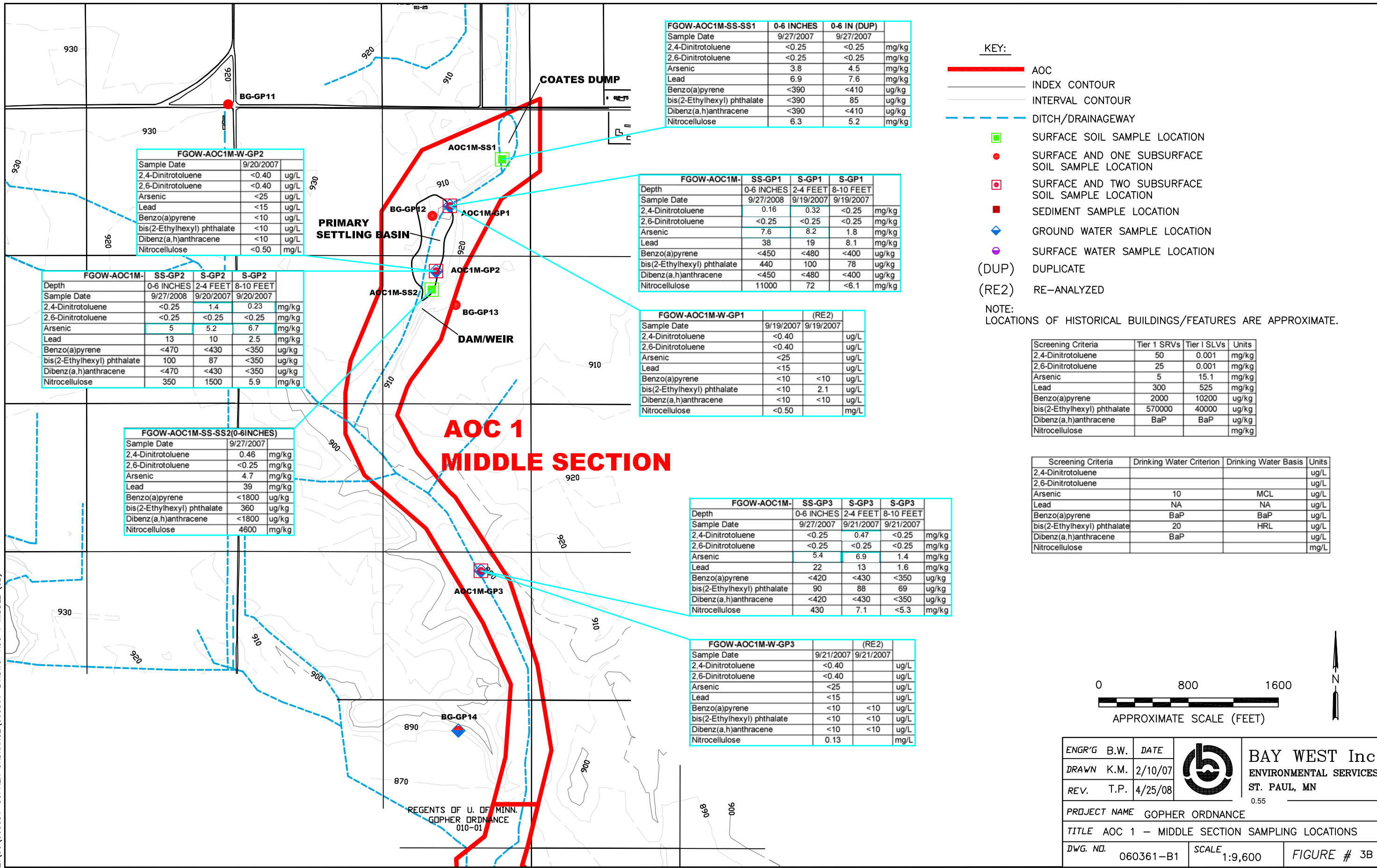
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Z:\06\060631-GOPHER ORDINANCE\060361-B1.DWG "AOC 1 MIDDLE (3B)"



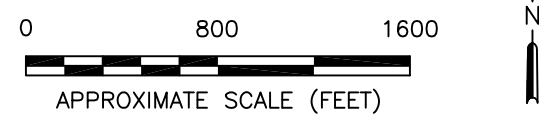
FGOW-AOC1M-SS-SS1	0-6 INCHES	0-6 IN (DUP)	
Sample Date	9/27/2007	9/27/2007	
2,4-Dinitrotoluene	<0.25	<0.25	mg/kg
2,6-Dinitrotoluene	<0.25	<0.25	mg/kg
Arsenic	3.8	4.5	mg/kg
Lead	6.9	7.6	mg/kg
Benzo(a)pyrene	<390	<410	ug/kg
bis(2-Ethylhexyl) phthalate	<390	85	ug/kg
Dibenz(a,h)anthracene	<390	<410	ug/kg
Nitrocellulose	6.3	5.2	mg/kg

- KEY:**
- AOC
  - INDEX CONTOUR
  - INTERVAL CONTOUR
  - - - DITCH/DRAINAGEWAY
  - SURFACE SOIL SAMPLE LOCATION
  - SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
  - SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
  - SEDIMENT SAMPLE LOCATION
  - ◆ GROUND WATER SAMPLE LOCATION
  - SURFACE WATER SAMPLE LOCATION
  - (DUP) DUPLICATE
  - (RE2) RE-ANALYZED

NOTE: LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
2,4-Dinitrotoluene	50	0.001	mg/kg
2,6-Dinitrotoluene	25	0.001	mg/kg
Arsenic	5	15.1	mg/kg
Lead	300	525	mg/kg
Benzo(a)pyrene	2000	10200	ug/kg
bis(2-Ethylhexyl) phthalate	570000	40000	ug/kg
Dibenz(a,h)anthracene	BaP	BaP	ug/kg
Nitrocellulose			mg/kg

Screening Criteria	Drinking Water Criterion	Drinking Water Basis	Units
2,4-Dinitrotoluene			ug/L
2,6-Dinitrotoluene			ug/L
Arsenic	10	MCL	ug/L
Lead	NA	NA	ug/L
Benzo(a)pyrene	BaP	BaP	ug/L
bis(2-Ethylhexyl) phthalate	20	HRL	ug/L
Dibenz(a,h)anthracene	BaP		ug/L
Nitrocellulose			mg/L



FGOW-AOC1M-W-GP2			
Sample Date	9/20/2007		
2,4-Dinitrotoluene	<0.40		ug/L
2,6-Dinitrotoluene	<0.40		ug/L
Arsenic	<25		ug/L
Lead	<15		ug/L
Benzo(a)pyrene	<10		ug/L
bis(2-Ethylhexyl) phthalate	<10		ug/L
Dibenz(a,h)anthracene	<10		ug/L
Nitrocellulose	<0.50		mg/L

FGOW-AOC1M-	SS-GP1	S-GP1	S-GP1	
Depth	0-6 INCHES	2-4 FEET	8-10 FEET	
Sample Date	9/27/2008	9/19/2007	9/19/2007	
2,4-Dinitrotoluene	0.16	0.32	<0.25	mg/kg
2,6-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
Arsenic	7.6	8.2	1.8	mg/kg
Lead	38	19	8.1	mg/kg
Benzo(a)pyrene	<450	<480	<400	ug/kg
bis(2-Ethylhexyl) phthalate	440	100	78	ug/kg
Dibenz(a,h)anthracene	<450	<480	<400	ug/kg
Nitrocellulose	11000	72	<6.1	mg/kg

FGOW-AOC1M-W-GP1		(RE2)	
Sample Date	9/19/2007	9/19/2007	
2,4-Dinitrotoluene	<0.40		ug/L
2,6-Dinitrotoluene	<0.40		ug/L
Arsenic	<25		ug/L
Lead	<15		ug/L
Benzo(a)pyrene	<10	<10	ug/L
bis(2-Ethylhexyl) phthalate	<10	2.1	ug/L
Dibenz(a,h)anthracene	<10	<10	ug/L
Nitrocellulose	<0.50		mg/L

FGOW-AOC1M-	SS-GP2	S-GP2	S-GP2	
Depth	0-6 INCHES	2-4 FEET	8-10 FEET	
Sample Date	9/27/2008	9/20/2007	9/20/2007	
2,4-Dinitrotoluene	<0.25	1.4	0.23	mg/kg
2,6-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
Arsenic	5	5.2	6.7	mg/kg
Lead	13	10	2.5	mg/kg
Benzo(a)pyrene	<470	<430	<350	ug/kg
bis(2-Ethylhexyl) phthalate	100	87	<350	ug/kg
Dibenz(a,h)anthracene	<470	<430	<350	ug/kg
Nitrocellulose	350	1500	5.9	mg/kg

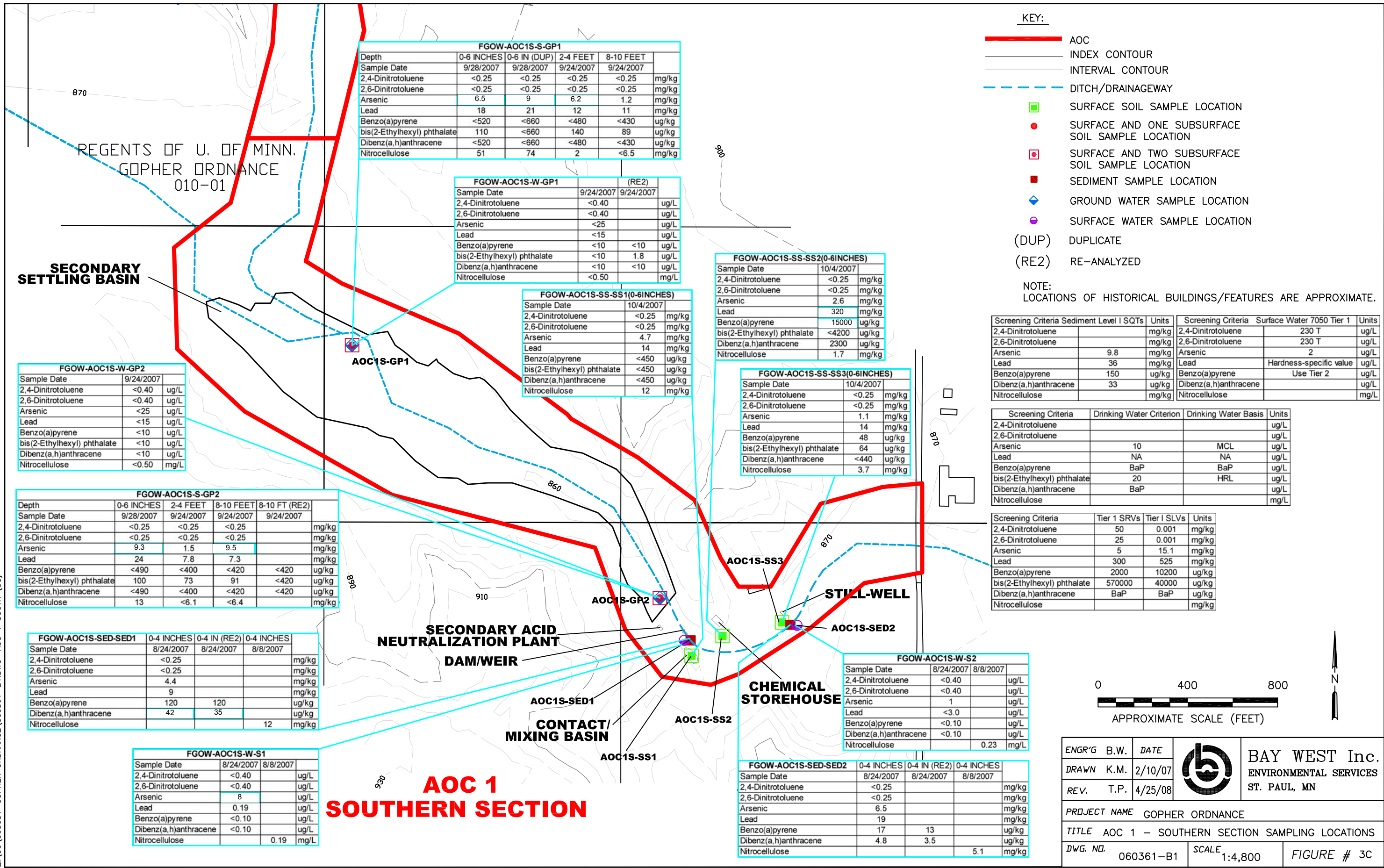
FGOW-AOC1M-SS-SS2(0-6INCHES)		
Sample Date	9/27/2007	
2,4-Dinitrotoluene	0.46	mg/kg
2,6-Dinitrotoluene	<0.25	mg/kg
Arsenic	4.7	mg/kg
Lead	39	mg/kg
Benzo(a)pyrene	<1800	ug/kg
bis(2-Ethylhexyl) phthalate	360	ug/kg
Dibenz(a,h)anthracene	<1800	ug/kg
Nitrocellulose	4600	mg/kg

