

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE OF PAGES 1   3
2. AMENDMENT/MODIFICATION NO.  0003	3. EFFECTIVE DATE  20-Nov-2009	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)		
6. ISSUED BY  U.S. ARMY ENGINEER DISTRICT, AK CEPOA-CT (W911KB) PO BOX 6898 ELMENDORF AFB AK 99506-0898	CODE  W911KB	7. ADMINISTERED BY (If other than item 6)	CODE		
<b>See Item 6</b>					
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X 9A. AMENDMENT OF SOLICITATION NO. W911KB-09-R-0007	
				X 9B. DATED (SEE ITEM 11) 28-Sep-2009	
				10A. MOD. OF CONTRACT/ORDER NO.	
				10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended.					
Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).					
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)					
PROJECT TITLE: FTW336A, Aircraft Parts Storage Building, Fort Wainwright, Alaska.					
PROPOSAL DUE DATE IS EXTENDED TO: 1 December 2009, 12:00 PM Alaska Time.					
This amendment provides changes to the solicitation as indicated on page 2 of this document.					
PLEASE MARK THE OUTSIDE OF ENVELOPE IN WHICH PROPOSAL IS SUBMITTED TO SHOW AMENDMENTS RECEIVED. YOU ARE REQUIRED TO ACKNOWLEDGE RECEIPT OF THIS AMENDMENT ON THE REVERSE SIDE OF THE STANDARD FORM 1442.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
		TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED  30-Nov-2009	16B. UNITED STATES OF AMERICA  BY _____ (Signature of Contracting Officer)			16C. DATE SIGNED  20-Nov-2009

## SECTION SF 30 BLOCK 14 CONTINUATION PAGE

**SUMMARY OF CHANGES**

## SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

AM 3  
AMENDMENT 0003

- a. The following drawings are substituted for the superseded drawings.

Sheet A0.02, Architectural, General; Wall Types  
Sheet A1.02, Architectural, Enlarged Floor Plan  
Sheet A5.02, Architectural, Schedules and Interiors; Finishes, Materials and Equipment Schedules  
Sheet M4.02, Mechanical, Controls; Building Heat Plant Control Diagram  
Sheet M4.03, Mechanical, Controls; Building Heat Plant Control Matrix  
Sheet M4.04, Mechanical, Controls; ERV-1 Control Diagram and Matrix  
Sheet M4.05, Mechanical, Controls; ERV-2 Control Diagram and Matrix  
Sheet M4.06, Mechanical, Controls; ERV-3 Control Diagram and Matrix  
Sheet M4.07, Mechanical, Controls; Baseboard, CUH, UH & RCP Control Diagram & Matrices

- b. The following revised documents are substituted for the superseded documents. The identifier “**AM#3**” appears before and after new and/or revised material, except as noted below.

NONE

**NOTE:** Revisions within the following documents do not contain the above referenced identifiers.

NONE.

- c. The following section (including submittal registers) is deleted

NONE.

- d. The following documents are added.

CHEMICAL DATA REPORT.

- e. The following revisions are incorporated.

NONE.

- f. Other:

NONE.

**SECTION 00010 - SOLICITATION CONTRACT FORM**

The required response date/time has changed from 24-Nov-2009 12:00 PM to 01-Dec-2009 12:00 PM.

(End of Summary of Changes)

**9) STORAGE CAGES - NON-RATED**  
SCALE: 1'=1'-0"

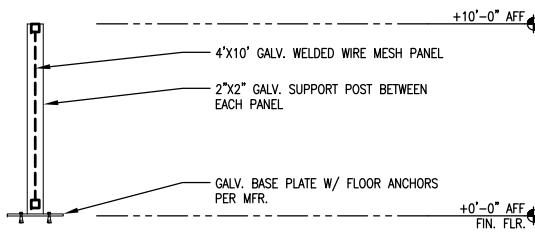
BIDDER NOTE: USE WALL LENGTHS, LAYOUT AND ACCESSORIES AS SHOWN ON DRAWINGS FOR BIDDING AND PURCHASING PURPOSES ONLY. CONTRACTOR TO COORDINATE ACTUAL LAYOUT LOCATIONS AND ROOM CONFIGURATIONS WITH COMPANY NOCO.

**8C) DELETE BATT INSUL. & PROVIDE 1/2" INTUMESCENT PTD. F.R.T. PLYWOOD IN LIEU OF NORMAL IMPACT GBW AT WAREHOUSE LOCATIONS**

**8B) DELETE BATT INSUL. & PROVIDE IRGBW IN LIEU OF NORMAL IMPACT GBW AT SECURED STORAGE**

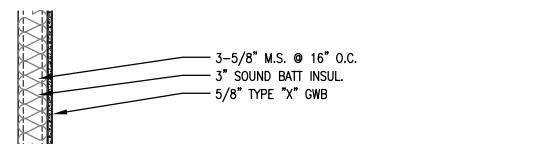
**8A) PROVIDE 1-5/8" M.S. IN LIEU OF 3-5/8" M.S. & DELETE SOUND BATT INSUL.**

**8) INTERIOR FURRING - NON-RATED**  
SCALE: 1'=1'-0"



BIDDER NOTE: USE WALL LENGTHS, LAYOUT AND ACCESSORIES AS SHOWN ON DRAWINGS FOR BIDDING AND PURCHASING PURPOSES ONLY. CONTRACTOR TO COORDINATE ACTUAL LAYOUT LOCATIONS AND ROOM CONFIGURATIONS WITH COMPANY NOCO.

**9) STORAGE CAGES - NON-RATED**  
SCALE: 1'=1'-0"



**8C) DELETE BATT INSUL. & PROVIDE 1/2" INTUMESCENT PTD. F.R.T. PLYWOOD IN LIEU OF NORMAL IMPACT GBW AT WAREHOUSE LOCATIONS**

**8B) DELETE BATT INSUL. & PROVIDE IRGBW IN LIEU OF NORMAL IMPACT GBW AT SECURED STORAGE**

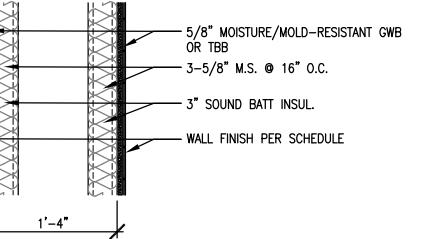
**8A) PROVIDE 1-5/8" M.S. IN LIEU OF 3-5/8" M.S. & DELETE SOUND BATT INSUL.**

**8) INTERIOR FURRING - NON-RATED**  
SCALE: 1'=1'-0"

**4A) PROVIDE 5/8" CEMENT BACKER BOARD OVER (IN ADDITION TO) IRGBW ON LATRINE SIDE FOR CERAMIC TILE INSTALLATION IF IRGBW IS NOT APPROVED FOR USE AS TILE BACKER.**

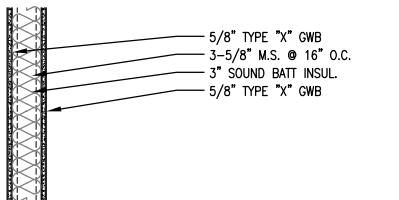
**4) 6" INTERIOR WALL - 1-HR. RATED**  
SCALE: 1'=1'-0"

GA# 1072 / STC-45



**7) PLUMBING CHASE - NON-RATED**  
SCALE: 1'=1'-0"

STC-50

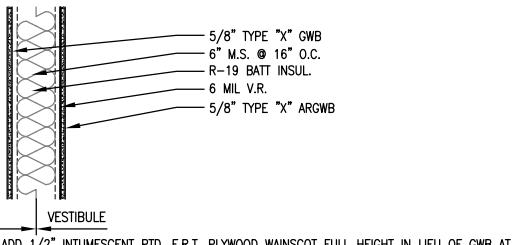


**6B) DELETE SOUND BATT INSUL. & PROVIDE IRGBW FULL HEIGHT BOTH SIDES IN LIEU OF NORMAL IMPACT GBW & 1/2" INTUMESCENT F.R.T. PLYWOOD FULL HEIGHT O/ GBW AT WAREHOUSE SIDE**

**6A) PROVIDE ARGWB IN LIEU OF NORMAL IMPACT GBW AT PUBLIC AREAS & CORRIDORS**

**6) 3-5/8" INTERIOR WALL - NON-RATED**  
SCALE: 1'=1'-0"

STC-45

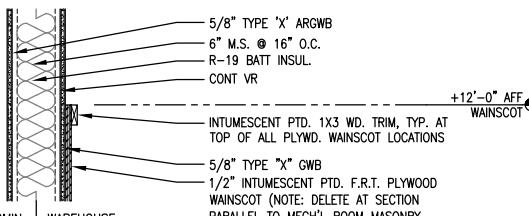


**5B) ADD 1/2" INTUMESCENT PTD. F.R.T. PLYWOOD WAINTSCOT FULL HEIGHT IN LIEU OF GBW AT WAREHOUSE SIDE**

**5A) PROVIDE ARGWB IN LIEU OF NORMAL IMPACT GBW ON CORRIDOR SIDE**

**5) 6" INTERIOR WALL - NON-RATED**  
SCALE: 1'=1'-0"

STC-45

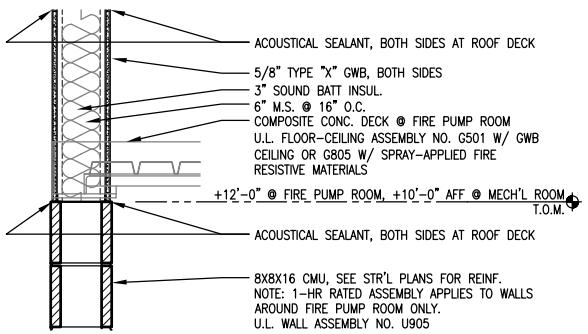


**ADMIN. WAREHOUSE**

**4) 6" INTERIOR WALL - 1-HR. RATED**  
SCALE: 1'=1'-0"

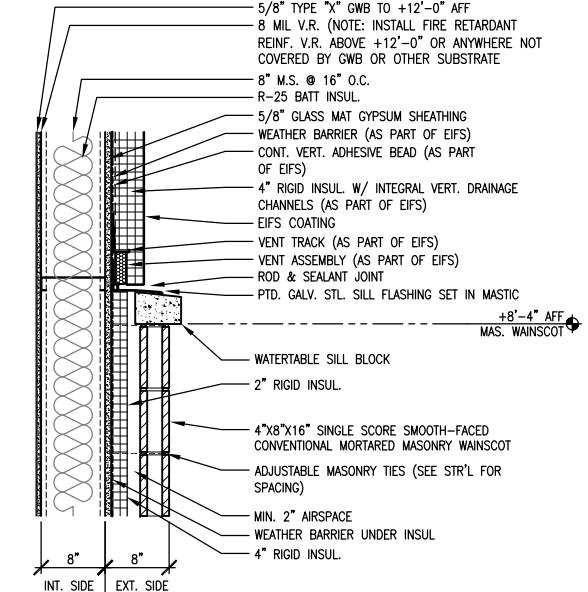
GA# 1072 / STC-45

**3) NOT USED**  
SCALE: 1'=1'-0"



**2) 8" INTERIOR WALL - 1-HR RATED (AT FIRE PUMP ROOM)**  
SCALE: 1'=1'-0"

SEE NOTES FOR FIRE ASSEMBLIES

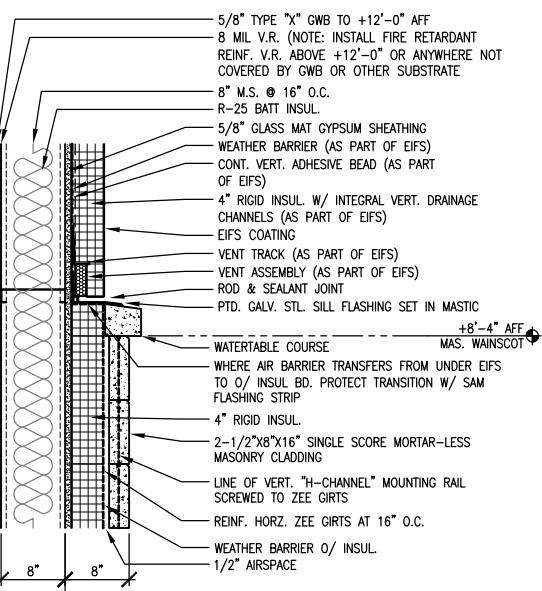


NOTE: THIS ASSEMBLY IS PROVIDED AS ALTERNATE TO MORTAR-LESS MASONRY CLADDING AT CONTRACTOR DISCRETION. CONTRACTOR TO INDICATE WHICH ASSEMBLY HAS BEEN CHOSEN IN BID FORMS. ALL OTHER TYPE 1 WALL SUB-ASSEMBLIES (1A, 1B OR 1C) NOTES/ CHANGES APPLY REGARDLESS OF WAINTSCOT SYSTEM CHOSEN.

**1) EXTERIOR WALL (OPTIONAL) - NON RATED**  
SCALE: 1'=1'-0"

## SHEET NOTES:

- FOR WALL TYPES IN LATRINES WITH CERAMIC TILES (SEE FINISH SCHEDULE) REPLACE 5/8" TYPE "X" GBW WITH 5/8" CEMENTITIOUS BACKER BOARD BEHIND TILE U.N.O. IN WALL TYPES.
- WALL TYPES 1, 2 & 4 SHALL EXTEND FULL HEIGHT TO ROOF ASSEMBLY. ALL OTHER WALL TYPES WITHIN ADMINISTRATION AREA WILL TERMINATE AT +12'-0" AFF. ALL OTHER WALL TYPES IN GENERAL STORAGE AREA WILL TERMINATE AT FRAMED CLG. HGT. PER REFLECTED CEILING PLAN.
- VAPOR RETARDER (VR) INSTALLATION SHALL BE CONT. FROM SLAB UP WALLS & ACROSS ROOF DECK. AT EXPOSED VR LOCATIONS (NOT COVERED BY GBW OR SIMILAR SUBSTRATE), PROVIDE 8-MIL FIRE RETARDANT REINFORCED VR MEETING NFPA 701 & ASTM E84 TESTS FOR CLASS 1, CLASS A FLAME SPREAD RATINGS. WHERE EXPOSED TO VIEW, PROVIDE WHITE, CLEAR OR OTHER LIGHT COLOR, DARK COLORED VR'S ARE PROHIBITED. SEAL ALL LAPS, PENETRATIONS, RECESSED EQUIPMENT & PUNCTURES W/ 75MM ASPHALTIC MASTIC TAPE OR ACOUSTICAL SEALANT AS APPROVED BY MFR. FOR USE WITH VR'S, AT EXPOSED LAPS APPLY 100MM PRESSURE SENSITIVE PUNCTURE REPAIR TAPE AS APPROVED BY MFR. IN MATCHING COLOR TO VR TO COVER EXPOSED EDGES.
- GYPSUM WALL BOARD NOTES & PRODUCTS USED AS "BASIS OF DESIGN":  
A. ALL GYPSUM WALL BOARD (GBW) SHALL BE PAPER-LESS, 5/8" THICK FOR WALLS AND RATED CEILING ASSEMBLIES OR EQUIVALENT 1/2" THICK VERSIONS OF LISTED GBW PANELS FOR NON-RATED CEILING APPLICATIONS.  
B. ALL GBW SHALL BE TYPE X OR FIRECODE C AT RATED WALL ASSEMBLIES PER REFERENCED UNDERWRITERS LABORATORIES (UL) OR GYPSUM ASSOCIATION (GA) DESIGN NUMBERS.  
C. GBW AT WALLS & CEILINGS OF HIGH HUMIDITY AREAS (SHOWERS, TOILETS, KITCHENS, JANITOR'S CLOSETS) SHALL BE PAPERLESS, MOISTURE/MOLD-RESISTANT MEETING A TEST SCORE OF 10 PER ASTM D 3273. AT CERAMIC TILE LOCATIONS USE THE SAME OR COMPATIBLE PRODUCT APPROVED FOR USE AS TILE BACKER BOARD (TBB).  
D. NORMAL IMPACT GYPSUM WALL BOARD (GBW) AT WALLS SHALL BE EQUIVALENT TO GEORGIA-PACIFIC TOUGHROCK FIREGUARD OR FIREGUARD C.  
E. ABUSE RESISTANT GYPSUM WALL BOARD (ARGWB) AT WALLS SHALL BE EQUIVALENT TO GEORGIA-PACIFIC DENSMARMOR ARGWB.  
F. IMPACT RESISTANT GYPSUM WALL BOARD (IRGBW) AT WALLS SHALL BE EQUIVALENT TO GEORGIA-PACIFIC DENSMARMOR IRGBW EXCEPT AT AREAS/ROOMS IDENTIFIED AS SECURED STORAGE, HIGH VALUE STORAGE OR OTHER SIMILARLY DESIGNATED AREAS THAT REQUIRE HIGH PENETRATION RESISTANCE, AT THESE AREAS IRGBW SHALL BE EQUIVALENT TO NATIONAL GYPSUM COMPANY FIRE-SHIELD TYPE X HI-IMPACT BRAND 8000 GYPSUM PANELS W/ 0.080" LEXAN REINFORCING SUBSTRATE.  
G. EXTERIOR SHEATHING SHALL BE 5/8" THK. GLASS MAT FACED GYPSUM SHEATHING W/ WATER-RESISTANT TREATED CORE EQUIVALENT TO GEORGIA-PACIFIC BUILDING PRODUCTS DENGLASS EXTERIOR SHEATHING OR AS RECOMMENDED/APPROVED BY EIFS MANUFACTURER.



- PROVIDE IRGBW IN LIEU OF NORMAL IMPACT GBW INSIDE SECURE STORAGE ROOM
- PROVIDE 1/2" INTUMESCENT PTD. F.R.T. PLYWOOD WAINTSCOT TO +12'-0" AFF 1/2" INTUMESCENT PTD. 1X3 WD. TRIM (SEE WALL TYPE 4) IN LIEU OF 5/8" GBW AT WAREHOUSE
- PROVIDE ARGWB IN LIEU OF NORMAL IMPACT GBW IN PUBLIC AREAS & CORRIDORS
- EXTERIOR WALL (PREFERRED) - NON RATED

Reference number:  
A0.02  
Sheet 21 of 120  
R0003

US ARMY CORPS OF ENGINEERS	ALASKA DISTRICT
CONTRACT NO. _____	CONTRACTOR _____
CITY _____	STATE _____
PRIME CONTRACTOR _____	RESIDENT ENGINEER _____
Recommended: _____	Approved: _____
Date: _____	Date: _____

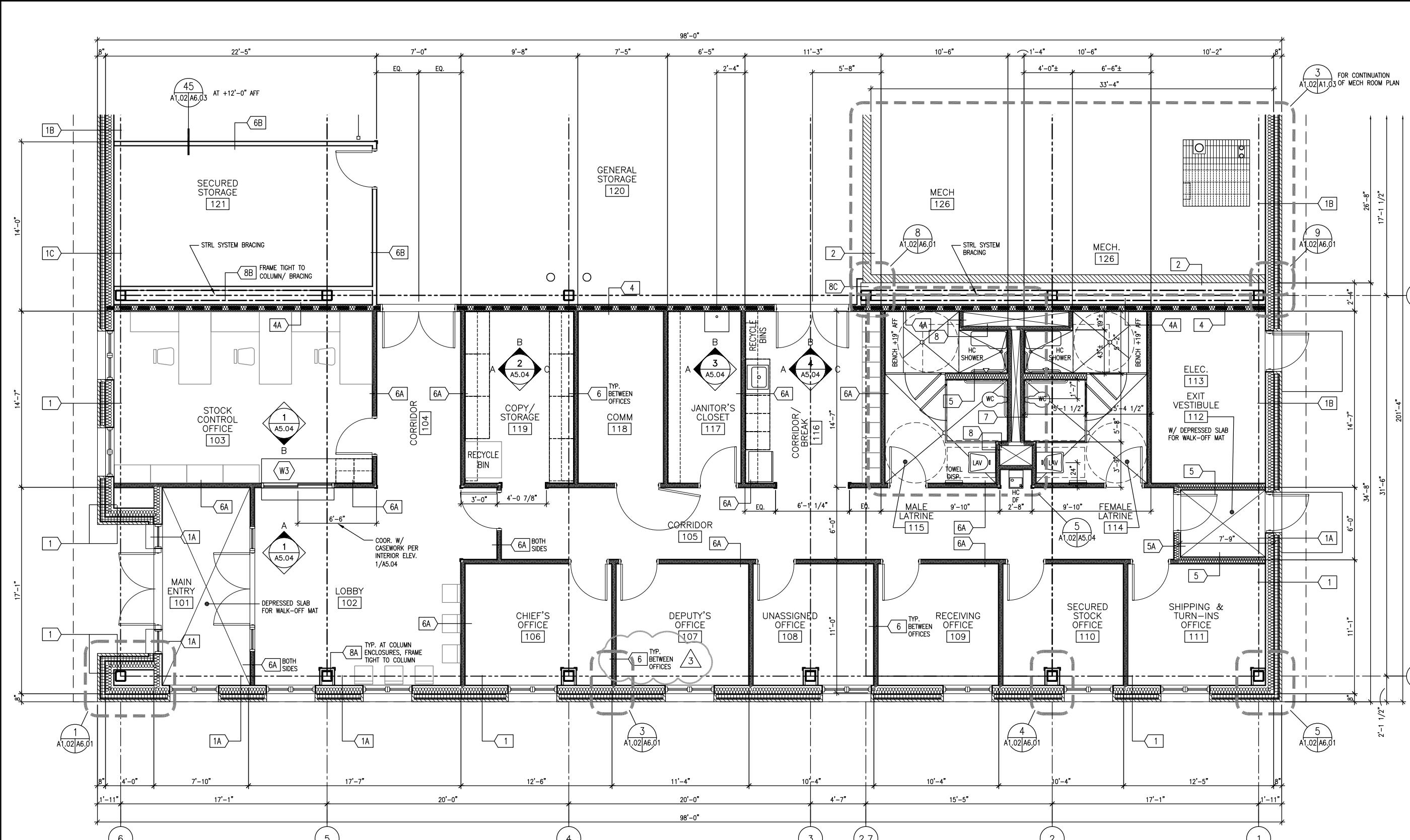
Str'l Action _____	Description _____	Date App'd _____
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U.S. ARMY ENGINEER DISTRICT	designed: RWK
ANCHORAGE, ALASKA	Drawn: RWK
Reviewed: Robert Clayton	Revised: _____
Submitted: D. F. Reiter	Section: _____
Owner: _____	Date: 20 NOVEMBER 2006
Design: F.I.W. #F-211-13-01	Long Scale AS NOTED
Spec. No.: FTW336A	Rev. No.: F-211-13-01
Job No.: PN 65076	Per Scale: 1:2
Comments: Where air barrier transfers from under EIFS to O/ insul. bd. protect transition w/ sam flashing strip	Drawn Date: 10-20-06
Notes: F.I.W. #F-211-13-01	Spec. No.: F-211-13-01

FT. WAINWRIGHT, ALASKA AIRCRAFT PARTS STORAGE ARCHITECTURAL GENERAL WALL TYPES
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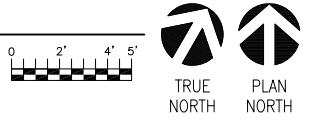
Reference number:  
A0.02  
Sheet 21 of 120  
R0003

Drawing X:\UNIFIED\EN-TE\Jobs\FTW336A\DWG\FTW336A-024-A1-02.dwg last saved on 11/19/2009 2:16 PM was plotted by Gaulke, Michael S POA on 11/20/2009 12:28 PM



2  
A1.01 A1.02 ENLARGED FLOOR PLAN @ ADMINISTRATIVE OFFICES  
SCALE: 1/4"=1'-0"

A1.01 A1.02      SCALE: 1/4"=1'-0"