FGOW-AOC1M-	SS-GP3	S-GP3	S-GP3	
Depth	0-6 INCHES	2-4 FEET	8-10 FEET	
Sample Date	9/27/2007	9/21/2007	9/21/2007	
2,4-Dinitrotoluene	<0.25	0.47	<0.25	mg/kg
2,6-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
Arsenic	5.4	6.9	1.4	mg/kg
Lead	22	13	1.6	mg/kg
Benzo(a)pyrene	<420	<430	<350	ug/kg
bis(2-Ethylhexyl) phthalate	90	88	69	ug/kg
Dibenz(a,h)anthracene	<420	<430	<350	ug/kg
Nitrocellulose	430	7.1	<5.3	mg/kg

FGOW-AOC1M-W-GP3		(RE2)	
Sample Date	9/21/2007	9/21/2007	
2,4-Dinitrotoluene	<0.40		ug/L
2,6-Dinitrotoluene	<0.40		ug/L
Arsenic	<25		ug/L
Lead	<15		ug/L
Benzo(a)pyrene	<10	<10	ug/L
bis(2-Ethylhexyl) phthalate	<10	<10	ug/L
Dibenz(a,h)anthracene	<10	<10	ug/L
Nitrocellulose	0.13		mg/L

ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN 0.55
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDINANCE			
TITLE AOC 1 - MIDDLE SECTION SAMPLING LOCATIONS			
DWG. NO.	060361-B1	SCALE	1:9,600
		FIGURE # 3B	

Z:\06\060631-GOPHER ORDNANCE\060361-B1.DWG "AOC 1 SOUTH (3C)"



- KEY:**
- AOC
  - INDEX CONTOUR
  - INTERVAL CONTOUR
  - - - - - DITCH/DRAINAGEWAY
  - SURFACE SOIL SAMPLE LOCATION
  - SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
  - SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
  - SEDIMENT SAMPLE LOCATION
  - ◆ GROUND WATER SAMPLE LOCATION
  - SURFACE WATER SAMPLE LOCATION
  - (DUP) DUPLICATE
  - (RE2) RE-ANALYZED

NOTE: LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

Screening Criteria	Sediment Level I SQTs	Units	Screening Criteria	Surface Water 7050 Tier 1	Units
2,4-Dinitrotoluene		mg/kg	2,4-Dinitrotoluene	230 T	ug/L
2,6-Dinitrotoluene		mg/kg	2,6-Dinitrotoluene	230 T	ug/L
Arsenic	9.8	mg/kg	Arsenic	2	ug/L
Lead	36	mg/kg	Lead	Hardness-specific value	ug/L
Benzo(a)pyrene	150	ug/kg	Benzo(a)pyrene	Use Tier 2	ug/L
Dibenz(a,h)anthracene	33	ug/kg	Dibenz(a,h)anthracene		ug/L
Nitrocellulose		mg/kg	Nitrocellulose		mg/L

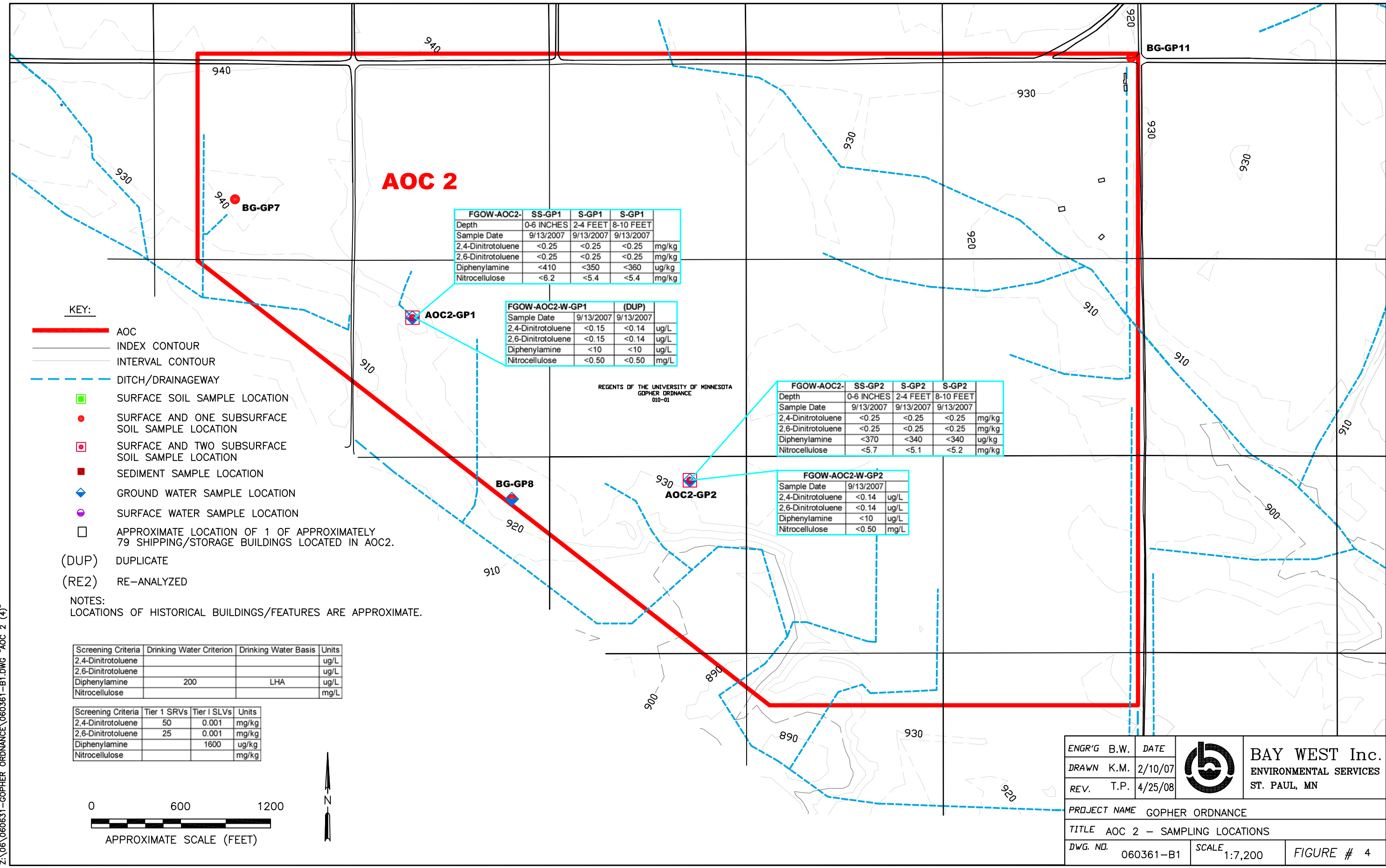
Screening Criteria	Drinking Water Criterion	Drinking Water Basis	Units
2,4-Dinitrotoluene			ug/L
2,6-Dinitrotoluene			ug/L
Arsenic	10	MCL	ug/L
Lead	NA	NA	ug/L
Benzo(a)pyrene	BaP	BaP	ug/L
bis(2-Ethylhexyl) phthalate	20	HRL	ug/L
Dibenz(a,h)anthracene	BaP	BaP	ug/L
Nitrocellulose			mg/L

Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
2,4-Dinitrotoluene	50	0.001	mg/kg
2,6-Dinitrotoluene	25	0.001	mg/kg
Arsenic	5	15.1	mg/kg
Lead	300	525	mg/kg
Benzo(a)pyrene	2000	10200	ug/kg
bis(2-Ethylhexyl) phthalate	570000	40000	ug/kg
Dibenz(a,h)anthracene	BaP	BaP	ug/kg
Nitrocellulose			mg/kg



ENGR'G	B.W.	DATE	<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN	
DRAWN	K.M.	2/10/07		
REV.	T.P.	4/25/08		
PROJECT NAME				GOPHER ORDNANCE
TITLE				AOC 1 – SOUTHERN SECTION SAMPLING LOCATIONS
DWG. NO.	060361-B1	SCALE	1:4,800	FIGURE # 3C

Z:\06\060361-GOPHER ORDINANCE\060361-B1.DWG "AOC 2 (4)"



**KEY:**

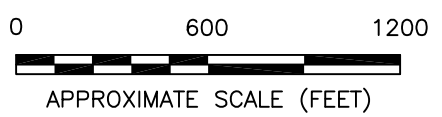
- AOC
- INDEX CONTOUR
- - - INTERVAL CONTOUR
- - - DITCH/DRAINAGEWAY
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- APPROXIMATE LOCATION OF 1 OF APPROXIMATELY 79 SHIPPING/STORAGE BUILDINGS LOCATED IN AOC2.

(DUP) DUPLICATE  
(RE2) RE-ANALYZED

NOTES:  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

Screening Criteria	Drinking Water Criterion	Drinking Water Basis	Units
2,4-Dinitrotoluene			ug/L
2,6-Dinitrotoluene			ug/L
Diphenylamine	200	LHA	ug/L
Nitrocellulose			mg/L

Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
2,4-Dinitrotoluene	50	0.001	mg/kg
2,6-Dinitrotoluene	25	0.001	mg/kg
Diphenylamine		1600	ug/kg
Nitrocellulose			mg/kg



FGOW-AOC2-	SS-GP1	S-GP1	S-GP1	
Depth	0-6 INCHES	2-4 FEET	8-10 FEET	
Sample Date	9/13/2007	9/13/2007	9/13/2007	
2,4-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
2,6-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
Diphenylamine	<410	<350	<360	ug/kg
Nitrocellulose	<6.2	<5.4	<5.4	mg/kg

FGOW-AOC2-W-GP1	(DUP)	
Sample Date	9/13/2007	9/13/2007
2,4-Dinitrotoluene	<0.15	<0.14
2,6-Dinitrotoluene	<0.15	<0.14
Diphenylamine	<10	<10
Nitrocellulose	<0.50	<0.50

FGOW-AOC2-	SS-GP2	S-GP2	S-GP2	
Depth	0-6 INCHES	2-4 FEET	8-10 FEET	
Sample Date	9/13/2007	9/13/2007	9/13/2007	
2,4-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
2,6-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
Diphenylamine	<370	<340	<340	ug/kg
Nitrocellulose	<5.7	<5.1	<5.2	mg/kg

FGOW-AOC2-W-GP2	
Sample Date	9/13/2007
2,4-Dinitrotoluene	<0.14 ug/L
2,6-Dinitrotoluene	<0.14 ug/L
Diphenylamine	<10 ug/L
Nitrocellulose	<0.50 mg/L

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GOPHER ORDINANCE  
010-01

ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME		GOPHER ORDINANCE	
TITLE		AOC 2 - SAMPLING LOCATIONS	
DWG. NO.	060361-B1	SCALE	1:7,200
		FIGURE # 4	



Z:\06\060361-GOPHER ORDINANCE\060361-B1.DWG "AOC 3 DA1 (5A)"

950

# AOC 3-DA1

FGOW-AOC3-DA1-	SS-GP1	S-GP1	S-GP1	
Depth	0-6 INCHES	2-4 FEET	8-10 FEET	
Sample Date	9/10/2007	9/10/2007	9/10/2007	
2,4-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
2,6-Dinitrotoluene	<0.25	<0.25	<0.25	mg/kg
Diphenylamine	<440	<430	<350	ug/kg
Nitrocellulose	8.2	1.2	<5.3	mg/kg

FGOW-AOC3-DA1-W-GP1	
Sample Date	9/10/2007
2,4-Dinitrotoluene	<0.60 ug/L
2,6-Dinitrotoluene	<0.60 ug/L
Diphenylamine	<10 ug/L
Nitrocellulose	<0.50 mg/L

Screening Criteria	Tier 1 SRVs	Tier I SLVs	Units
2,4-Dinitrotoluene	50	0.001	mg/kg
2,6-Dinitrotoluene	25	0.001	mg/kg
Diphenylamine		1600	ug/kg
Nitrocellulose			mg/kg

Screening Criteria	Drinking Water Criterion	Drinking Water Basis	Units
2,4-Dinitrotoluene			ug/L
2,6-Dinitrotoluene			ug/L
Diphenylamine	200	LHA	ug/L
Nitrocellulose			mg/L

AOC3-DA1-GP1

AOC3-DA1-SS1

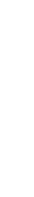
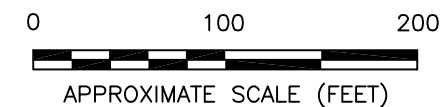
FGOW-AOC3-DA1-SS-SS1(0-6INCHES)		
Sample Date	9/10/2007	
2,4-Dinitrotoluene	<0.25	mg/kg
2,6-Dinitrotoluene	<0.25	mg/kg
Diphenylamine	<360	ug/kg
Nitrocellulose	1	mg/kg


940

**KEY:**

- AOC
- INDEX CONTOUR
- INTERVAL CONTOUR
- - - DITCH/DRAINAGEWAY
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- ◻ SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- (DUP) DUPLICATE
- (RE2) RE-ANALYZED

NOTE: LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDINANCE			
TITLE AOC 3-DA1 - SAMPLING LOCATIONS			
DWG. NO.	060361-B1	SCALE 1:1,200	FIGURE # 5A

Z:\06\060631-GOPHER ORDNANCE\060361-B1.DWG "AOC 3 DA2 (5B)"

● BG-GP6

AOC3-DA2-SS1

# AOC 3-DA2

FGOW-AOC3-DA2-SS-SS1(0-6INCHES)			
Sample Date	9/12/2007		
2,4-Dinitrotoluene	<0.25	mg/kg	
2,6-Dinitrotoluene	<0.25	mg/kg	
Diphenylamine	<410	ug/kg	
Nitrocellulose	1.2	mg/kg	

FGOW-AOC3-DA2-SS-GP1(0-6INCHES)			
Sample Date	9/12/2007		
2,4-Dinitrotoluene	<0.25	mg/kg	
2,6-Dinitrotoluene	<0.25	mg/kg	
Diphenylamine	<390	ug/kg	
Nitrocellulose	2.1	mg/kg	

FGOW-AOC3-DA2-W-GP1			
Sample Date	9/12/2007		
2,4-Dinitrotoluene	<0.14	ug/L	
2,6-Dinitrotoluene	<0.14	ug/L	
Diphenylamine	<10	ug/L	
Nitrocellulose	<0.50	mg/L	

AOC3-DA2-GP1

AOC3-DA2-SS2

FGOW-AOC3-DA2-SS-SS2(0-6INCHES)			
Sample Date	9/12/2007		
2,4-Dinitrotoluene	<0.25	mg/kg	
2,6-Dinitrotoluene	<0.25	mg/kg	
Diphenylamine	<400	ug/kg	
Nitrocellulose	4.1	mg/kg	

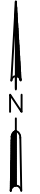
**KEY:**

- ▬ AOC
- ▬ INDEX CONTOUR
- ▬ INTERVAL CONTOUR
- - - DITCH/DRAINAGEWAY
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- (DUP) DUPLICATE
- (RE2) RE-ANALYZED

NOTE:  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

Screening Criteria	Drinking Water Criterion	Drinking Water Basis	Units
2,4-Dinitrotoluene			ug/L
2,6-Dinitrotoluene			ug/L
Diphenylamine	200	LHA	ug/L
Nitrocellulose			mg/L

Screening Criteria	Tier 1 SRVs	Tier I SLVs	Units
2,4-Dinitrotoluene	50	0.001	mg/kg
2,6-Dinitrotoluene	25	0.001	mg/kg
Diphenylamine		1600	ug/kg
Nitrocellulose			mg/kg



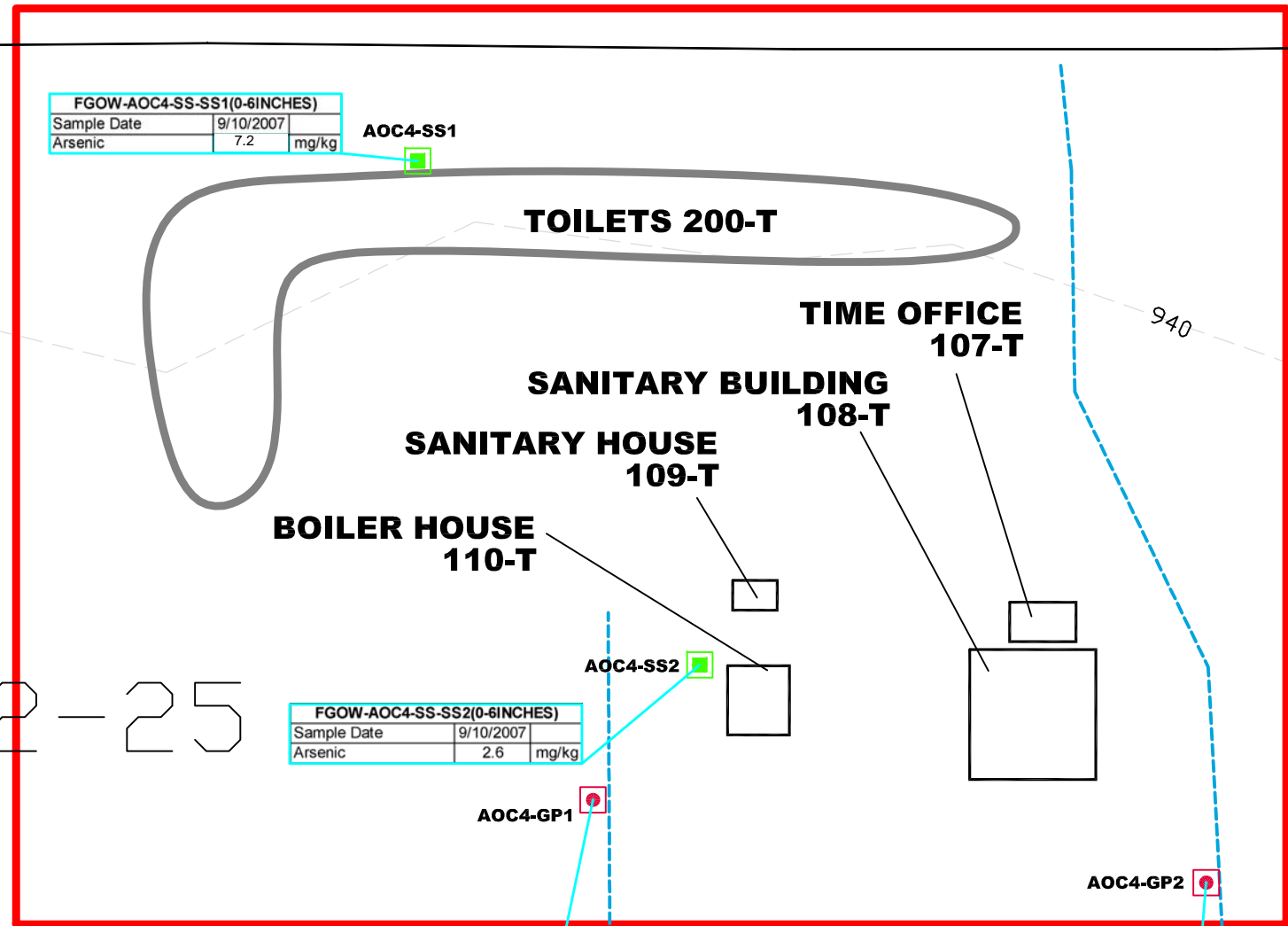
ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDNANCE			
TITLE AOC 3-DA2 - SAMPLING LOCATIONS			
DWG. NO. 060361-B1	SCALE 1:1,200	FIGURE # 5B	

# AOC 4

- KEY:**
- AOC
  - INDEX CONTOUR
  - INTERVAL CONTOUR
  - DITCH/DRAINAGEWAY
  - SURFACE SOIL SAMPLE LOCATION
  - SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
  - SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
  - SEDIMENT SAMPLE LOCATION
  - ◆ GROUND WATER SAMPLE LOCATION
  - SURFACE WATER SAMPLE LOCATION
- (DUP) DUPLICATE  
(RE2) RE-ANALYZED

**NOTE:**  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

Screening Criteria	Tier 1 SRVs	Tier I SLVs	Units
Arsenic	5	15.1	mg/kg

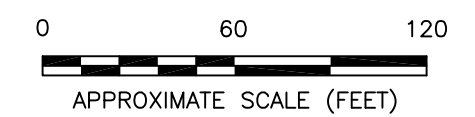


FGOW-AOC4-SS-SS1(0-6INCHES)			
Sample Date	9/10/2007		
Arsenic	7.2	mg/kg	

FGOW-AOC4-SS-SS2(0-6INCHES)			
Sample Date	9/10/2007		
Arsenic	2.6	mg/kg	

FGOW-AOC4-	SS-GP1	S-GP1	S-GP1	
Depth	0-6 INCHES	2-4 FEET	8-10 FEET	
Sample Date	9/10/2007	9/10/2007	9/10/2007	
Arsenic	6.1	1	1.2	mg/kg

FGOW-AOC4-	SS-GP2	SS-GP2	S-GP2	S-GP2	
Depth	0-6 INCHES	0-6 IN (DUP)	2-4 FEET	8-10 FEET	
Sample Date	9/11/2007	9/11/2007	9/11/2007	9/11/2007	
Arsenic	2.4	7.3	3.5	3.2	mg/kg



ENGR'G	B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN	K.M.	2/10/07		
REV.	T.P.	4/25/08		
PROJECT NAME GOPHER ORDNANCE				
TITLE AOC 4 - SAMPLING LOCATIONS				
DWG. NO.	060361-B1	SCALE	1:720	FIGURE # 6

Z:\06\060631-GOPHER ORDNANCE\060361-B1.DWG "AOC 4 (6)"

Z:\06\060631-GOPHER ORDINANCE\060361-B1.DWG "AOC 5 (7)"

FGOW-AOC5-	SS-GP8	SS-GP8	S-GP8
Depth	0-6 INCHES	0-6 IN (RE2)	2-4 FEET
Sample Date	9/6/2007	9/6/2007	9/5/2007
Dieldrin	61		<1.8 ug/kg
2,4-Dinitrotoluene	<0.25		<0.25 mg/kg
Arsenic	6.2		1.3 mg/kg
Lead	43		2.7 mg/kg
Benzo(a)pyrene	3000	2800	<340 ug/kg
Nitrocellulose	3.2		0.82 mg/kg

FGOW-AOC5-	SS-GP1	S-GP1
Depth	0-6 INCHES	2-4 FEET
Sample Date	9/6/2007	9/4/2007
Dieldrin	17000	9.3 ug/kg
2,4-Dinitrotoluene	<0.25	<0.25 mg/kg
Arsenic	3.1	1.4 mg/kg
Lead	240	3.5 mg/kg
Benzo(a)pyrene	220	<340 ug/kg
Nitrocellulose	2.5	0.81 mg/kg

FGOW-AOC5-	SS-GP7	SS-GP7	S-GP7
Depth	0-6 INCHES	0-6 IN (RE2)	2-4 FEET
Sample Date	9/6/2007	9/6/2007	9/5/2007
Dieldrin	690	760	25 ug/kg
2,4-Dinitrotoluene	<0.25		<0.25 mg/kg
Arsenic	7.5		3.8 mg/kg
Lead	51		5.4 mg/kg
Benzo(a)pyrene	240		<380 ug/kg
Nitrocellulose	3.9		1.1 mg/kg

FGOW-AOC5-W-GP7			
Sample Date	9/6/2007	9/14/2007	9/14/2007
2,4-Dinitrotoluene		<0.40	ug/L
Arsenic		<25	ug/L
Lead		<15	ug/L
Benzo(a)pyrene	<10		ug/L
Nitrocellulose	<0.50		mg/L

FGOW-AOC5-	SS-GP9	S-GP9
Depth	0-6 INCHES	2-4 FEET
Sample Date	9/6/2007	9/5/2007
Dieldrin	27	<1.8 ug/kg
2,4-Dinitrotoluene	0.35	<0.25 mg/kg
Arsenic	3.9	0.96 mg/kg
Lead	330	1.9 mg/kg
Benzo(a)pyrene	830	<340 ug/kg
Nitrocellulose	5	<5.1 mg/kg

FGOW-AOC5-	SS-GP10	SS-GP10	S-GP10
Depth	0-6 INCHES	0-6 IN (RE2)	2-4 FEET
Sample Date	9/6/2007	9/6/2007	9/5/2007
Dieldrin	<20		<1.8 ug/kg
2,4-Dinitrotoluene	<0.25		<0.25 mg/kg
Arsenic	6.1		1.2 mg/kg
Lead	15		2.2 mg/kg
Benzo(a)pyrene	4500	4100	140 ug/kg
Nitrocellulose	2.2		<5.1 mg/kg

FGOW-AOC5-	SS-GP3	S-GP3
Depth	0-6 INCHES	2-4 FEET
Sample Date	9/6/2007	9/4/2007
Dieldrin	85	2.4 ug/kg
2,4-Dinitrotoluene	<0.25	<0.25 mg/kg
Arsenic	7.5	1.1 mg/kg
Lead	36	1.6 mg/kg
Benzo(a)pyrene	42	<350 ug/kg
Nitrocellulose	1.6	0.93 mg/kg

FGOW-AOC5-	SS-GP11	S-GP11
Depth	0-6 INCHES	2-4 FEET
Sample Date	9/6/2007	9/4/2007
Dieldrin	<20	<2.0 ug/kg
2,4-Dinitrotoluene	<0.25	<0.25 mg/kg
Arsenic	4.8	5 mg/kg
Lead	9	6.8 mg/kg
Benzo(a)pyrene	2300	<380 ug/kg
Nitrocellulose	2.6	<5.8 mg/kg