Room Finish Schedule:																	
Room No	Room Name	Floor	Base	Walls								Ceiling			Comments		
				North Wall		East Wall		South Wall		West Wall							
		Finish	Subst	Finish	Subst	Finish	Subst	Finish	Subst	Finish	Subst	Subst	Finish	Height			
101	MAIN ENTRY	WM-1	GWB	RB-1	GWB	PT-2	GWB	PT-2	GWB	PT-2	GWB	PT-1	+10'-0"				
102	LOBBY	VCT-1/2	GWB	RB-1	GWB	PT-2	GWB	PT-1/PT-2	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+10'-0"		
103	STOCK CONTROL OFFICE	VCT-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
104	CORRIDOR	VCT-1/2	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
105	CORRIDOR	VCT-1/2	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
106	CHIEF'S OFFICE	VCT-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
107	DEPUTY'S OFFICE	VCT-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
108	UNASSIGNED OFFICE	VCT-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
109	RECEIVING OFFICE	VCT-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
110	SECURED STOCK OFFICE	VCT-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
111	SHIPPING & TURN-INS OFFICE	VCT-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
112	EXIT VESTIBULE	WM-1	GWB	RB-1	GWB	PT-2	GWB	PT-2	GWB	PT-2	GWB	PT-1	+8'-0"				
113	ELECTRICAL	SC-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	EXPOSED	N/A	N/A		
114	FEMALE LATRINE	CT-1,2&3	CBB	CT-1,2&3	CBB	CT-1,2&3	CBB	CT-1,2&3	CBB	CT-1,2&3	CBB	PT-2	+9'-0"	CT WAINSCOT FULL HEIGHT, REFER TO DETAILS FOR TILE PATTERNS			
115	MALE LATRINE	CT-1,2&3	CBB	CT-1,2&3	CBB	CT-1,2&3	CBB	CT-1,2&3	CBB	CT-1,2&3	CBB	PT-2	+9'-0"	CT WAINSCOT FULL HEIGHT, REFER TO DETAILS FOR TILE PATTERNS			
116	CORRIDOR/ BREAKROOM	VCT-1/2	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
117	JANITOR'S CLOSET	VCT-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-2	+9'-0"		
118	COMMUNICATIONS	SDT-1	GWB	RB-1	PLYWD/GWB	PT-4/PT-1	PLYWD/GWB	PT-4/PT-1	GWB	PT-1	PLYWD/GWB	PT-4/PT-1	GWB	PT-1	+10'-0"	PLYWD/GWB INDICATES PLYWOOD WAINSCOT TO +8'-0" W/ GWB FROM +8'-0" TO CEILING	
119	COPY/ STORAGE	VCT-1	GWB	RB-1	GWB	PT-2	GWB	PT-1	GWB	PT-1	GWB	PT-1	N/A	SAT-1	+9'-0"		
120	GENERAL STORAGE	SC-1	PLYWD	RB-1	PLYWD/FRRVR	PT-4	PLYWD/FRRVR	PT-4	PLYWD	PT-4	PLYWD/FRRVR	PT-4	EXPOSED	PT-1	N/A	PLYWD/ FRRVR INDICATES PLYWOOD WAINSCOT TO +12'-0" W/ EXPOSED V.R. FROM +12'-0" TO ROOF DECK ABOVE AT EXT. WALL	
121	SECURED STORAGE	SC-1	GWB	RB-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	GWB	PT-1	+11'-4"				
122	RECEIVING STORAGE	SC-1	GWB/MWP	RB-1/MWP-1	MWP	MWP-1	MWP	MWP-1	PLYWD	PT-4	PLYWD	PT-4	EXPOSED	N/A	N/A	PLYWOOD WAINSCOT TO +12'-0" W/ EXPOSED V.R. FROM +12'-0" TO ROOF DECK ABOVE AT EXT. WALL	
123	EXIT VESTIBULE	WN-1	GWB	RB-1	GWB	PT-2	GWB	PT-2	GWB	PT-2	GWB	PT-1	+8'-0"				
124	EXIT VESTIBULE	WM-1	GWB	RB-1	GWB	PT-2	GWB	PT-2	GWB	PT-2	GWB	PT-1	+8'-0"				
125	PARTS RETURN STORAGE	SC-1	PLYWD/MWP	RB-1/MWP-1	PLYWD/MWP	PT-4/MWP-1	PLYWD/FRRVR	PT-4	MWP	MWP-1	MWP	MWP-1	EXPOSED	PT-1	N/A	PLYWOOD WAINSCOT TO +12'-0" W/ EXPOSED V.R. FROM +12'-0" TO ROOF DECK ABOVE AT EXT. WALL	
126	MECHANICAL	SC-1	CMU/PLYWD	RB-1	CMU/GWB	PT-1	PLYWD/FRRVR	PT-4	CMU/GWB	PT-1	CMU/GWB	PT-1	EXPOSED	PT-1	N/A	PLYWOOD WAINSCOT TO +12'-0" W/ EXPOSED V.R. FROM +12'-0" TO ROOF DECK ABOVE AT EXT. WALL	
127	FIRE PUMPS	SC-1	CMU/PLYWD	RB-1	CMU	PT-1	PLYWD/FRRVR	PT-4	CMU	PT-1	CMU	PT-1	EXPOSED	PT-1	+12'-3 1/2"	PLYWOOD WAINSCOT TO +12'-0" W/ EXPOSED V.R. FROM +12'-0" TO ROOF DECK ABOVE AT EXT. WALL	

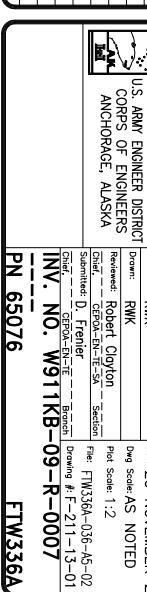
## **FINISH MATERIALS:**

## ABBREVIATIONS:

CBB	CEMENT BACKER BOARD	RB	RUBBER BASE
CPT	CARPET	RT	RUBBER TILE
CT	CERAMIC TILE	SAT	SUSPENDED ACOUSTICAL TILES
EP	EPOXY PAINT	SC	SEALED CONCRETE
GWB	GYPSUM WALL BOARD	SP	SOLID POLYMER
QT	QUARRY TILE	SS	SOLID SURFACE
QTB	QUARRY TILE BASE	SSR	STANDING SEAM ROOFING
MWP	MESH (WIRE) WALL PANEL	ST	STAIN FINISH (WOOD)
PLAM	PLASTIC LAMINATE	VCT	VINYL COMPOSITION TILE
PLYWD	PLYWOOD	WM	WALK-OFF MAT

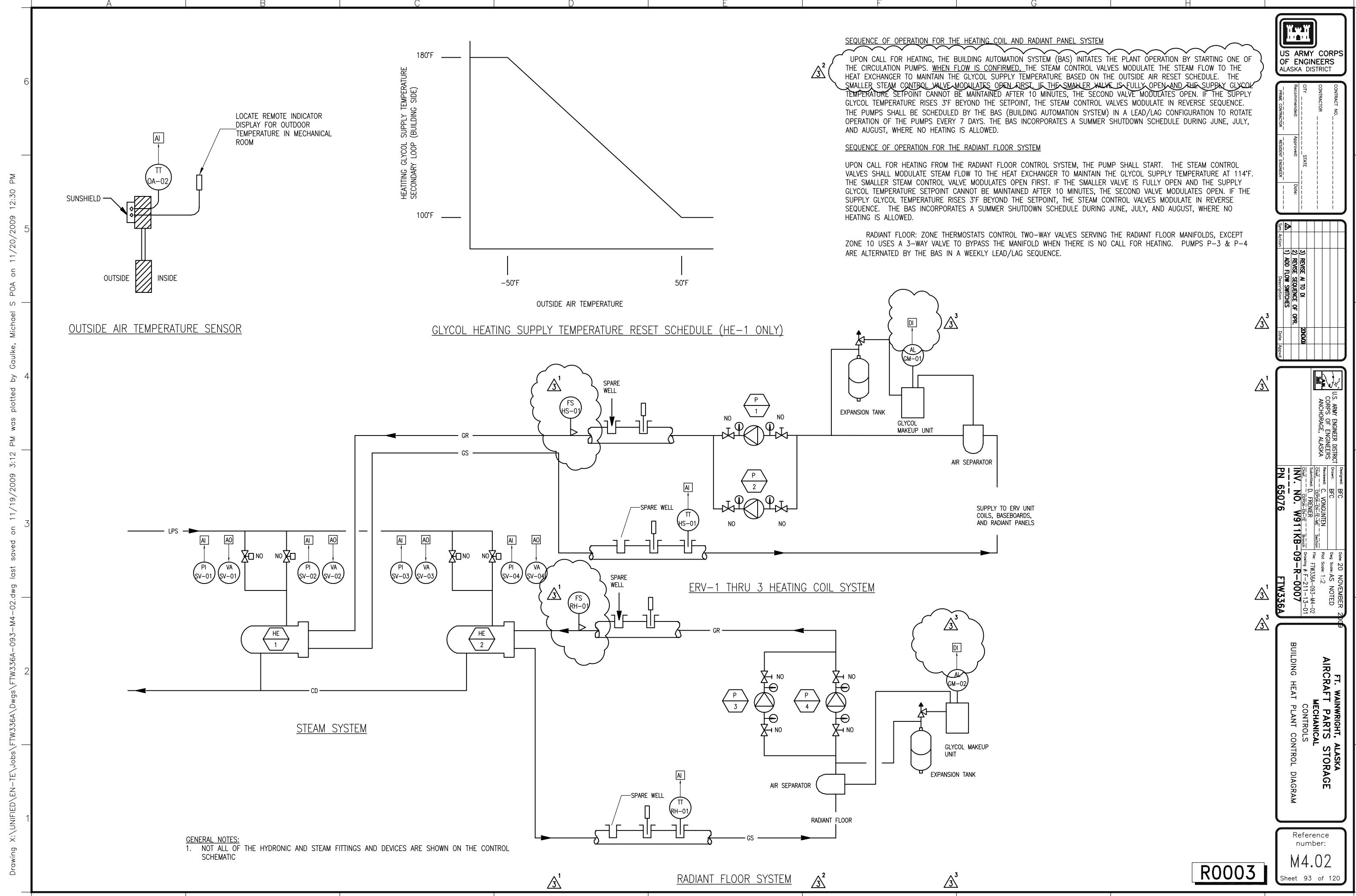
## NOTES:

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. MANUFACTURERS AND/OR PRODUCTS LISTED WITHIN SPECIFICATIONS OR DRAWINGS ARE TO BE USED AS "BASIS OF DESIGN" METHOD. ALTERNATIVE MANUFACTURER'S PRODUCTS ARE ACCEPTABLE, PROVIDED ALTERNATE PRODUCT MEETS OR EXCEEDS PERFORMANCE REQUIREMENTS AS STATED IN SPECIFICATIONS. NOTATIONS WITHIN DRAWINGS OR PUBLISHED PERFORMANCE CHARACTERISTICS OF LISTED PRODUCTS. COMPARABLE PERFORMANCE CAN BE DEMONSTRATED BY COMPARABLE WARRANTIES, MEETING INDUSTRY STANDARD SPECIFICATIONS OR GOVERNING BODY TESTING METHODS, CERTIFICATION BY INDEPENDENT TESTING LAB, OR BY SUBMITTAL OF PRODUCT DATA THAT VERIFIES COMPLIANCE WITH PERFORMANCE REQUIREMENTS. | 4. EXTERIOR COLORS TO BE SELECTED FROM MANUFACTURER'S STANDARD RANGE OF COLORS MATCHING THE FOLLOWING PANTONE COLORS PER FT. WANWRIGHT INSTALLATION DESIGN GUIDE. GENERAL CONSTRUCTION CONTRACTOR SHALL SUBMIT SAMPLES FOR ALL EXTERIOR MATERIALS FOR APPROVAL PRIOR TO CONSTRUCTION. COLORS NOTED IN MATERIALS SCHEDULE ARE "BASIC OF DESIGN" FOR BIDDING PURPOSES. WHERE MANUFACTURER DOES NOT PROVIDE A CLOSE ENOUGH MATCH WITH STANDARD RANGE OF COLORS, PROPOSERS SHALL NOTE WHETHER BID INCLUDES UP-CHARGE FOR CUSTOM COLOR OR CONTRACTOR RE-PAINTING ITEMS BASED ON PURCHASING MATERIALS WITH MANUFACTURER'S STANDARD COLOR OR PRIMED FINISH: |
| 2. REFER TO FLOOR PLAN & WALL TYPES SCHEDULE FOR SPECIFIC WALL SUBSTRATES.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | MATERIAL PANTONE COLOR CLOSEST MFR'S COLOR OR PAINT MATCH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3. REFER TO SHT. A5.03 FINISH PLAN FOR COLORS NOT SPECIFIED HERE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EIFS TAUPE 15-1309 ICI NO 479 DAPPER TAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CMU WAINSROT MAROON 19-1540 ICI NO 159 CLASSIC LIBERTY RED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | MTAL. ROOFING MAROON 19-1540 AS NOTED, UNDER STANDING SEAM MTAL. ROOFING SSR-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