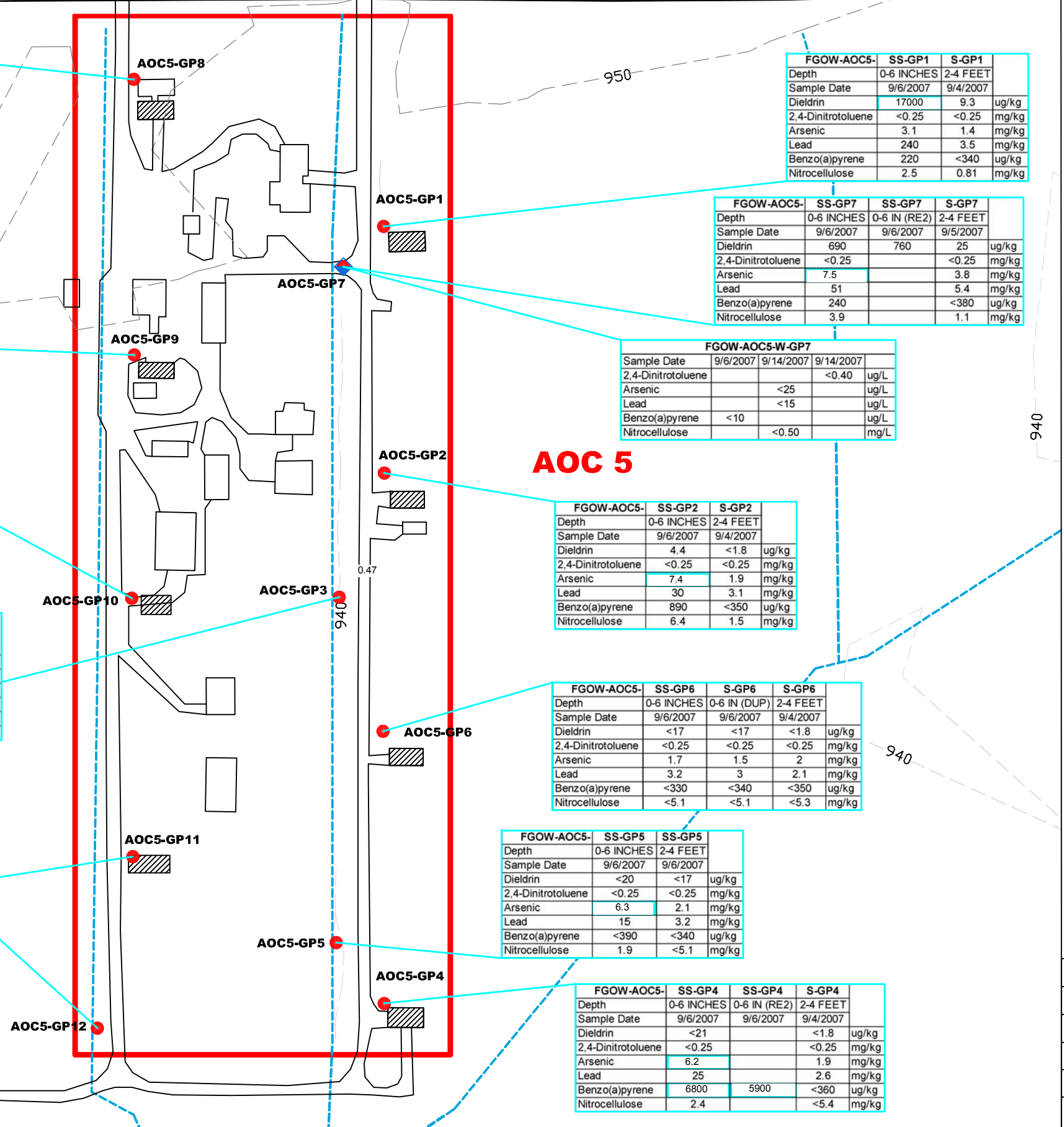
FGOW-AOC5-	SS-GP12	SS-GP12	S-GP12
Depth	0-6 INCHES	0-6 IN (DUP)	2-4 FEET
Sample Date	9/6/2007	9/6/2007	9/4/2007
Dieldrin	<21	<21	<1.8 ug/kg
2,4-Dinitrotoluene	<0.25	<0.25	<0.25 mg/kg
Arsenic	7.8	7.9	5.2 mg/kg
Lead	18	18	7.4 mg/kg
Benzo(a)pyrene	<410	<410	<350 ug/kg
Nitrocellulose	2.2	2.3	<5.3 mg/kg

FGOW-AOC5-	SS-GP2	S-GP2
Depth	0-6 INCHES	2-4 FEET
Sample Date	9/6/2007	9/4/2007
Dieldrin	4.4	<1.8 ug/kg
2,4-Dinitrotoluene	<0.25	<0.25 mg/kg
Arsenic	7.4	1.9 mg/kg
Lead	30	3.1 mg/kg
Benzo(a)pyrene	890	<350 ug/kg
Nitrocellulose	6.4	1.5 mg/kg

FGOW-AOC5-	SS-GP6	S-GP6	S-GP6
Depth	0-6 INCHES	0-6 IN (DUP)	2-4 FEET
Sample Date	9/6/2007	9/6/2007	9/4/2007
Dieldrin	<17	<17	<1.8 ug/kg
2,4-Dinitrotoluene	<0.25	<0.25	<0.25 mg/kg
Arsenic	1.7	1.5	2 mg/kg
Lead	3.2	3	2.1 mg/kg
Benzo(a)pyrene	<330	<340	<350 ug/kg
Nitrocellulose	<5.1	<5.1	<5.3 mg/kg

FGOW-AOC5-	SS-GP5	SS-GP5
Depth	0-6 INCHES	2-4 FEET
Sample Date	9/6/2007	9/6/2007
Dieldrin	<20	<17 ug/kg
2,4-Dinitrotoluene	<0.25	<0.25 mg/kg
Arsenic	6.3	2.1 mg/kg
Lead	15	3.2 mg/kg
Benzo(a)pyrene	<390	<340 ug/kg
Nitrocellulose	1.9	<5.1 mg/kg

FGOW-AOC5-	SS-GP4	SS-GP4	S-GP4
Depth	0-6 INCHES	0-6 IN (RE2)	2-4 FEET
Sample Date	9/6/2007	9/6/2007	9/4/2007
Dieldrin	<21		<1.8 ug/kg
2,4-Dinitrotoluene	<0.25		<0.25 mg/kg
Arsenic	6.2		1.9 mg/kg
Lead	25		2.6 mg/kg
Benzo(a)pyrene	6800	5900	<360 ug/kg
Nitrocellulose	2.4		<5.4 mg/kg



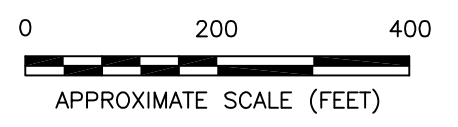
**KEY:**

- AOC
- INDEX CONTOUR
- INTERVAL CONTOUR
- - - DITCH/DRAINAGEWAY
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- ▨ DNR STORAGE BUNKERS
- (DUP) DUPLICATE
- (RE2) RE-ANALYZED

NOTE:  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

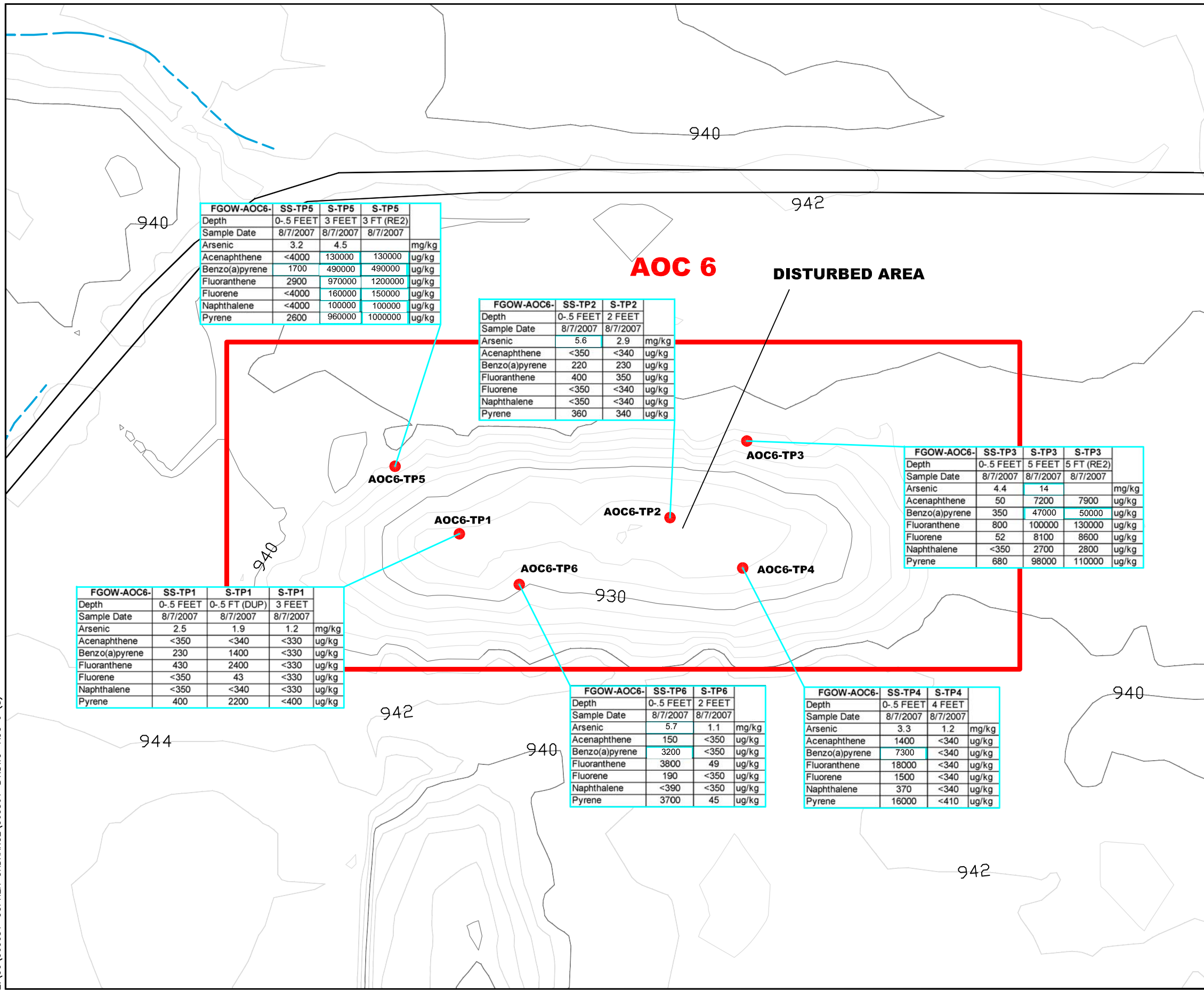
Screening Criteria	Tier 1 SRVs	Tier I SLVs	Units
Dieldrin	800		ug/kg
2,4-Dinitrotoluene	50	0.001	mg/kg
Arsenic	5	15.1	mg/kg
Lead	300	525	mg/kg
Benzo(a)pyrene	2000	10200	ug/kg
Nitrocellulose			mg/kg

Screening Criteria	Drinking Water Criterion	Drinking Water Basis	Units
2,4-Dinitrotoluene			ug/L
Arsenic	10	MCL	ug/L
Lead	NA	NA	ug/L
Benzo(a)pyrene	0.05	HBV	ug/L
Nitrocellulose			mg/L



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDINANCE			
TITLE AOC 5 - SAMPLING LOCATIONS			
DWG. NO.	060361-B1	SCALE	1:2,400
			FIGURE # 7

Z:\06\060361-GOPHER ORDNANCE\060361-B1.DWG "AOC 6 (8)"



FGOW-AOC6-	SS-TP5	S-TP5	S-TP5	
Depth	0-5 FEET	3 FEET	3 FT (RE2)	
Sample Date	8/7/2007	8/7/2007	8/7/2007	
Arsenic	3.2	4.5		mg/kg
Acenaphthene	<4000	130000	130000	ug/kg
Benzo(a)pyrene	1700	490000	490000	ug/kg
Fluoranthene	2900	970000	1200000	ug/kg
Fluorene	<4000	160000	150000	ug/kg
Naphthalene	<4000	100000	100000	ug/kg
Pyrene	2600	960000	1000000	ug/kg

FGOW-AOC6-	SS-TP2	S-TP2	
Depth	0-5 FEET	2 FEET	
Sample Date	8/7/2007	8/7/2007	
Arsenic	5.6	2.9	mg/kg
Acenaphthene	<350	<340	ug/kg
Benzo(a)pyrene	220	230	ug/kg
Fluoranthene	400	350	ug/kg
Fluorene	<350	<340	ug/kg
Naphthalene	<350	<340	ug/kg
Pyrene	360	340	ug/kg

FGOW-AOC6-	SS-TP3	S-TP3	S-TP3	
Depth	0-5 FEET	5 FEET	5 FT (RE2)	
Sample Date	8/7/2007	8/7/2007	8/7/2007	
Arsenic	4.4	14		mg/kg
Acenaphthene	50	7200	7900	ug/kg
Benzo(a)pyrene	350	47000	50000	ug/kg
Fluoranthene	800	100000	130000	ug/kg
Fluorene	52	8100	8600	ug/kg
Naphthalene	<350	2700	2800	ug/kg
Pyrene	680	98000	110000	ug/kg

FGOW-AOC6-	SS-TP1	S-TP1	S-TP1	
Depth	0-5 FEET	0-5 FT (DUP)	3 FEET	
Sample Date	8/7/2007	8/7/2007	8/7/2007	
Arsenic	2.5	1.9	1.2	mg/kg
Acenaphthene	<350	<340	<330	ug/kg
Benzo(a)pyrene	230	1400	<330	ug/kg
Fluoranthene	430	2400	<330	ug/kg
Fluorene	<350	43	<330	ug/kg
Naphthalene	<350	<340	<330	ug/kg
Pyrene	400	2200	<400	ug/kg