Reference  
number:

00003



	I/O MATRIX				SOFTWARE			
	OUTPUT FROM BAS		INPUT TO BAS		APPLICATION PROGRAMS			
	DIGITAL	ANALOG	DIGITAL	ANALOG				
	START/STOP		POSITION ADJUSTMENT		SCHEDULED START/STOP	GLYCOL TEMP DA RESET	PUMP LEAD/DAY CYCLING	STEAM VALVE POSITIONING
PUMPS	4				X	X		
GLYCOL MAKEUP UNIT				2				
HYDRONIC TEMPERATURE TRANSMITTER			4			X		
STEAM VALVE				2		X	X	
FLOW SWITCHES						X		X
							X	X

SENSOR SCHEDULE			
IDENTIFIER	FUNCTION	RANGE	REMARKS
AL-GM-01	ALARM, LOW LEVEL, ERV COIL GLYCOL MAKEUP UNIT	ON/OFF	
AL-GM-02	ALARM, LOW LEVEL, RADIANT HEAT GLYCOL MAKEUP UNIT	ON/OFF	
PI-SV-01	POSITION INDICATOR, STEAM VALVE #1 ACTUATOR	0 TO 100% OPEN	
PI-SV-02	POSITION INDICATOR, STEAM VALVE #2 ACTUATOR	0 TO 100% OPEN	
PI-SV-03	POSITION INDICATOR, STEAM VALVE #3 ACTUATOR	0 TO 100% OPEN	
PI-SV-04	POSITION INDICATOR, STEAM VALVE #4 ACTUATOR	0 TO 100% OPEN	
TT-HS-01	TEMPERATURE TRANSMITTER, PIPE MOUNTED, HEATING GLYCOL SUPPLY	40°F TO 210°F	
TT-RH-01	TEMPERATURE TRANSMITTER, PIPE MOUNTED, RADIANT GLYCOL SUPPLY	40°F TO 210°F	
TT-OA-02	TEMPERATURE TRANSMITTER, WALL MOUNTED, OUTDOOR AIR	-58°F TO 122°F	
FS-HS-01	FLOW SWITCH, INSERTION	CLOSE ON FLOW	
FS-RS-01	FLOW SWITCH, INSERTION	CLOSE ON FLOW	

CONTROL VALVE SCHEDULE								
IDENTIFIER	FUNCTION	TYPE	STEAM FLOW (LB/HR)	PRESSURE IN/OUT (PSIG)	SIZE	CV	CLOSE OFF RATING	REMARKS
VA-SV-01	VALVE ACTUATOR, STEAM VALVE #1	PILOT ACTUATED, DIAPHRAGM OPERATED	2438	15/12	4"	127	30 PSIG	FAILS NORMALLY OPEN
VA-SV-02	VALVE ACTUATOR, STEAM VALVE #2	PILOT ACTUATED, DIAPHRAGM OPERATED	1313	15/12	2"	53	30 PSIG	FAILS NORMALLY OPEN
VA-SV-03	VALVE ACTUATOR, STEAM VALVE #3	PILOT ACTUATED, DIAPHRAGM OPERATED	753	15/12	2"	43	30 PSIG	FAILS NORMALLY CLOSED
VA-SV-04	VALVE ACTUATOR, STEAM VALVE #4	PILOT ACTUATED, DIAPHRAGM OPERATED	405	15/12	1-1/4"	21	30 PSIG	FAILS NORMALLY CLOSED

THERMOSTAT SCHEDULE					
TAG	ZONE	SERVICE	SETPOINT (°F)	VOLTS	REMARKS
T1	1	RADIANT FLOOR ZONES 1, 4, & 7, RADIANT PANELS RP-1&3	68	24	HEATING THERMOSTAT
T2	2	RADIANT FLOOR ZONES 2, 5, & 8, RADIANT PANELS RP-2&4	68	24	HEATING THERMOSTAT
T3	3	RADIANT FLOOR ZONES 3, 6, & 9, RADIANT PANEL RP-5	68	24	HEATING THERMOSTAT
T4	4	RADIANT FLOOR ZONE 10	68	24	HEATING THERMOSTAT
T5	5	STOCK CONTROL OFFICE 103	68	24	HEATING THERMOSTAT
T6	6	MAIN ENTRY 101	68	24	HEATING THERMOSTAT
T7	7	LOBBY 102	68	24	HEATING THERMOSTAT
T8	8	CHIEFS OFFICE 106	68	24	HEATING THERMOSTAT
T9	9	DEPUTY'S OFFICE 107	68	24	HEATING THERMOSTAT
T10	10	RECEIVING OFFICE 108	68	24	HEATING THERMOSTAT
T11	11	SECURED STOCK OFFICE 109	68	24	HEATING THERMOSTAT
T12	12	STORAGE 110	68	24	HEATING THERMOSTAT
T13	13	SHIPPING & TURN-IN OFFICE 111	68	24	HEATING THERMOSTAT
T14	14	EXIT VESTIBULE 112	68	24	HEATING THERMOSTAT
T15	15	ELECTRICAL ROOM 113	68	24	HEATING THERMOSTAT
T16	16	EXIT VESTIBULE 124	68	24	HEATING THERMOSTAT
T17	17	EXIT VESTIBULE 123	68	24	HEATING THERMOSTAT

US ARMY CORPS OF ENGINEERS ALASKA DISTRICT	
CONTRACT NO. _____	STATE _____
CONTRACTOR _____	DATE _____
City _____	Approved: _____
Prime Contractor _____	Resident Engineer _____
Date _____	Approved: _____

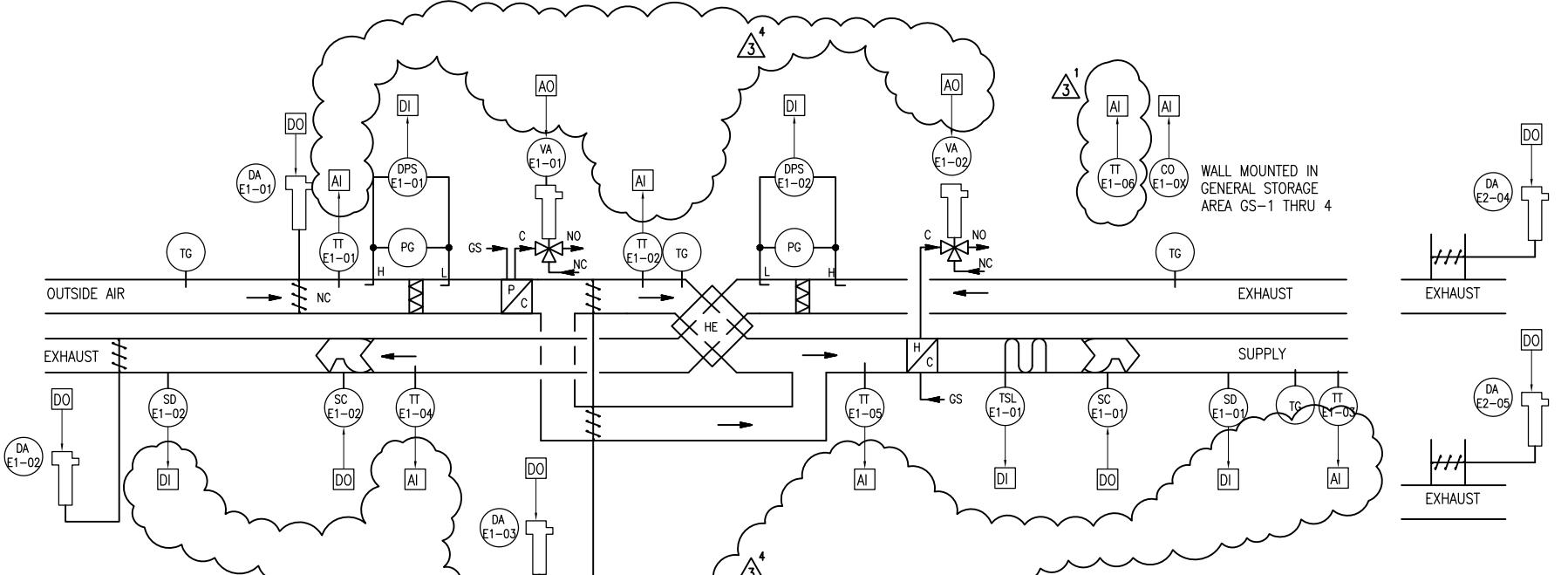
Sm Action	1) REVERSE AI TO DI
Description	2008
Date Approved	

Design: BPC	U.S. ARMY ENGINEER DISTRICT ANCHORAGE, ALASKA
Drawn: BPC	Request: C. VANQUINEN
Reviewed: C. VANQUINEN	Scale: 1:12
Supervised: D. FRICKER	Date: 20 NOVEMBER 2008
Checked: D. FRICKER	Per Scale: AS NOTED
Approved: D. FRICKER	Per Date: FTW336A-094-M4-03
Entered: D. FRICKER	Per Drawing #: FTW336A-211-13-01
INN. NO. W911KB-09-R-007	PN 65076

1)	FT. WAINWRIGHT, ALASKA
2)	AIRCRAFT PARTS STORAGE
3)	MECHANICAL CONTROLS
4)	BUILDING HEAT PLANT CONTROL MATRIX

Reference number:	M4.03
Sheet 94 of 120	

R0003
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ERV-1 CONTROL DIAGRAM (GENERAL STORAGE AREA)

NTS

	I/O MATRIX		SOFTWARE	
	OUTPUT		INPUT	
	DIGITAL	ANALOG	DIGITAL	ANALOG
START/STOP POSITION	1	FAN MOTOR SPEED (RPM)	1	TEMPERATURE INDICATION
POSITION ADJUSTMENT	1	POSITION	1	CURRENT POSITION
TIME SCHEDULE	X	X	X	SETPOINT ADJUSTMENT
STATE	X	X	X	GRAPHIC
RUNTIME ERRORS	X	X	X	ALARM REPORTING
ALARM	X	X	X	CARBON MONOXIDE (PPM)
TIME SCHEDULE	X	X	X	TIME SCHEDULE
STATE	X	X	X	STATE
RUNTIME ERRORS	X	X	X	RUNTIME ERRORS
ALARM	X	X	X	ALARM
TIME SCHEDULE	X	X	X	TIME SCHEDULE
STATE	X	X	X	STATE
RUNTIME ERRORS	X	X	X	RUNTIME ERRORS
ALARM	X	X	X	ALARM

#### SEQUENCE OF OPERATION

SCHEDULE: OPERATES BASED ON USER VARIABLE OCCUPANCY SCHEDULE, MONDAY – SATURDAY 7AM TO 7PM, SCHEDULE ON/OFF IS OVERRIDDEN BY CO LEVEL, BATTERY CHARGING MODES, OR USER INPUT.

#### MODES OF OPERATION

- CO LEVEL CONTROL: GAS SENSORS GS-1 THRU 4 MONITOR THE CARBON MONOXIDE LEVELS IN THE GENERAL STORAGE AREA. WHEN THE CO LEVEL EXCEEDS SETPOINT SHOWN, ERV-1 SUPPLY AND EXHAUST FAN MOTOR SPEEDS ARE SET TO HIGH. WHEN THE CO LEVEL DROPS BELOW SETPOINT SHOWN, THE FAN MOTORS ARE SET TO LOW SPEED AFTER A 10 MINUTE DELAY.

- BATTERY CHARGING: THE BATTERY CHARGERS ARE MONITORED BY CURRENT SENSORS, CURRENT FLOW TO EITHER BATTERY CHARGER INITIATES HIGH MOTOR SPEED FOR THE SUPPLY AND EXHAUST FANS. THE MOTORIZED DAMPERS AT EG-4 & 7 OPEN. WHEN NEITHER OF THE BATTERY CHARGER CURRENT SENSORS DETECT CURRENT FLOW, EG-4 & 7 DAMPERS CLOSE AND THE FAN SPEEDS ARE SET TO LOW AFTER A 10 MINUTE DELAY.

- GENERAL VENTILATION CONTROL: IF THE CARBON MONOXIDE LEVEL IS BELOW THE SETPOINT AND THE BATTERY CHARGERS ARE NOT CHARGING, ERV-1 SUPPLY AND EXHAUST FAN MOTOR SPEEDS ARE SET TO LOW. IN ALL MODES OF OPERATION, THE AIR VOLUME IS MODULATED THROUGH THE USE OF SPEED CONTROLS ON BOTH SUPPLY AND EXHAUST FAN MOTORS. HIGH SPEED IS THE MOTOR NAMEPLATE RPM, LOW SPEED IS 1/2 OF HIGH SPEED RPM.

#### OUTSIDE AND EXHAUST AIR DAMPERS

- SET TO FULLY OPEN WHEN FANS ARE ON.

#### BYPASS DAMPER

- FULLY OPEN WHEN THE OUTDOOR AIR TEMPERATURE >60°F

#### SUPPLY AND EXHAUST FAN CONTROL

- BOTH FANS RUN SIMULTANEOUSLY WHEN UNIT IS ON. 2-SPEED FANS ARE CONTROLLED PER "MODES OF OPERATION" ABOVE.

#### FILTERS

- A DIFFERENTIAL PRESSURE SENSOR ACROSS THE FILTERS SHALL INITIATE A FILTER ALARM WHEN THE PRESSURE DROP ACROSS THE FILTER REACHES THE SEPOINT AS SHOWN. THE ALARM SHALL DISPLAY AT THE BUILDING AUTOMATION SYSTEM TERMINAL.

#### FREEZE PROTECTION

- A TEMPERATURE SENSOR (LOW TEMPERATURE) SHALL STOP THE SUPPLY FAN, AND CAUSE THE OUTSIDE AND EXHAUST AIR DAMPERS TO CLOSE, AND SHALL INITIATE A LOW TEMPERATURE ALARM IF THE TEMPERATURE DROPS BELOW THE SETPOINT SHOWN. RETURN TO THE NORMAL MODE OF OPERATION SHALL REQUIRE MANUAL RESET OF THE SENSOR. THE ALARM SHALL ANNUNCIATE AT THE BUILDING AUTOMATION SYSTEM TERMINAL.

#### PREHEAT COIL

- THE CONTROL VALVE SHALL BE MODULATED BY THE DDC SYSTEM FROM THE SIGNAL OF A TEMPERATURE SENSING ELEMENT AND TRANSMITTER LOCATED IN THE COIL DISCHARGE AIR TO MAINTAIN THE SETPOINT SHOWN.

#### HEATING COIL

- THE CONTROL VALVE SHALL BE MODULATED BY THE DDC SYSTEM FROM THE SIGNAL OF A TEMPERATURE SENSING ELEMENT AND TRANSMITTER LOCATED IN THE SUPPLY AIR DUCT TO MAINTAIN THE SETPOINT SHOWN.

#### EMERGENCY HVAC SHUTOFF

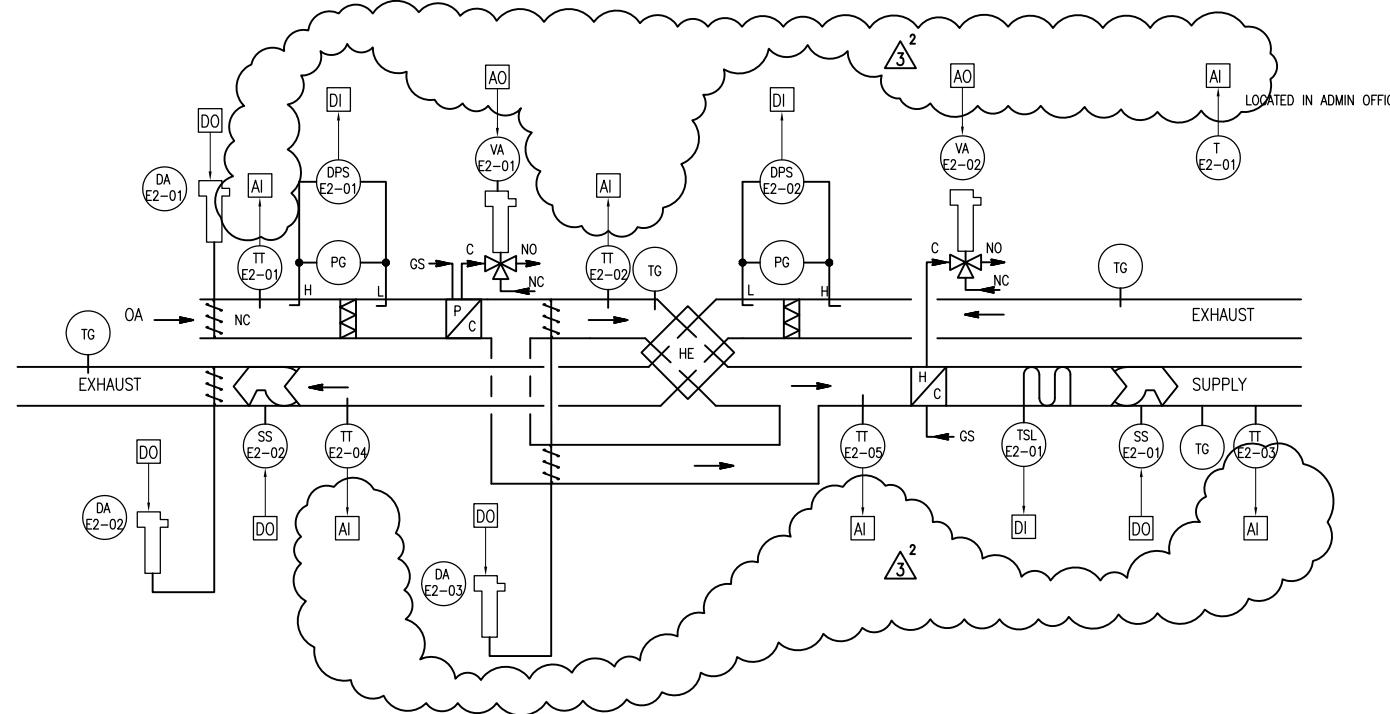
- THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SHUTOFF ERV-1 THRU 3 AND CLOSE THE OUTSIDE AIR

US ARMY CORPS OF ENGINEERS ALASKA DISTRICT	CONTRACT NO. _____
CONTRACTOR _____	DATE _____
STATE _____	TIME _____
APPROVED: _____	RECOMMENDED: _____
RESIDENT ENGINEER _____	DATE _____

U.S. ARMY ENGINEER DISTRICTS	Design: BPC
ANCHORAGE, ALASKA	Drawn: BPC
Reviewed: C. VANCUNEN	Revised: C. VANCUNEN
Supervised: G. GEIGER	Section: _____
Checked: D. FRICKER	Date: _____
Planned: B. BROWN	Plot Scale: 1:12
Approved: F. 211-13-01	Plotting: FTW336A-095-M4-04
INVOICE NO. M911KB-09-R-007	PN 65076
FTW336A	FTW336A

FT. WAINWRIGHT, ALASKA
AIRCRAFT PARTS STORAGE
MECHANICAL
CONTROLS
ERV-1 CONTROL DIAGRAM AND MATRIX

Reference number:	M4.04
Sheet 95 of 120	R003



ERV-2 CONTROL DIAGRAM (ADMIN AREA)  
NTS

CONTROL DAMPER SCHEDULE					
IDENTIFIER	FUNCTION	TYPE	SIZE	RANGE	REMARKS
DA-E2-01	OUTSIDE AIR DAMPER	OPEN/CLOSED	LOUVER DIMENSION	0-4 IN WG/-60°F TO 90°F	PARALLEL BLADE, COLD TEMPERATURE, AT EXTERIOR WALL
DA-E2-02	EXHAUST AIR DAMPER	OPEN/CLOSED	LOUVER DIMENSION	0-4 IN WG/-60°F TO 90°F	PARALLEL BLADE, COLD TEMPERATURE, AT EXTERIOR WALL
DA-E2-03	HEAT EXCHANGER FACE AND BYPASS AIR DAMPER	OPEN/CLOSED	MANUFACTURERS STANDARD	0-4 IN WG/0°F TO 100°F	PARALLEL BLADE, IN ERV UNIT

CONTROL VALVE SCHEDULE					
IDENTIFIER	FUNCTION	TYPE	RANGE	CV	CLOSE OFF RATING
VA-E2-01	VALVE ACTUATOR, PRE-HEAT COIL VALVE	3-WAY, MODULATING	MANUFACTURERS STANDARD	4	70 PSIG
VA-E2-02	VALVE ACTUATOR, HEATING COIL	3-WAY, MODULATING	MANUFACTURERS STANDARD	4	70 PSIG

SENSOR SCHEDULE		
IDENTIFIER	FUNCTION	RANGE/SETPOINT
DPS-E2-01	DIFFERENTIAL PRESSURE SENSOR, OUTSIDE AIR FILTER	0-1.0 IN WG/.65 IN WG
DPS-E2-02	DIFFERENTIAL PRESSURE SENSOR, EXHAUST AIR FILTER	0-1.0 IN WG/.65 IN WG
SS-E2-01	START/STOP MOTOR, SUPPLY AIR	ON/OFF
SS-E2-02	START/STOP MOTOR, EXHAUST AIR	ON/OFF
T-E2-01	TEMPERATURE SENSOR/USER INPUT DEVICE TO BAS (TO REVISE TT-E2-03)	ON/OFF
TSL-E2-01	TEMPERATURE SENSOR, LOW TEMPERATURE PROTECTION	OFF 80°F/40°F
TT-E2-01	TEMPERATURE TRANSMITTER, DUCT MOUNTED, OUTSIDE AIR	-58°F - 122°F
TT-E2-02	TEMPERATURE TRANSMITTER, UNIT MOUNTED, OUTSIDE AIR LEAVING PRE-HEAT COIL	-58°F - 122°F/20°F
TT-E2-03	TEMPERATURE TRANSMITTER, UNIT MOUNTED, SUPPLY AIR LEAVING ERV-2	40°F - 100°F
TT-E2-04	TEMPERATURE TRANSMITTER, UNIT MOUNTED, EXHAUST LEAVING HEAT EXCHANGER	40°F - 100°F
TT-E2-05	TEMPERATURE TRANSMITTER, UNIT MOUNTED, OUTSIDE AIR LEAVING HEAT EXCHANGER	40°F - 100°F

	I/O MATRIX				SOFTWARE	
	OUTPUT		INPUT			
	DIGITAL	ANALOG	DIGITAL	ANALOG		
START/STOP			POSITION ADJUSTMENT		SETPOINT ADJUSTMENT	
				TIME SCHEDULE	GRADING	
				TEMPERATURE	ALARM	
				POSITION INDICATION	STATE	
				RUNTIME ERRORS	APPLICATION PROGRAMS	
				ALARM REPORTING	CONTRACTOR	
					US ARMY CORPS OF ENGINEERS ALASKA DISTRICT	

US ARMY CORPS OF ENGINEERS  
ALASKA DISTRICT

CONTRACT NO. _____	STATE _____
CONTRACTOR _____	DATE _____
TRIPLE CONTRACTOR _____	RECOMMENDED _____
RESIDENT ENGINEER _____	APPROVED _____

Sm Action	2) REVERSE INPUTS/OUTPUTS wave
Description	Date Approved

U.S. ARMY ENGINEER DISTRICT	Design: BPC
ANCHORAGE, ALASKA	Drawn: C. VANQUINTEN
Reviewed: C. VANQUINTEN	Checked: C. VANQUINTEN
Supervised: D. FREDERICK	Section: 1-2
Approved: D. FREDERICK	Date: NOVEMBER 2009
Design No. FTW336A-096-M4-05	Drawn Scale: AS NOTED
Inv. No. W911KB-09-R-007	Revised Date: FTW336A-096-M4-05
PN 65076	Sheet No. 1-2
FTW336A	Page No. 1

FT. WAINWRIGHT, ALASKA	AIRCRAFT PARTS STORAGE
MECHANICAL	CONTROLS
ERV-2 CONTROL DIAGRAM AND MATRIX	Reference number:

M4.05
Sheet 96 of 120

#### SEQUENCE OF OPERATION

##### SCHEDULE

- OPERATES BASED ON OCCUPANCY SCHEDULE, MONDAY – SATURDAY 7AM TO 7PM, ADJUSTABLE BY THE USER INTERFACE (T-E2-01).