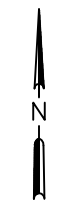
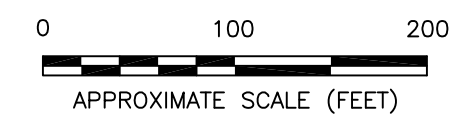
FGOW-AOC6-	SS-TP6	S-TP6	
Depth	0-5 FEET	2 FEET	
Sample Date	8/7/2007	8/7/2007	
Arsenic	5.7	1.1	mg/kg
Acenaphthene	150	<350	ug/kg
Benzo(a)pyrene	3200	<350	ug/kg
Fluoranthene	3800	49	ug/kg
Fluorene	190	<350	ug/kg
Naphthalene	<390	<350	ug/kg
Pyrene	3700	45	ug/kg


FGOW-AOC6-	SS-TP4	S-TP4	
Depth	0-5 FEET	4 FEET	
Sample Date	8/7/2007	8/7/2007	
Arsenic	3.3	1.2	mg/kg
Acenaphthene	1400	<340	ug/kg
Benzo(a)pyrene	7300	<340	ug/kg
Fluoranthene	18000	<340	ug/kg
Fluorene	1500	<340	ug/kg
Naphthalene	370	<340	ug/kg
Pyrene	16000	<410	ug/kg

- KEY:**
- AOC
  - INDEX CONTOUR
  - INTERVAL CONTOUR
  - - - DITCH/DRAINAGEWAY
  - SURFACE SOIL SAMPLE LOCATION
  - SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
  - SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
  - SEDIMENT SAMPLE LOCATION
  - ◆ GROUND WATER SAMPLE LOCATION
  - SURFACE WATER SAMPLE LOCATION
- (DUP) DUPLICATE  
(RE2) RE-ANALYZED

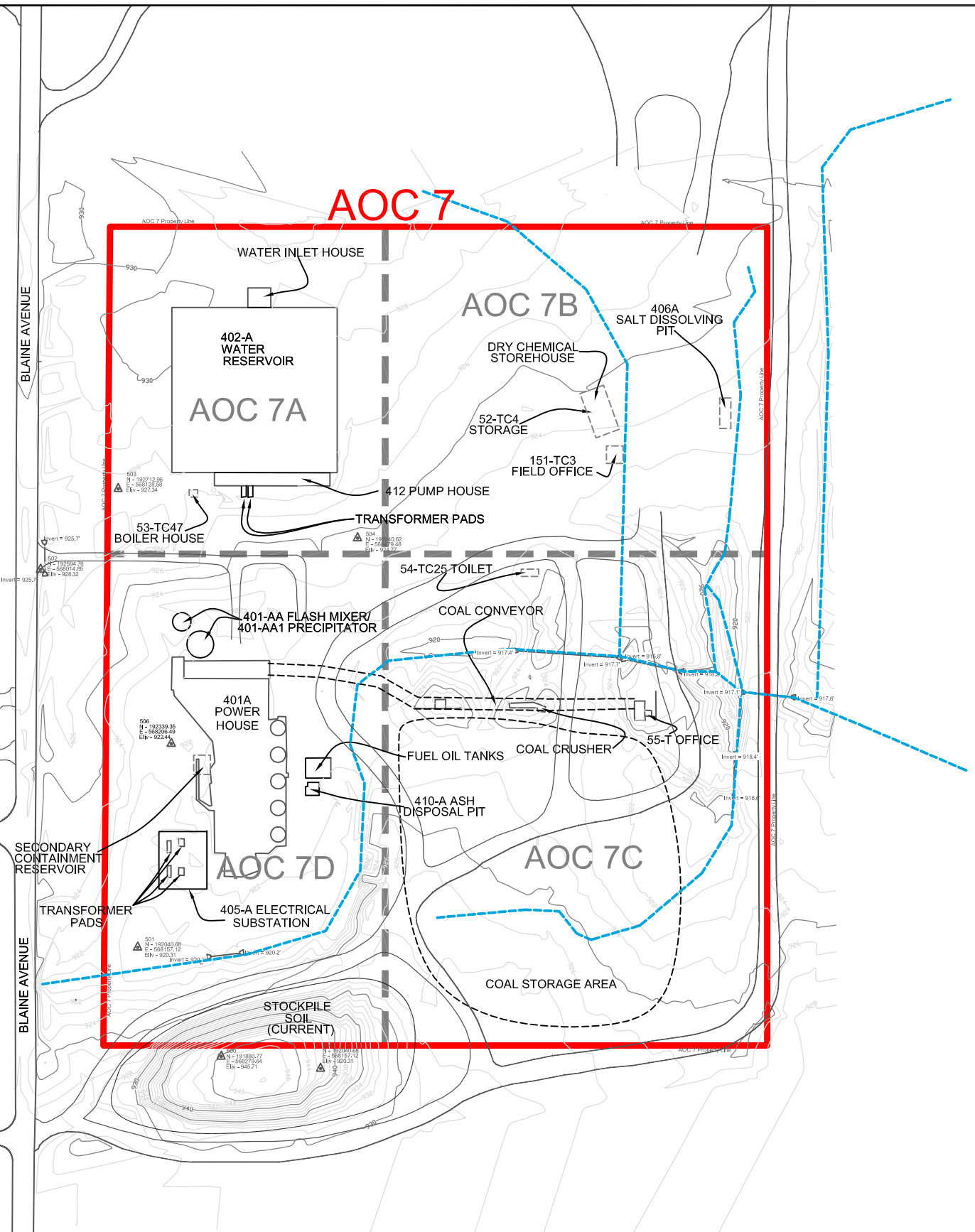
NOTE:  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES.  
ARE APPROXIMATE.

Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
Arsenic	5	15.1	mg/kg
Acenaphthene	1200000	50000	ug/kg
Benzo(a)pyrene	2000	10200	ug/kg
Fluoranthene	1080000	295000	ug/kg
Fluorene	850000	47000	ug/kg
Naphthalene	10000	7500	ug/kg
Pyrene	890000	272000	ug/kg



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDNANCE			
TITLE AOC 6 - SAMPLING LOCATIONS			
DWG. NO. 060361-B1	SCALE 1:1,200	FIGURE # 8	

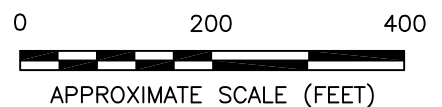
Z:\06\060631-GOPHER ORDINANCE\060631-B2.dwg "AOC 7 (9)"




**KEY:**

- AOC
- INDEX CONTOUR
- INTERVAL CONTOUR
- - - - - FORMER DITCH/DRAINAGEWAY
- - - - - FORMER FEATURES
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION

NOTES:  
SAMPLE LOCATIONS ARE SHOWN ON FIGURES 9A, 9B, 9C, AND 9D.  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDINANCE			
TITLE AOC 7 - SAMPLING LOCATIONS			
DWG. NO. 060361-B2	SCALE 1:2,400	FIGURE # 9	

Z:\06\060361-GOPHER ORDINANCE\060361-B1.DWG "AOC 7A (9A)"

FGOW-AOC7A-	SS-SS2	
Depth	0-6 INCHES	
Sample Date	8/15/2007	
Total PCBs	3200	ug/kg
Arsenic	3	mg/kg
Lead	140	mg/kg
2-Methylphenol	<4100	ug/kg
Benzo(a)pyrene	20000	ug/kg
Fluoranthene	75000	ug/kg
Naphthalene	3500	ug/kg
Acetone	440	ug/kg

FGOW-AOC7A-	SS-SS1	
Depth	0-6 INCHES	
Sample Date	8/15/2007	
Total PCBs	25800	ug/kg
Arsenic	3.1	mg/kg
Lead	440	mg/kg
2-Methylphenol	<8800	ug/kg
Benzo(a)pyrene	38000	ug/kg
Fluoranthene	130000	ug/kg
Naphthalene	8300	ug/kg
Acetone	1500	ug/kg

FGOW-AOC7A-	SS-GP1	SS-GP1	S-GP1	S-GP1	
Depth	0-6 INCHES	0-6 IN (RE2)	2-4 FEET	2-4 FEET (RE2)	
Sample Date	8/15/2007	8/15/2007	8/9/2007	8/9/2007	
Arsenic	3.8		3.7		mg/kg
Lead	8.3		4.1		mg/kg
2-Methylphenol	<360		370		ug/kg
Benzo(a)pyrene	280		8300		ug/kg
Fluoranthene	750		26000		ug/kg
Naphthalene	<360		950		ug/kg
Acetone	100	130	81		ug/kg

FGOW-AOC7A-	SS-GP2	SS-GP2	S-GP2	
Depth	0-6 INCHES	0-6 IN (RE2)	2-4 FEET	
Sample Date	8/15/2007	8/15/2007	8/9/2007	
Arsenic	4.2		6.8	mg/kg
Lead	6.4		8.8	mg/kg
2-Methylphenol	<370		<360	ug/kg
Benzo(a)pyrene	730		91	ug/kg
Fluoranthene	1900		330	ug/kg
Naphthalene	<370		<360	ug/kg
Acetone	100	140	110	ug/kg

FGOW-AOC7A-	SS-SS3	SS-SS3	
Depth	0-6 INCHES	0-6 IN (RE2)	
Sample Date	8/15/2007	8/15/2007	
Total PCBs	2100		ug/kg
Arsenic	4.2		mg/kg
Lead	520		mg/kg
2-Methylphenol	<18000		ug/kg
Benzo(a)pyrene	85000		ug/kg
Fluoranthene	300000		ug/kg
Naphthalene	7500		ug/kg
Acetone	560	420	ug/kg

FGOW-AOC7A-	SS-GP3	SS-GP3	SS-GP3	S-GP3	
Depth	0-6 INCHES	0-6 IN (DUP)	0-6 IN (RE2)	2-4 FEET	
Sample Date	8/15/2007	8/15/2007	8/15/2007	8/9/2007	
Arsenic	4.9	4.3		4.2	mg/kg
Lead	11	11		5.6	mg/kg
2-Methylphenol	<390	<380		<340	ug/kg
Benzo(a)pyrene	440	210		<340	ug/kg
Fluoranthene	1500	680		330	ug/kg
Naphthalene	91	<380		<340	ug/kg
Acetone	69	73	75	59	ug/kg

FGOW-AOC7A-	SS-GP4	SS-GP4	S-GP4	
Depth	0-6 INCHES	0-6 IN (RE2)	2-4 FEET	
Sample Date	8/15/2007	8/15/2007	8/9/2007	
Arsenic	4.7		5.9	mg/kg
Lead	12		6.5	mg/kg
2-Methylphenol	<480		<340	ug/kg
Benzo(a)pyrene	98		97	ug/kg
Fluoranthene	210		320	ug/kg
Naphthalene	<480		<340	ug/kg
Acetone	91	87	47	ug/kg

FGOW-AOC7A-	SS-GP5	S-GP5	
Depth	0-6 INCHES	2-4 FEET	
Sample Date	8/15/2007	8/10/2007	
Total PCBs	3100	3400	ug/kg
Arsenic	4.1	3	mg/kg
Lead	46	13	mg/kg
2-Methylphenol	<450	<340	ug/kg
Benzo(a)pyrene	1200	<340	ug/kg
Fluoranthene	3700	<340	ug/kg
Naphthalene	59	<340	ug/kg
Acetone	250	140	ug/kg

FGOW-AOC7A-	SS-SS4	SS-SS4	
Depth	0-6 INCHES	0-6 IN (RE2)	
Sample Date	8/15/2007	8/15/2007	
Total PCBs	1300		ug/kg
Arsenic	3.9		mg/kg
Lead	240		mg/kg
2-Methylphenol	<1900	<3700	ug/kg
Benzo(a)pyrene	11000	10000	ug/kg
Fluoranthene	40000	36000	ug/kg
Naphthalene	2000	1900	ug/kg
Acetone	400	260	ug/kg

FGOW-AOC7A-	SS-GP7	S-GP7	
Depth	0-6 INCHES	2-4 FEET	
Sample Date	8/15/2007	8/10/2007	
Arsenic	2.7	2.9	mg/kg
Lead	4.2	2.8	mg/kg
2-Methylphenol	<390	<340	ug/kg
Benzo(a)pyrene	<390	<340	ug/kg
Fluoranthene	<390	<340	ug/kg
Naphthalene	<390	<340	ug/kg
Acetone	89	65	ug/kg