##### MODES OF OPERATION

GENERAL HEATING AND VENTILATION: BOTH FANS OPERATE TO PROVIDE GENERAL VENTILATION.

##### OUTSIDE AND EXHAUST AIR DAMPERS

- SET TO FULLY OPEN WHEN FANS ARE ON.

##### BYPASS DAMPER

- FULLY OPEN WHEN THE OUTDOOR AIR TEMPERATURE >60°F

##### SUPPLY AND EXHAUST FAN CONTROL

- BOTH FANS RUN SIMULTANEOUSLY WHEN UNIT IS ON.

##### FILTERS

- A DIFFERENTIAL PRESSURE SENSOR ACROSS THE FILTERS SHALL INITIATE A FILTER ALARM WHEN THE PRESSURE DROP ACROSS THE FILTER REACHES THE SEPOINT AS SHOWN. THE ALARM SHALL DISPLAY AT THE BUILDING AUTOMATION SYSTEM TERMINAL.

##### FREEZE PROTECTION

- A TEMPERATURE SENSOR (LOW TEMPERATURE) SHALL STOP THE SUPPLY FAN, AND CAUSE THE OUTSIDE AND EXHAUST AIR DAMPERS TO CLOSE, AND SHALL INITIATE A LOW TEMPERATURE ALARM IF THE TEMPERATURE DROPS BELOW THE SETPOINT SHOWN. RETURN TO THE NORMAL MODE OF OPERATION SHALL REQUIRE MANUAL RESET OF THE SENSOR. THE ALARM SHALL ANNOUNCE AT THE BUILDING AUTOMATION SYSTEM TERMINAL.

##### PREHEAT COIL

- THE CONTROL VALVE SHALL BE MODULATED BY THE DDC SYSTEM FROM THE SIGNAL OF A TEMPERATURE SENSING ELEMENT AND TRANSMITTER LOCATED IN THE COIL DISCHARGE AIR TO MAINTAIN THE SETPOINT SHOWN.

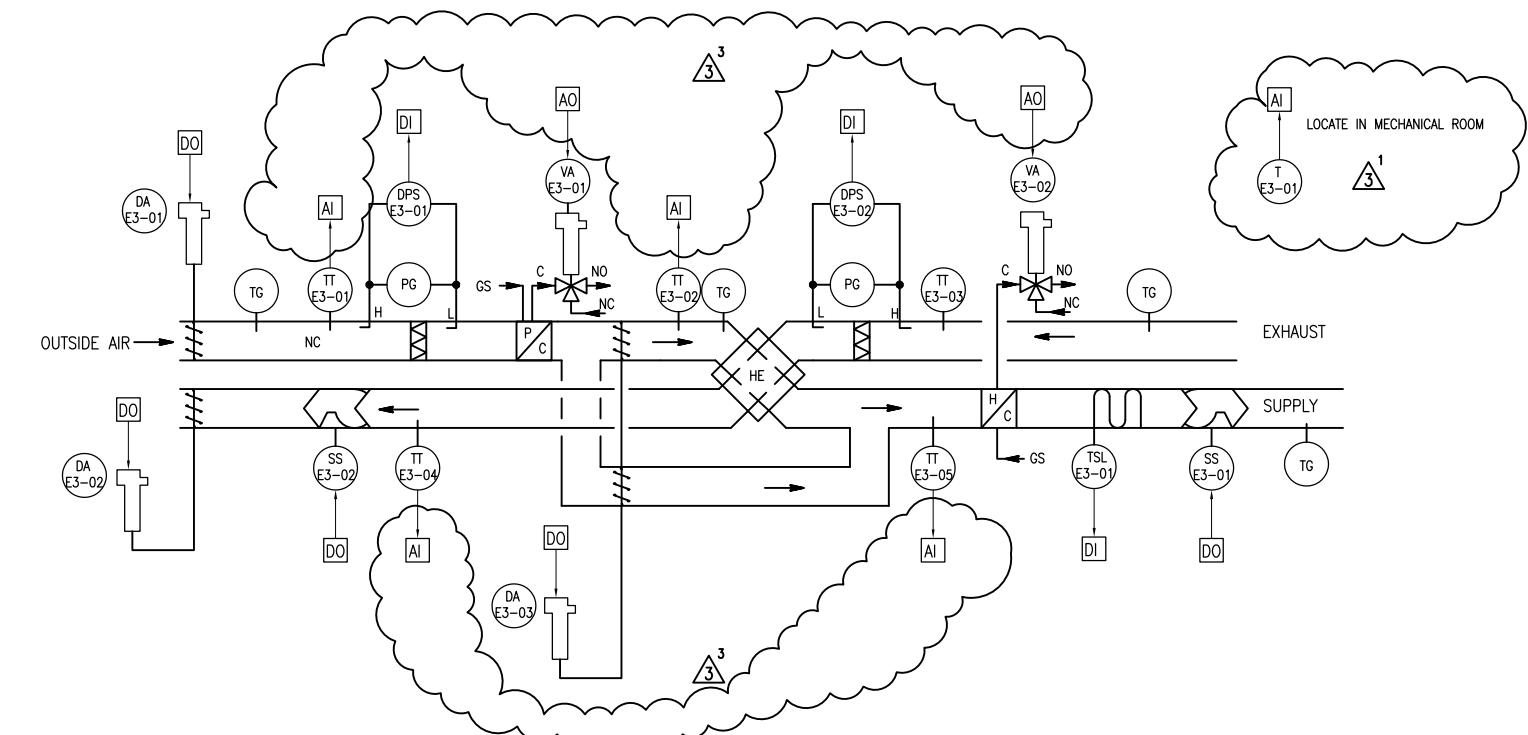
##### HEATING COIL

- THE CONTROL VALVE SHALL BE MODULATED BY THE DDC SYSTEM FROM THE SIGNAL OF TEMPERATURE SENSING ELEMENT LOCATED IN THE SUPPLY DUCT (TT-E2-03) TO MAINTAIN THE SETPOINT SHOWN.

##### EMERGENCY HVAC SHUTOFF

- THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SHUTOFF ERV-1 THRU 3 AND CLOSE THE OUTSIDE AND EXHAUST AIR DAMPERS WHEN THE EMERGENCY HVAC SHUTOFF SIGNAL IS RECEIVED.

R0003



ERV-3 MECHANICAL AND FIRE PUMP ROOM  
NTS

CONTROL DAMPER SCHEDULE					
IDENTIFIER	FUNCTION	TYPE	SIZE	RANGE	REMARKS
DA-E3-01	OUTSIDE AIR DAMPER	OPEN/CLOSED	LOUVER DIMENSION	0-4 IN WG/-60°F TO 90°F	PARALLEL BLADE, COLD TEMPERATURE, AT EXTERIOR WALL
DA-E3-02	EXHAUST AIR DAMPER	OPEN/CLOSED	LOUVER DIMENSION	0-4 IN WG/-60°F TO 90°F	PARALLEL BLADE, COLD TEMPERATURE, AT EXTERIOR WALL
DA-E3-03	HEAT EXCHANGER FACE AND BYPASS AIR DAMPER	OPEN/CLOSED	MANUFACTURERS STANDARD	0-4 IN WG/0°F TO 100°F	PARALLEL BLADE, IN ERV UNIT

CONTROL VALVE SCHEDULE					
IDENTIFIER	FUNCTION	TYPE	RANGE	CV	CLOSE OFF RATING
VA-E3-01	VALVE ACTUATOR, PRE-HEAT COIL VALVE	3-WAY, MODULATING	MANUFACTURERS STANDARD	4	70 PSIG
VA-E3-02	VALVE ACTUATOR, HEATING COIL	3-WAY, MODULATING	MANUFACTURERS STANDARD	4	70 PSIG

SENSOR SCHEDULE		
IDENTIFIER	FUNCTION	RANGE/SETPOINT
DPS-E3-01	DIFFERENTIAL PRESSURE SENSOR, OUTSIDE AIR FILTER	0-1.0 IN WG/.65 IN WG
DPS-E3-02	DIFFERENTIAL PRESSURE SENSOR, EXHAUST AIR FILTER	0-1.0 IN WG/.65 IN WG
SS-E3-01	START/STOP MOTOR, SUPPLY AIR FAN	ON/OFF
SS-E3-02	START/STOP MOTOR, EXHAUST AIR FAN	ON/OFF
T-E3-01	TEMPERATURE SENSOR/USER INPUT DEVICE TO BAS (TO REVISE TT-E3-03 SETPOINT)	40°F - 80°F
TT-E3-01	TEMPERATURE SENSOR, LOW TEMPERATURE PROTECTION	0°F - 80°F/40°F
TT-E3-01	TEMPERATURE TRANSMITTER, DUCT MOUNTED, OUTSIDE AIR	-58°F TO 122°F
TT-E3-02	TEMPERATURE TRANSMITTER, UNIT MOUNTED, OUTSIDE AIR LEAVING PRE-HEAT COIL	40°F - 100°F/20°F
TT-E3-03	TEMPERATURE TRANSMITTER, UNIT MOUNTED, EXHAUST AIR LEAVING OFFICES/RESTROOMS	40°F - 100°F/55°F
TT-E3-04	TEMPERATURE TRANSMITTER, UNIT MOUNTED, EXHAUST AIR LEAVING HEAT EXCHANGER	40°F - 100°F
TT-E3-05	TEMPERATURE TRANSMITTER, UNIT MOUNTED, OUTSIDE AIR LEAVING HEAT EXCHANGER	40°F - 100°F

	I/O MATRIX				SOFTWARE	
	OUTPUT		INPUT			
	DIGITAL	ANALOG	DIGITAL	ANALOG		
START/STOP			POSITION ADJUSTMENT			
ALARM			TEMPERATURE INDICATION			
			TIME SCHEDULE	X X		
			RUNTIME ERRORS	X X		
			ALARM REPORTING	X		
			SEPOINT ADJUSTMENT	X		
			GRAPHIC	X		
SUPPLY FAN	1					
EXHAUST FAN	1					
SUPPLY AIR		1				
RETURN AIR		1				
EXHAUST AIR		1				
OUTSIDE AIR		1				
OUTSIDE AIR DAMPER		1				
EXHAUST AIR DAMPER		1				
BYPASS AIR DAMPER		1				
PREHEAT COIL VALVES		1		X	X	
HEATING COIL VALVES		1		X	X	
TEMPERATURE SENSOR			1	X X	X	
FILTERS		2		X X X	X	
FREEZESTAT		1		X X X	X	