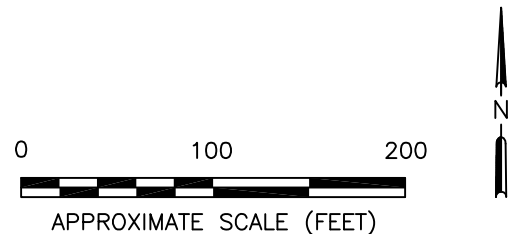
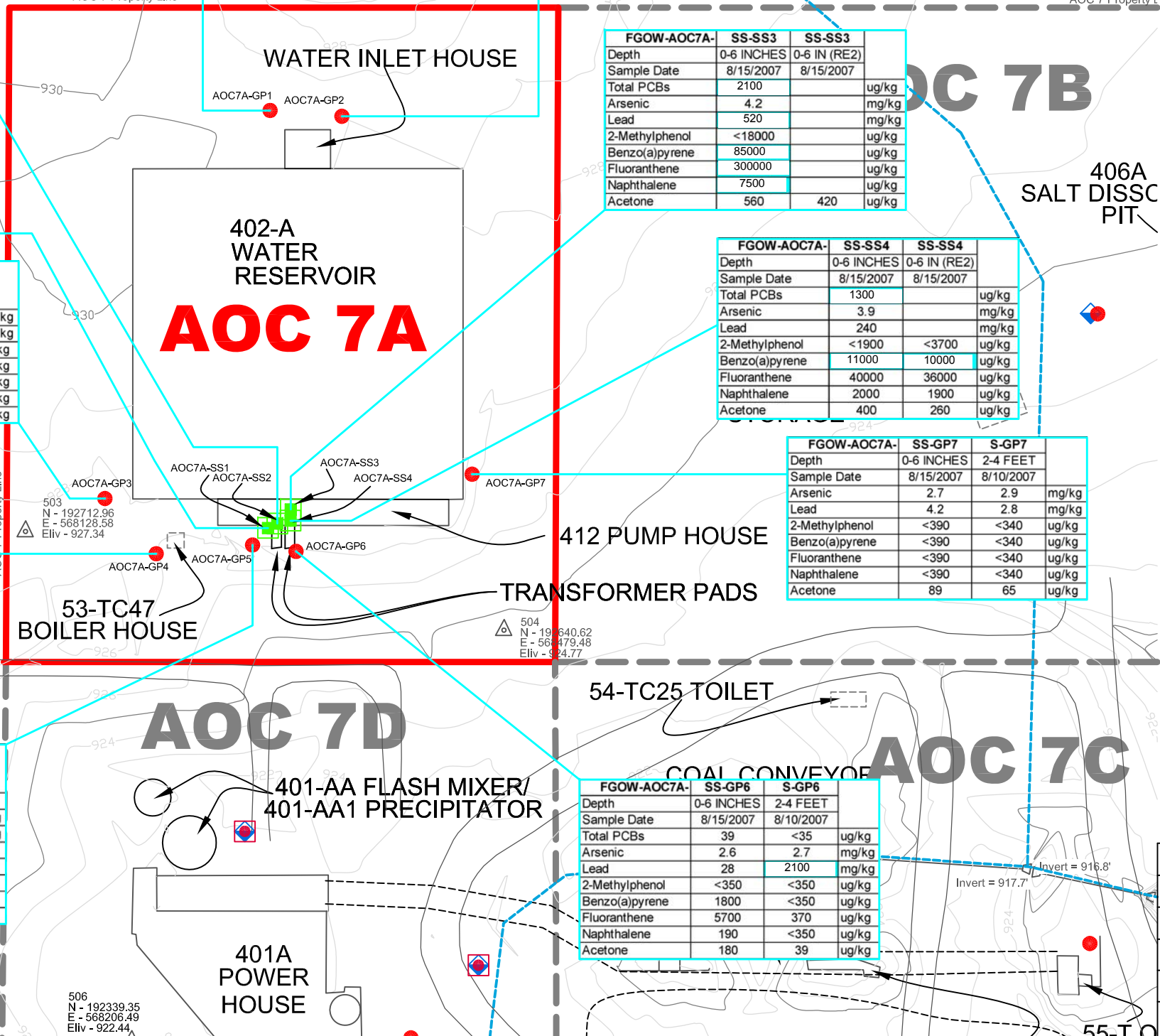
FGOW-AOC7A-	SS-GP6	S-GP6	
Depth	0-6 INCHES	2-4 FEET	
Sample Date	8/15/2007	8/10/2007	
Total PCBs	39	<35	ug/kg
Arsenic	2.6	2.7	mg/kg
Lead	28	2100	mg/kg
2-Methylphenol	<350	<350	ug/kg
Benzo(a)pyrene	1800	<350	ug/kg
Fluoranthene	5700	370	ug/kg
Naphthalene	190	<350	ug/kg
Acetone	180	39	ug/kg


- KEY:**
- AOC
  - INDEX CONTOUR
  - INTERVAL CONTOUR
  - - - - - FORMER DITCH/DRAINAGEWAY
  - - - - - FORMER FEATURES
  - SURFACE SOIL SAMPLE LOCATION
  - SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
  - SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
  - SEDIMENT SAMPLE LOCATION
  - ◆ GROUND WATER SAMPLE LOCATION
  - SURFACE WATER SAMPLE LOCATION

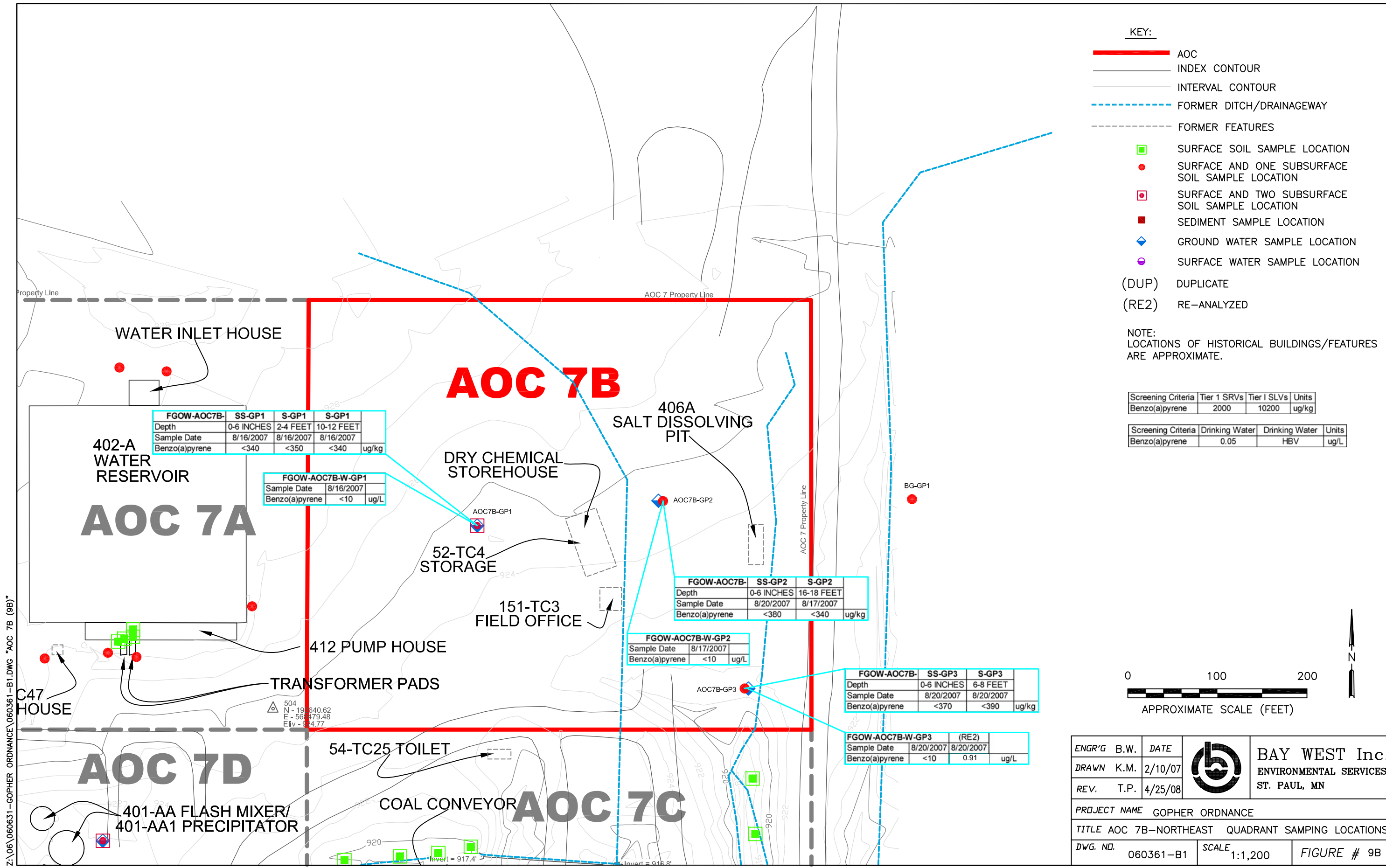
(DUP) DUPLICATE  
(RE2) RE-ANALYZED

NOTE:  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
Total PCBs	1200 T	2100 T	ug/kg
Arsenic	5	15.1	mg/kg
Lead	300	525	mg/kg
2-Methylphenol	75000	64	ug/kg
Benzo(a)pyrene	2000	10200	ug/kg
Fluoranthene	1080000	295000	ug/kg
Naphthalene	10000	7500	ug/kg
Acetone	340000	700	ug/kg



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDINANCE			
TITLE AOC 7A-NORTHWEST QUADRANT SAMPLING LOCATIONS			
DWG. NO.	SCALE	FIGURE #	
060361-B1	1:1,200	9A	



- KEY:**
- AOC
  - INDEX CONTOUR
  - INTERVAL CONTOUR
  - - - - - FORMER DITCH/DRAINAGEWAY
  - - - - - FORMER FEATURES
  - SURFACE SOIL SAMPLE LOCATION
  - SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
  - SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
  - SEDIMENT SAMPLE LOCATION
  - ◆ GROUND WATER SAMPLE LOCATION
  - SURFACE WATER SAMPLE LOCATION
  - (DUP) DUPLICATE
  - (RE2) RE-ANALYZED

NOTE:  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
Benzo(a)pyrene	2000	10200	ug/kg

Screening Criteria	Drinking Water	Drinking Water	Units
Benzo(a)pyrene	0.05	HBV	ug/L

FGOW-AOC7B-	SS-GP1	S-GP1	S-GP1	
Depth	0-6 INCHES	2-4 FEET	10-12 FEET	
Sample Date	8/16/2007	8/16/2007	8/16/2007	
Benzo(a)pyrene	<340	<350	<340	ug/kg

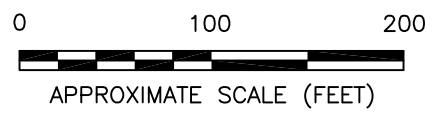
FGOW-AOC7B-W-GP1	
Sample Date	8/16/2007
Benzo(a)pyrene	<10 ug/L

FGOW-AOC7B-	SS-GP2	S-GP2	
Depth	0-6 INCHES	16-18 FEET	
Sample Date	8/20/2007	8/17/2007	
Benzo(a)pyrene	<380	<340	ug/kg

FGOW-AOC7B-W-GP2	
Sample Date	8/17/2007
Benzo(a)pyrene	<10 ug/L

FGOW-AOC7B-	SS-GP3	S-GP3	
Depth	0-6 INCHES	6-8 FEET	
Sample Date	8/20/2007	8/20/2007	
Benzo(a)pyrene	<370	<390	ug/kg

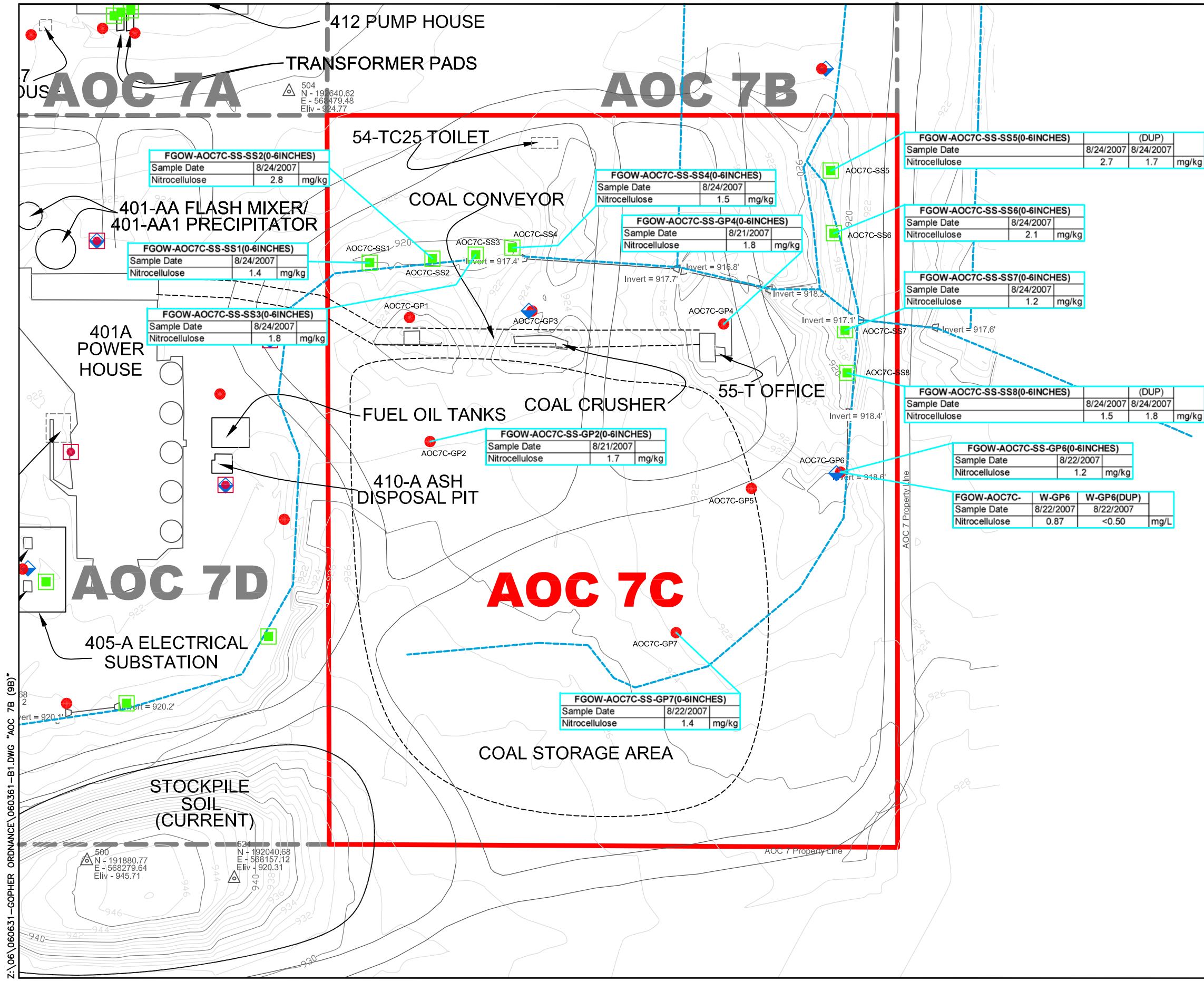
FGOW-AOC7B-W-GP3	(RE2)	
Sample Date	8/20/2007	8/20/2007
Benzo(a)pyrene	<10	0.91
		ug/L



ENGR'G B.W.	DATE		BAY WEST Inc. ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDNANCE			
TITLE AOC 7B-NORTHEAST QUADRANT SAMPLING LOCATIONS			
DWG. NO.	SCALE	FIGURE #	
060361-B1	1:1,200	9B	

Z:\06\060361-GOPHER ORDNANCE\060361-B1.DWG "AOC 7B (9B)"





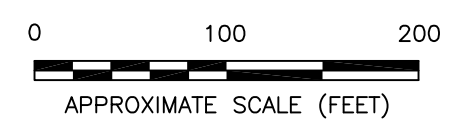
**KEY:**

- AOC
- INDEX CONTOUR
- INTERVAL CONTOUR
- - - - - FORMER DITCH/DRAINAGEWAY
- - - - - FORMER FEATURES
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION

(DUP) DUPLICATE  
 (RE2) RE-ANALYZED

NOTE:  
 LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

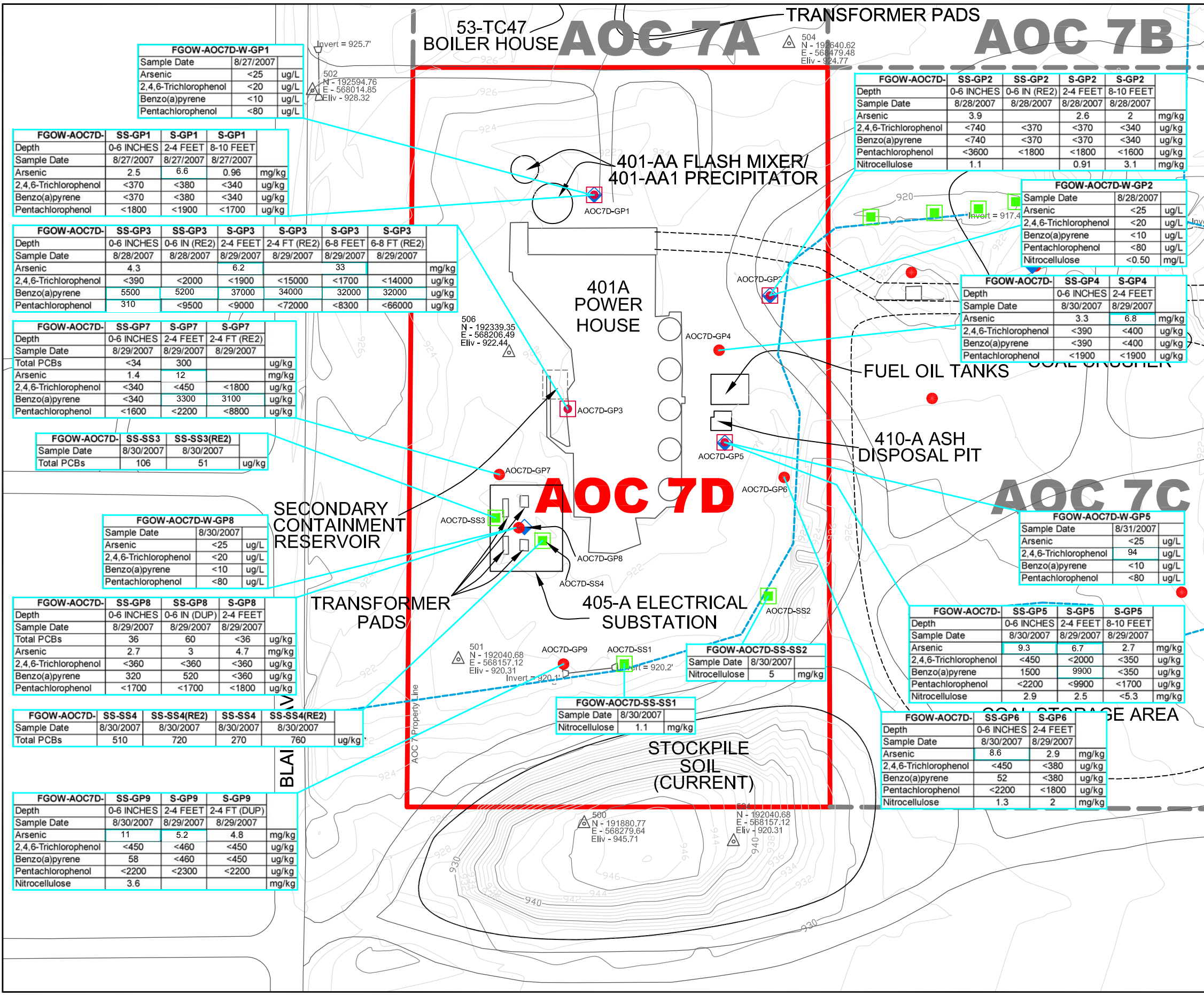
Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
Nitrocellulose			mg/kg



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDNANCE			
TITLE AOC 7C-SOUTHEAST QUADRANT SAMPING LOCATIONS			
DWG. NO.	060361-B1	SCALE 1"=100'	FIGURE # 9C

Z:\06\060361-GOPHER ORDNANCE\060361-B1.DWG "AOC 7B (9B)"

Z:\06\060361-GOPHER ORDINANCE\060361-B2.DWG "AOC 7D (9D)"



**KEY:**

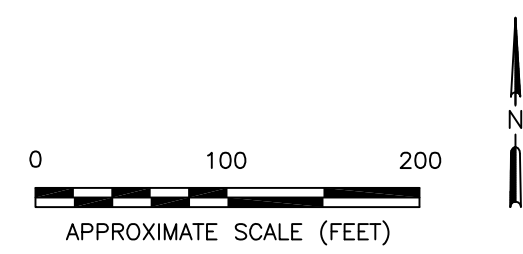
- AOC
- INDEX CONTOUR
- INTERVAL CONTOUR
- - - - FORMER DITCH/DRAINAGEWAY
- - - - FORMER FEATURES
- SURFACE SOIL SAMPLE LOCATION
- SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
- SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- ◆ GROUND WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION

(DUP) DUPLICATE  
(RE2) RE-ANALYZED

NOTE:  
LOCATIONS OF HISTORICAL BUILDINGS/FEATURES ARE APPROXIMATE.

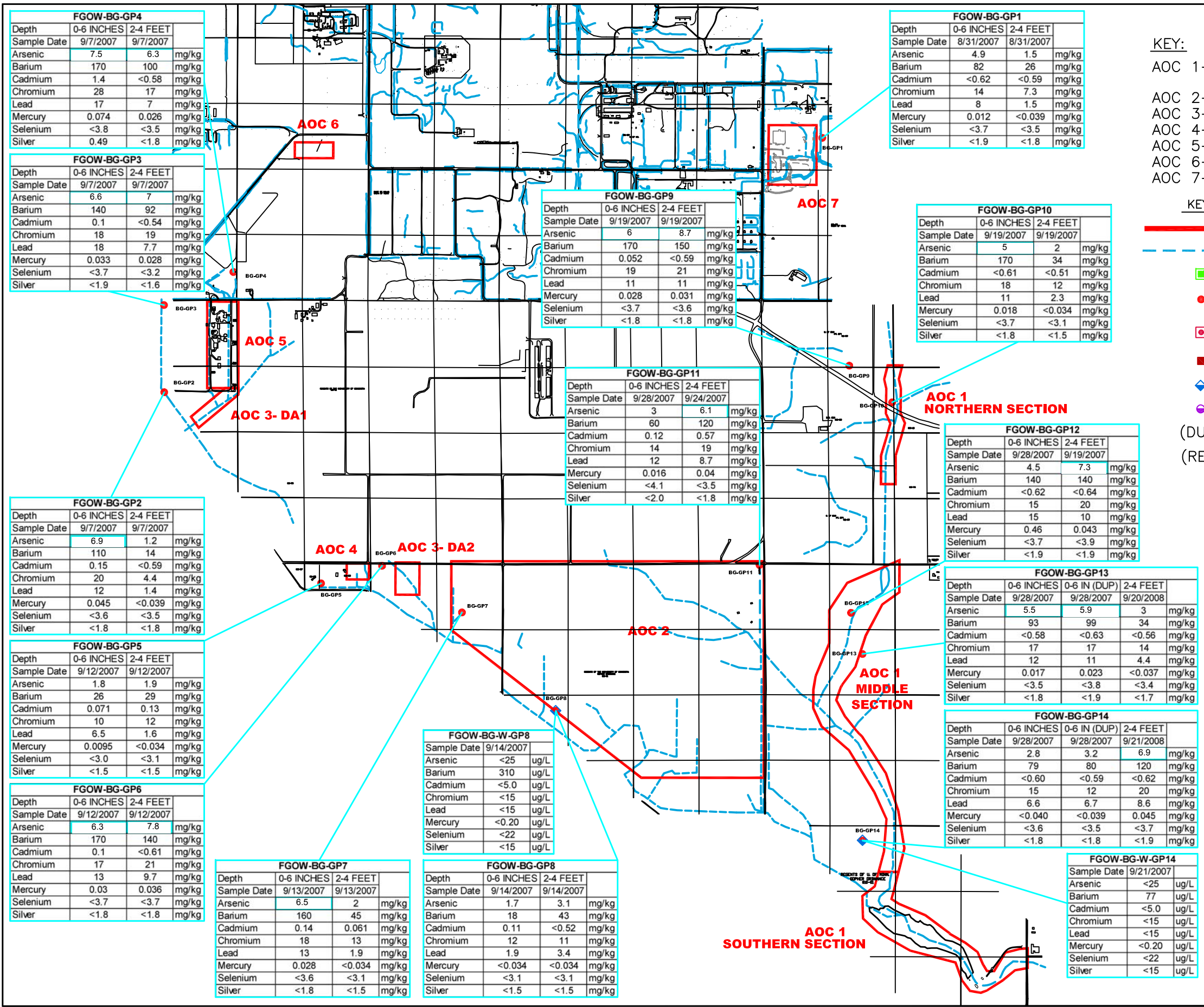
Screening Criteria	Tier 1 SRVs	Tier I SLVs	Units
Total PCBs	1200 T	2100 T	ug/kg
Arsenic	5	15.1	mg/kg
2,4,6-Trichlorophenol	595000	210	ug/kg
Benzo(a)pyrene	2000	10200	ug/kg
Pentachlorophenol	6000	34	ug/kg
Nitrocellulose			mg/kg

Screening Criteria	Drinking Water	Drinking Water	Units
Arsenic	10	MCL	ug/L
2,4,6-Trichlorophenol	30	HRL	ug/L
Benzo(a)pyrene	0.05	HBV	ug/L
Pentachlorophenol	3	HRL	ug/L
Nitrocellulose			mg/L



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08		
PROJECT NAME GOPHER ORDINANCE			
TITLE AOC 7D-SOUTHWEST QUADRANT SAMPLING LOCATIONS			
DWG. NO.	060361-B1	SCALE	1:1,200
		FIGURE #	9D

Z:\06\060361-GOPHER ORDNANCE\060361-B1.DWG "BACKGROUND (10)"



FGOW-BG-GP4			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/7/2007	9/7/2007	
Arsenic	7.5	6.3	mg/kg
Barium	170	100	mg/kg
Cadmium	1.4	<0.58	mg/kg
Chromium	28	17	mg/kg
Lead	17	7	mg/kg
Mercury	0.074	0.026	mg/kg
Selenium	<3.8	<3.5	mg/kg
Silver	0.49	<1.8	mg/kg