CONTRACT NO. _____	STATE _____
CONTRACTOR _____	_____
City _____	_____
Approved: _____	Date: _____
Resident Engineer: _____	_____

3 REVERSE INPUTS/OUTPUTS	2008
1 ADD TEMP. SENSOR TO RM.	_____
2 REVERSE TEMP. RANGE	_____
3 TEMP. SENSOR TO RM.	_____

U.S. ARMY ENGINEER DISTRICT	Design: BPC
ANCHORAGE, ALASKA	Drawn: C. VANDUYEN
Reviewed: C. VANDUYEN	Checked: C. VANDUYEN
Supervisor: D. FRICKER	Approved: C. VANDUYEN
Owner: U.S. AIR FORCE	Date: 20 NOVEMBER 2008
Job No.: FTW336A	Drawn Scale: AS NOTED
Revised: C. VANDUYEN	Reviewed Scale: 1:12
Supervisor: D. FRICKER	Supervisor Scale: 1:12
Owner: U.S. AIR FORCE	Drawn Date: FTW336A-097-M4-06
Job No.: FTW336A	Revised Date: FTW336A-097-M4-06
Revised: C. VANDUYEN	Supervisor Date: FTW336A-097-M4-06
Owner: U.S. AIR FORCE	Drawn Date: FTW336A-097-M4-06
Job No.: FTW336A	Revised Date: FTW336A-097-M4-06

INV. NO. W911KB-09-R-007	PN 65076
FT. WAINWRIGHT, ALASKA	Drawn Date: FTW336A-097-M4-06
AIRCRAFT PARTS STORAGE	Revised Date: FTW336A-097-M4-06
MECHANICAL CONTROLS	Supervisor Date: FTW336A-097-M4-06
ERV-3 CONTROL DIAGRAM AND MATRIX	Drawn Date: FTW336A-097-M4-06
Reference number:	M4.06

#### SEQUENCE OF OPERATION

#### SCHEDULE

- OPERATES CONTINUOUSLY

#### MODES OF OPERATION

- GENERAL VENTILATION: BOTH FANS OPERATE TO PROVIDE GENERAL VENTILATION AND HEATING.

#### OUTSIDE AND EXHAUST AIR DAMPERS

- SET TO FULLY OPEN WHEN FANS ARE ON.

#### BYPASS DAMPER

- FULLY OPEN WHEN THE OUTDOOR AIR TEMPERATURE >60°F

#### SUPPLY AND EXHAUST FAN CONTROL

- BOTH FANS RUN SIMULTANEOUSLY WHEN UNIT IS ON.

#### FILTERS

- A DIFFERENTIAL PRESSURE SENSOR ACROSS THE FILTERS SHALL INITIATE A FILTER ALARM WHEN THE PRESSURE DROP ACROSS THE FILTER REACHES THE SEPOINT AS SHOWN. THE ALARM SHALL DISPLAY AT THE BUILDING AUTOMATION SYSTEM TERMINAL.

#### FREEZE PROTECTION

- A TEMPERATURE SENSOR (LOW TEMPERATURE) SHALL STOP THE SUPPLY FAN, AND CAUSE THE OUTSIDE AND EXHAUST AIR DAMPERS TO CLOSE, AND SHALL INITIATE A LOW TEMPERATURE ALARM IF THE TEMPERATURE DROPS BELOW THE SETPOINT SHOWN. RETURN TO THE NORMAL MODE OF OPERATION SHALL REQUIRE MANUAL RESET OF THE SENSOR. THE ALARM SHALL ANNOUNCE AT THE BUILDING AUTOMATION SYSTEM TERMINAL.

#### PREHEAT COIL

- THE CONTROL VALVE SHALL BE MODULATED BY THE DDC SYSTEM FROM THE SIGNAL OF A TEMPERATURE SENSING ELEMENT AND TRANSMITTER LOCATED IN THE COIL DISCHARGE AIR TO MAINTAIN THE SETPOINT SHOWN.

#### HEATING COIL

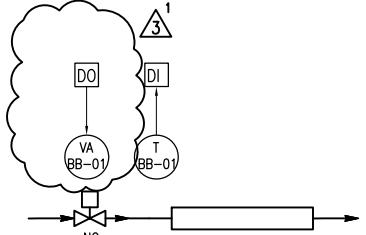
- THE CONTROL VALVE SHALL BE MODULATED BY THE DDC SYSTEM FROM THE SIGNAL OF A TEMPERATURE SENSING ELEMENT LOCATED IN THE EXHAUST AIR DUCT (TT-E3-03) TO MAINTAIN THE SETPOINT SHOWN.

#### EMERGENCY HVAC SHUTOFF

- THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SHUTOFF ERV-1 THRU 3 AND CLOSE THE OUTSIDE AND EXHAUST AIR DAMPERS WHEN THE EMERGENCY HVAC SHUTOFF SIGNAL IS RECEIVED.

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M4.06  
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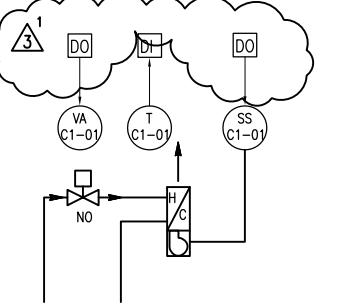
## BASEBOARD HEATER CONTROL

### SEQUENCE OF OPERATION

HEATING MODE – THE HYDRONIC VALVE IS CONTROLLED ON/OFF BY THE ROOM THERMOSTAT. THE VALVE FAILS OPEN.

I/O MATRIX				SOFTWARE
OUTPUT		INPUT		APPLICATION PROGRAMS
DIGITAL	ANALOG	DIGITAL	ANALOG	
POSITION ADJUSTMENT				
HEATING VALVES	12			X
THERMOSTAT		12		X X X

CONTROL VALVE SCHEDULE	
IDENTIFIER	VA-BB-01 THRU 12
FUNCTION	BASEBOARD, HEATING COIL VALVE
TYPE	2-WAY, ON/OFF
RANGE	MANUFACTURERS STANDARD
CV	2.5
CLOSE OFF RATING	50 PSIG
REMARKS	GLOBE VALVE, 24V ACTUATOR



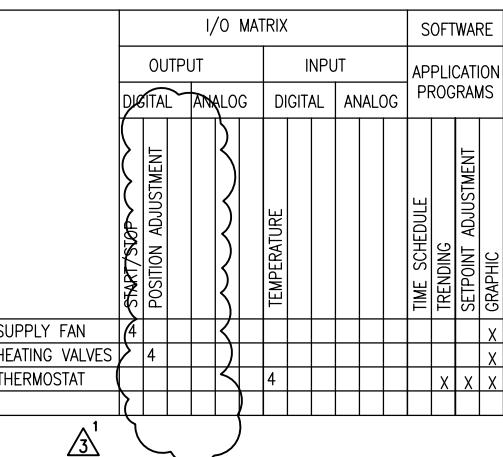
# CABINET UNIT HEATER CONTROL

### SEQUENCE OF OPERATION

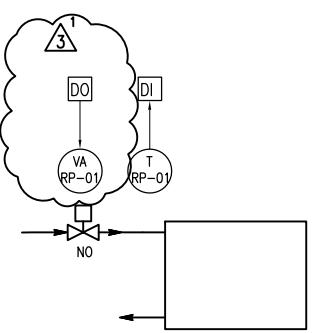
AUTOMATIC - THE BLOWER AND HYDRONIC HEATING COIL VALVE ARE CONTROLLED ON/OFF BY THE ROOM THERMOSTAT. THE VALVE FAILS OPEN, THE FAN FAILS OFF.

MANUAL - A HAND/OFF/AUTO SWITCH OPERATES BOTH THE BLOWER AND HYDRONIC HEATING CONTROL VALVE IN MANUAL MODE.

NOTE: CUH-2 THRU CUH-4 CONTROLS ARE THE SAME EXCEPT FOR THE IDENTIFIERS.

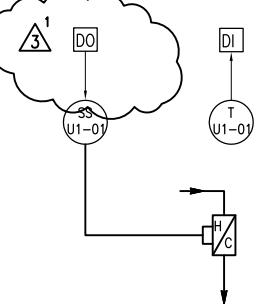


CONTROL VALVE SCHEDULE	
IDENTIFIER	VA-C1-01 THRU 04
FUNCTION	CUH HEATING COIL VALVE
TYPE	2-WAY, ON/OFF
RANGE	MANUFACTURERS STANDARD
CV	2.5
CLOSE OFF RATING	50 PSIG
REMARKS	GLOBE VALVE, 24V ACTUATOR



## RADIANT PANEL CONTROL

**HEATING MODE** - THE HYDRONIC VALVE IS CONTROLLED ON/OFF BY THE ROOM THERMOSTAT. THE VALVE FAILS OPEN.



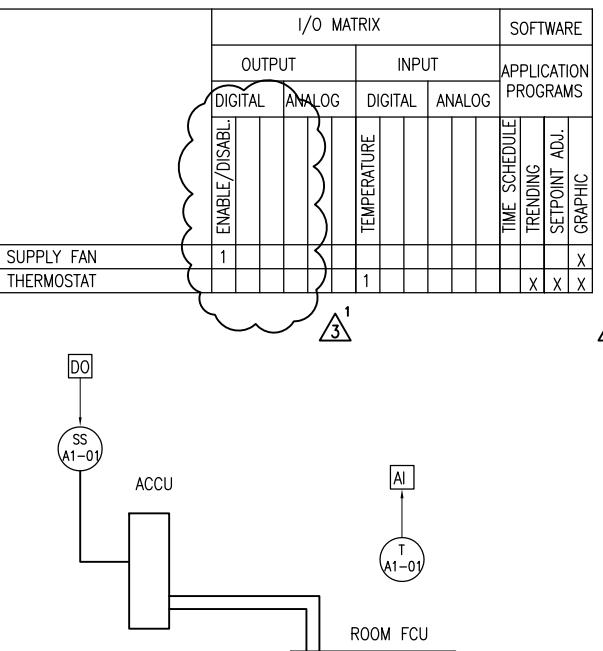
## UNIT HEATER CONTROL

### SEQUENCE OF OPERATION

AUTOMATIC - THE BLOWER IS CONTROLLED ON/OFF BY THE ROOM THERMOSTAT. THE FAN FAILS OFF.

MANUAL – A HAND/OFF/AUTO SWITCH OPERATES THE BLOWER IN MANUAL MODE.

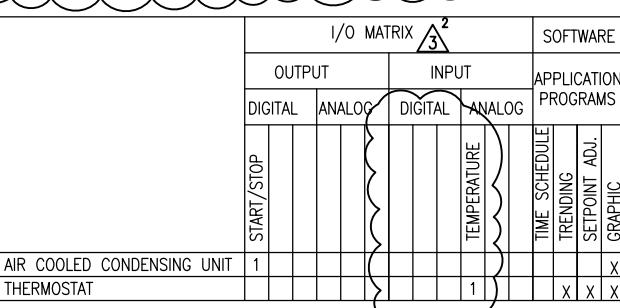
NOTE: NO CONTROL VALVE



#### AIR CONDITIONER CONTROL

## AIR CONDITIONER CONTROL

AUTOMATIC – THE COMPRESSOR, EVAPORATOR FAN, AND CONDENSER FANS ARE CONTROLLED ON/OFF BY THE INTEGRAL CONTROLLER (SETPOINT FOR COOLING IS 75F). ROOM TEMPERATURE SENSOR REPORTS TO THE DDC.