FGOW-BG-GP3			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/7/2007	9/7/2007	
Arsenic	6.6	7	mg/kg
Barium	140	92	mg/kg
Cadmium	0.1	<0.54	mg/kg
Chromium	18	19	mg/kg
Lead	18	7.7	mg/kg
Mercury	0.033	0.028	mg/kg
Selenium	<3.7	<3.2	mg/kg
Silver	<1.9	<1.6	mg/kg

FGOW-BG-GP2			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/7/2007	9/7/2007	
Arsenic	6.9	1.2	mg/kg
Barium	110	14	mg/kg
Cadmium	0.15	<0.59	mg/kg
Chromium	20	4.4	mg/kg
Lead	12	1.4	mg/kg
Mercury	0.045	<0.039	mg/kg
Selenium	<3.6	<3.5	mg/kg
Silver	<1.8	<1.8	mg/kg

FGOW-BG-GP5			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/12/2007	9/12/2007	
Arsenic	1.8	1.9	mg/kg
Barium	26	29	mg/kg
Cadmium	0.071	0.13	mg/kg
Chromium	10	12	mg/kg
Lead	6.5	1.6	mg/kg
Mercury	0.0095	<0.034	mg/kg
Selenium	<3.0	<3.1	mg/kg
Silver	<1.5	<1.5	mg/kg

FGOW-BG-GP6			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/12/2007	9/12/2007	
Arsenic	6.3	7.8	mg/kg
Barium	170	140	mg/kg
Cadmium	0.1	<0.61	mg/kg
Chromium	17	21	mg/kg
Lead	13	9.7	mg/kg
Mercury	0.03	0.036	mg/kg
Selenium	<3.7	<3.7	mg/kg
Silver	<1.8	<1.8	mg/kg

FGOW-BG-GP7			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/13/2007	9/13/2007	
Arsenic	6.5	2	mg/kg
Barium	160	45	mg/kg
Cadmium	0.14	0.061	mg/kg
Chromium	18	13	mg/kg
Lead	13	1.9	mg/kg
Mercury	0.028	<0.034	mg/kg
Selenium	<3.6	<3.1	mg/kg
Silver	<1.8	<1.5	mg/kg

FGOW-BG-GP8			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/14/2007	9/14/2007	
Arsenic	1.7	3.1	mg/kg
Barium	18	43	mg/kg
Cadmium	0.11	<0.52	mg/kg
Chromium	12	11	mg/kg
Lead	1.9	3.4	mg/kg
Mercury	<0.034	<0.034	mg/kg
Selenium	<3.1	<3.1	mg/kg
Silver	<1.5	<1.5	mg/kg

FGOW-BG-GP9			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/19/2007	9/19/2007	
Arsenic	6	8.7	mg/kg
Barium	170	150	mg/kg
Cadmium	0.052	<0.59	mg/kg
Chromium	19	21	mg/kg
Lead	11	11	mg/kg
Mercury	0.028	0.031	mg/kg
Selenium	<3.7	<3.6	mg/kg
Silver	<1.8	<1.8	mg/kg

FGOW-BG-GP11			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/28/2007	9/24/2007	
Arsenic	3	6.1	mg/kg
Barium	60	120	mg/kg
Cadmium	0.12	0.57	mg/kg
Chromium	14	19	mg/kg
Lead	12	8.7	mg/kg
Mercury	0.016	0.04	mg/kg
Selenium	<4.1	<3.5	mg/kg
Silver	<2.0	<1.8	mg/kg

FGOW-BG-GP12			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/28/2007	9/19/2007	
Arsenic	4.5	7.3	mg/kg
Barium	140	140	mg/kg
Cadmium	<0.62	<0.64	mg/kg
Chromium	15	20	mg/kg
Lead	15	10	mg/kg
Mercury	0.46	0.043	mg/kg
Selenium	<3.7	<3.9	mg/kg
Silver	<1.9	<1.9	mg/kg

FGOW-BG-GP13			
Depth	0-6 INCHES	0-6 IN (DUP)	2-4 FEET
Sample Date	9/28/2007	9/28/2007	9/20/2008
Arsenic	5.5	5.9	3
Barium	93	99	34
Cadmium	<0.58	<0.63	<0.56
Chromium	17	17	14
Lead	12	11	4.4
Mercury	0.017	0.023	<0.037
Selenium	<3.5	<3.8	<3.4
Silver	<1.8	<1.9	<1.7

FGOW-BG-GP14			
Depth	0-6 INCHES	0-6 IN (DUP)	2-4 FEET
Sample Date	9/28/2007	9/28/2007	9/21/2008
Arsenic	2.8	3.2	6.9
Barium	79	80	120
Cadmium	<0.60	<0.59	<0.62
Chromium	15	12	20
Lead	6.6	6.7	8.6
Mercury	<0.040	<0.039	0.045
Selenium	<3.6	<3.5	<3.7
Silver	<1.8	<1.8	<1.9

FGOW-BG-W-GP8			
Sample Date	9/14/2007		
Arsenic	<25	ug/L	
Barium	310	ug/L	
Cadmium	<5.0	ug/L	
Chromium	<15	ug/L	
Lead	<15	ug/L	
Mercury	<0.20	ug/L	
Selenium	<22	ug/L	
Silver	<15	ug/L	

FGOW-BG-W-GP14			
Sample Date	9/21/2007		
Arsenic	<25	ug/L	
Barium	77	ug/L	
Cadmium	<5.0	ug/L	
Chromium	<15	ug/L	
Lead	<15	ug/L	
Mercury	<0.20	ug/L	
Selenium	<22	ug/L	
Silver	<15	ug/L	

FGOW-BG-GP1			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	8/31/2007	8/31/2007	
Arsenic	4.9	1.5	mg/kg
Barium	82	26	mg/kg
Cadmium	<0.62	<0.59	mg/kg
Chromium	14	7.3	mg/kg
Lead	8	1.5	mg/kg
Mercury	0.012	<0.039	mg/kg
Selenium	<3.7	<3.5	mg/kg
Silver	<1.9	<1.8	mg/kg

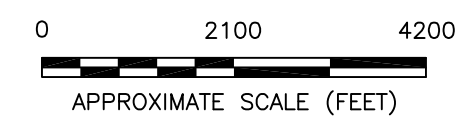
FGOW-BG-GP10			
Depth	0-6 INCHES	2-4 FEET	
Sample Date	9/19/2007	9/19/2007	
Arsenic	5	2	mg/kg
Barium	170	34	mg/kg
Cadmium	<0.61	<0.51	mg/kg
Chromium	18	12	mg/kg
Lead	11	2.3	mg/kg
Mercury	0.018	<0.034	mg/kg
Selenium	<3.7	<3.1	mg/kg
Silver	<1.8	<1.5	mg/kg

- KEY:**
- AOC 1- WASTE DISPOSAL DITCH, PRIMARY AND SECONDARY SETTLING PONDS
  - AOC 2- SHIPPING/STORAGE BUILDINGS
  - AOC 3- MISCELLANEOUS DRAINAGE AREAS
  - AOC 4- SANITARY BUILDINGS
  - AOC 5- DNT STORAGE BUNKERS
  - AOC 6- 154TH STREET DISTURBED AREA
  - AOC 7- STEAM PLANT AND ASSOCIATED 26.7 ACRES

- KEY:**
- AOC
  - - - DITCH/DRAINAGEWAY
  - SURFACE SOIL SAMPLE LOCATION
  - SURFACE AND ONE SUBSURFACE SOIL SAMPLE LOCATION
  - SURFACE AND TWO SUBSURFACE SOIL SAMPLE LOCATION
  - SEDIMENT SAMPLE LOCATION
  - ◆ GROUND WATER SAMPLE LOCATION
  - SURFACE WATER SAMPLE LOCATION
  - (DUP) DUPLICATE
  - (RE2) RE-ANALYZED

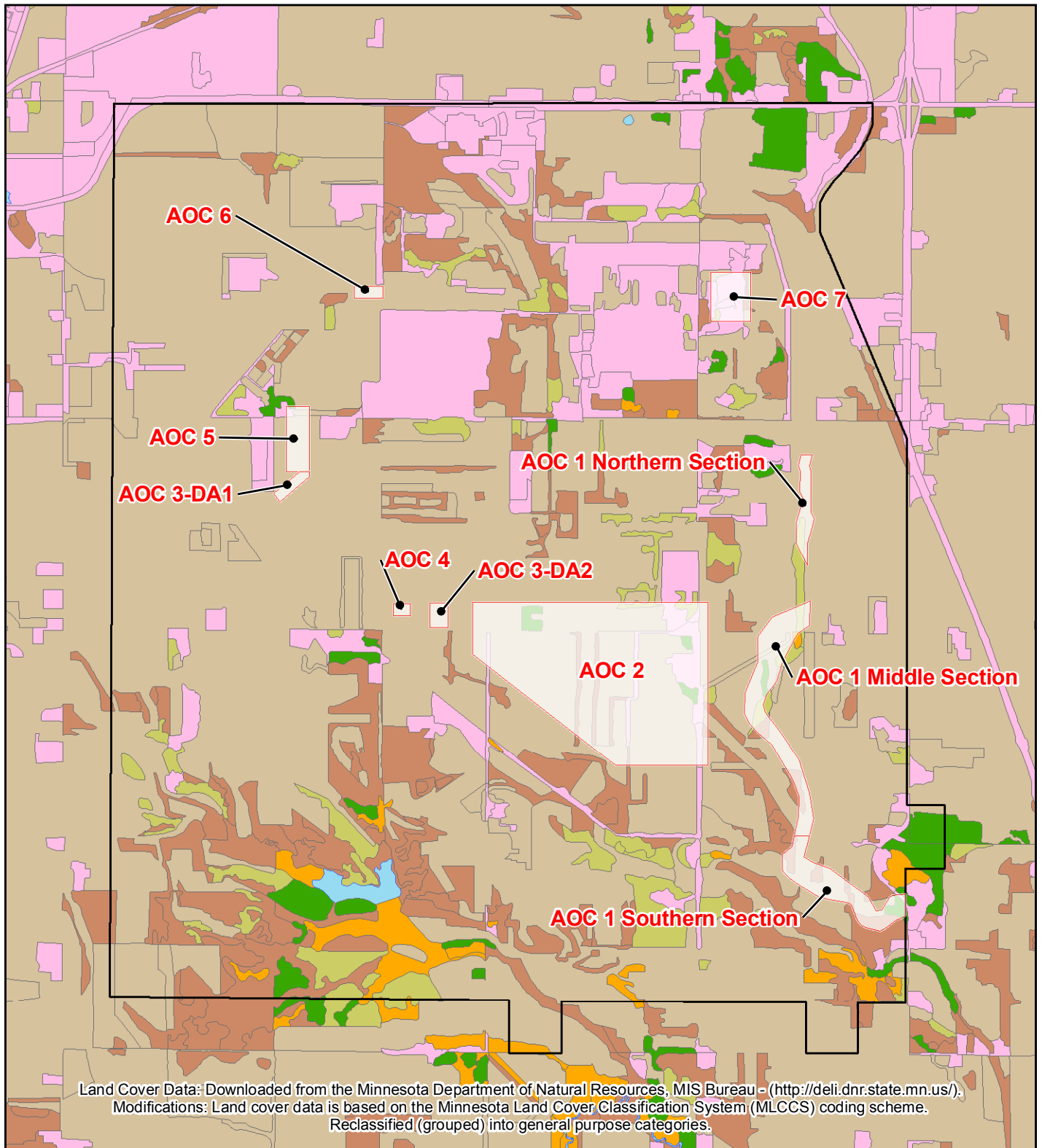
Screening Criteria	Drinking Water Criterion	Drinking Water	Units
Arsenic	10	MCL	ug/L
Barium	2000	HRL	ug/L
Cadmium	4	HRL	ug/L
Chromium	100	MCL	ug/L
Lead	NA	NA	ug/L
Mercury	2	MCL	ug/L
Selenium	30	HRL	ug/L
Silver	30	HRL	ug/L

Screening Criteria	Tier 1 SRVs	Tier 1 SLVs	Units
Arsenic	5	15.1	mg/kg
Barium	1200	842	mg/kg
Cadmium	25	4.4	mg/kg
Chromium	44000/87	100000/18	mg/kg
Lead	300	525	mg/kg
Mercury	500	1600	mg/kg
Selenium	160	1.5	mg/kg
Silver	160	3.9	mg/kg



ENGR'G B.W.	DATE		<b>BAY WEST Inc.</b> ENVIRONMENTAL SERVICES ST. PAUL, MN
DRAWN K.M.	2/10/07		
REV. T.P.	4/25/08	PROJECT NAME GOPHER ORDNANCE	
TITLE BACKGROUND SAMPLE LOCATIONS			
DWG. NO. 060361-B1	SCALE 1:25,200	FIGURE # 10	

# Rosemount, Minnesota, Land Cover



## Legend

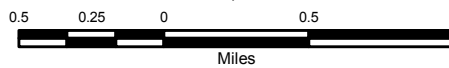
### Land Cover

- Artificial Surfaces & Associated Areas
- Planted or Cultivated Vegetation
- Forests
- Woodland
- Shrubland
- Herbaceous
- Sparse Vegetation
- Water


- AOC's
- Segment "A"



1:42,000



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Corps of Engineers NWD - Omaha	
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Former Gopher Ordnance Works Rosemount, MN Figure 11	