R0003

**United States Army  
Corps of Engineers**

Alaska District  
P.O. Box 6868  
Elmendorf AFB, AK  
99506-6898

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# **Chemical Data Report**

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**Foundation Study HTRW Survey**

**Aviation Task Force Phase I  
Aircraft Parts Storage  
FTW336A (08-047)  
Fort Wainwright, Alaska**



**Materials Section  
Engineering Services Branch**

**April 2009**

CEPOA-EN-ES-M (200-1d)

6-April-2009

MEMORANDUM FOR CEPOA-PM-M (John Jordan)

SUBJECT: Chemical Data Report, Foundation Study HTRW Soil Sampling and Analysis, FTW336A Aviation Task Force Phase I, Aircraft Parts Storage, Fort Wainwright, Alaska (08-047)

1. Reference Kickoff Meeting, Aviation Task Force Phase I, 14 November 2006.
2. Attached is the Chemical Data Report for this project.
3. Questions should be directed to Jake Sweet, x-2694.

Encl



JAMES W. PEKAR, P.E.  
Chief, Geotechnical Services

## **Executive Summary**

The U.S. Army Corps of Engineers (USACE), Alaska District, Materials Section (CEPOA-EN-ES-M), prepared this report at the request of the USACE Project Management Branch (CEPOA-PM-M). This report presents the analytical results of soil samples collected during the limited geotechnical investigation for the Aviation Task Force Aircraft Parts Storage (FTW336A) project at Fort Wainwright, Alaska. The soil samples were collected from the 11<sup>th</sup> through the 17<sup>th</sup> of April, 2008. A project location and vicinity map is enclosed as Figure 1. Soil samples were collected and compared against the most conservative Alaska Department of Environmental Conservation (ADEC) soil cleanup levels.

Twelve borings (AP-9686 through AP-9697) were advanced to collect geotechnical and chemical samples at the FTW336A Aircraft Parts Storage site. In all, 22 soil samples and four duplicate samples were collected from the borings for chemical analysis.

**Based on the results of this sampling, the soil samples revealed the presence of the following contaminants:**

1. Benzene was found at one location exceeding ADEC cleanup levels. The surface sample at AP-9695 had a benzene concentration of 0.034 mg/kg, exceeding the cleanup level of 0.025 mg/kg. This sample also had a DRO concentration of 230 mg/kg, which is approaching the ADEC cleanup level of 250 mg/kg.
2. Arsenic was detected at levels above ADEC cleanup limits in eight of fourteen samples. Four of these samples had concentrations at levels above the ingestion limits established in Table B-1 of 18 AAC 75. These concentrations are consistent with known background soil concentrations of arsenic in Fort Wainwright soils.
3. Benzo(a)pyrene was detected at levels above ADEC cleanup limits at the surface of AP-9697. This compound has a cleanup level of 0.49 mg/kg and was detected at a concentration of 0.63 mg/kg.
4. Methylene chloride was detected above cleanup levels in six of the project samples. However, a similar concentration of the compound was found in the accompanying trip blanks and its presence can likely be attributed to laboratory contamination.

This site is part of an operable unit. This site is known to have been contaminated in the past. Institutional controls have been placed on this site that restrict excavation and disposal options.

The construction contractor shall evaluate the hazards and recommend hazard control measures in accordance with EM 385-1-1 and other applicable federal, state, and, local regulations. The Accident Prevention Plan with appropriate appendices shall be submitted before initiating work at the job site. The contractor must be prepared to accomplish control

measures to mitigate the site workers potential exposure to the contaminants reported herein (e.g. from fugitive dust, etc.). In addition, the construction contractor should be prepared to field screen, sample, and stockpile any potentially contaminated soils excavated from the areas surrounding the contaminated boring locations, if any of those areas will be excavated during the course of the project.

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- Figure 1: Location and Vicinity Map
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- Figure 3: 1947 Aerial Photograph
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### **Appendix B: Chemical Data Tables**

### **Appendix C: ADEC Lab Data Review Checklists**

### **Appendix D: Field Notebook**

### **Appendix E: Site Photographs**

## Chemical Data Report

### 1. Introduction

This report presents the analytical results of soil samples collected during the foundation study for the Aviation Task Force Aircraft Parts Storage site (FTW336A) at Fort Wainwright, Alaska. The Materials Section of the U.S. Army Corps of Engineers, Alaska District (CEPOA-EN-ES-M), prepared this report at the request of the Alaska District Project Management Branch (CEPOA-PM-M).

### 2. Site Background Information

#### 2.1 Location

The FTW336A Aircraft Parts Storage site is located directly adjacent to the Fort Wainwright south runway. The site lays to the west of hangars seven and eight (building 2077) and east of hangar six (building 2085). It is directly north of building 2079 and Montgomery road. See Figure 1 for site location.

#### 2.2 Site History and Known Contamination

This site is part of an operable unit and is known to have been contaminated in the past. This site is being remediated as part of a two party agreement between ADEC and the Department of the Army. There are two possible source areas for the contamination on site. Building 2080 is located directly to the south of the project area. Building 2080 has two underground storage tanks (USTs) that store both gasoline and diesel. In 1990 UST 247 was replaced with a new tank. During the UST removal screening and confirmation borings showed DRO concentrations from 17 to 57 ppm, with one surface sample at 400 ppm. The higher results were assumed to be from road oiling, and the site was recommended to be closed. In addition, a 1000 gallon unregulated heating oil tank was removed from the 2080 site in 1998. No evidence of contamination was noted during this UST removal. (ref. 7.2)

Building 2077 is another known source of contamination. Building 2077 was built in 1958 and has been used for aircraft maintenance since it was constructed. A self contained paint spray booth was installed at the west end of the building in 1973. In 1990 ADEC was notified that hazardous materials were being stored onsite and an investigation was begun. There is a waste accumulation point associated with building 2077 that is directly adjacent to the FTW336A project site. Past photographs show staining of the soil associated with this waste accumulation area. Monitoring wells installed in the project area show groundwater is contaminated with benzene, xylenes, and 1,2,4-trimethylbenzene. A soil vapor extraction/air sparging (SVE/AS) unit was constructed onsite to remediate known petroleum contamination. In 2003, an Army contractor removed 1,127 cubic yards of contaminated soil at the building 2077 site. Confirmation samples of the excavation revealed that benzene, toluene, ethylbenzene and xylene (BTEX) levels still exceed ADEC cleanup levels in the northeast corner of the excavation. New monitoring wells were installed and have been

monitored since the removal action. Benzene is currently the only chemical in the groundwater that exceeds ADEC groundwater cleanup criteria. (ref. 7.1).

Historical aerial photographs were reviewed to evaluate past land uses at the site. A list of aerial photographs reviewed is provided as Table 2-1.

<b>Table 2-1 Historical Aerial Photographs</b>		
<b>Date</b>	<b>Location</b>	<b>Observations</b>
1947	FTW336A Project Site (Figure 3)	The 1947 aerial photograph of the site shows the airfield runway has been completed. There are several planes parked to the south and west of the project site. Earthmoving has been occurring on the site.
1956	FTW336A Project Site (Figure 4)	There are numerous structures built on the site at this time. Vehicles and aircraft can be seen on the project site in this photograph. Several buildings are present or under construction, and hangars 7 and 8 are partially completed.
1957	FTW336A Project Site (Figure 5)	The 1957 aerial photograph shows most structures on the site have been completed. Aircraft are present on the site. A large cleared area is visible on the north end of the site.
1969	FTW336A Project Site (Figure 6)	The 1969 aerial photograph shows that many of the structures that were present earlier have been removed from the project site.

### **2.3 Limitations**

This project was not intended to be a comprehensive environmental investigation of the site, and changes in the condition of the site may occur with time due to natural processes or human activities. The findings presented in this report are based on the soil boring data gathered at the time of the investigation.

## **3. Field Activities and Observations**

### **3.1 Summary of Field Activities**

A total of twelve borings (AP-9686 through AP-9697) were drilled at the FTW336A site, during the period 11-17 of April, 2008. See Figure 2 for specific boring locations.

The field crew over the course of the foundation study consisted of geotechnical engineers Chuck Wilson and Robert Weakland, driller Lyle Cain, driller helper Paul Owens (CEPOA-EN-ES-SG), and chemist Sean Benjamin (CEPOA-EN-ES-M).

### **3.2 Sampling Activities**

Chemical sampling was performed in a manner consistent with the project Sampling and Analysis Plan (ref. 7.9). The soil samples collected from the borings (generally, from the surface, 2.5-4.5 ft bgs, 4.5-6.5 ft bgs, and at 5-foot intervals thereafter) were field-screened

with a photo-ionization detector (PID). Twenty-six (26) selected soil samples (including duplicates) were submitted to the laboratory for chemical analysis (Table 3.1).

Table 3-1 summarizes the analytical methods that were performed on soil samples submitted for chemical analysis.

<b>Table 3-1 Scope of Sampling</b>			
<b>Parameter</b>	<b>Analytical Method</b>	<b>Target Contaminant</b>	<b>Number of Samples Submitted<sup>1</sup></b>
Diesel Range Organics (DRO)	AK102	Diesel and other medium-weight fuels	26
Gasoline Range Organics (GRO)	AK101	Gasoline and other light fuels, some solvents	14
Residual Range Organics (RRO)	AK103	Lubricant oils, asphalts, tars	26
Volatile Organic Compounds (VOCs)	SW846 8260B	Fuel constituent and solvent compounds	14
Polychlorinated Biphenyls (PCBs)	SW846 8082	PCBs from electrical equipment or waste oil	25
Chlorinated Pesticides	SW846 8081A	Pesticides (e.g., DDT) residues from previous pest control activities	14
RCRA Metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.	SW846 6020 & 7471A	Regulated metals from fuels, paints, batteries, etc.	14
Semivolatile Organic Compounds (SVOCs)	SW846 8270C	Fuel constituent compounds and various additional non-volatile chemicals	14
Hexavalent Chromium	SW846 6010B	Regulated metal from paint and manufacturing processes	14

1. Numbers include duplicate samples.

### **3.3 Observations**

At the time of the site investigation, the FTW336A site consisted mostly of a cleared, grass covered lot. There is a structure being used as a hazardous materials storage area on the east side of the project site. Several monitoring wells were noted in the surrounding area. There was a decontamination pit located on site. The site was covered with snow at the time of the investigation, so no soil staining was noted. The location of the 2003 removal action was not visible.

### **3.4 Investigation Derived Waste**

No soil samples exceeded the field-screening criterion for containerization. All soil cuttings were backfilled into the borings from which they were extracted, as described in the Sampling and Analysis Plan (ref. 7.9). Excess soil was spread on the ground nearby. The decontamination water was used to hydrate the bentonite chips used to seal the borings, or

discarded on the ground near the borings. Solid waste (i.e., disposable sampling equipment and other trash) was disposed of in facility trash receptacles.

## 4. Results of Chemical Analyses

### 4.1 Overview

The samples collected from the project sites were analyzed by Test America Tacoma (formerly STL Seattle) of Tacoma, Washington. The laboratory work is compliant with the Department of Defense Quality System Manual (DoD QSM) (ref. 7.6). The results of the chemical analyses are summarized in the sections below. Tables of comprehensive extracted data are presented in Appendix B.

### 4.2 Chemicals Detected

The results of the chemical analyses were screened against State of Alaska soil cleanup levels under 18 AAC 75, Oil and Hazardous Substances Pollution Control (ref 7.4). The most stringent “Method Two” cleanup levels for the “Under 40 Inch Zone” were used as evaluation criteria. These cleanup levels are those that would be applied by default to excavated soils in accordance with the Alaska Department of Environmental Conservation (ADEC) “Guidance Number Spill, Prevention, and Response (SPAR) 2002-1, Off-Site Disposal of Soil Not Requiring Institutional Controls” (ref. 7.3). In addition to the chemicals on the following table, numerous compounds were detected in trace amounts below the ADEC cleanup level.

Table 4-1 summarizes those chemicals that were detected above ADEC cleanup limits.

**Table 4-1: Summary of Detected Chemicals Above ADEC Cleanup Limits**

Chemical Parameter	Units	Highest Concentration Reported (mg/kg)	ADEC Soil Cleanup Level <sup>1</sup> (mg/kg)	Samples with Concs. Exceeding Cleanup Level
Arsenic	mg/kg	13	3.9	8
Chromium	mg/kg	26	25	1
Benzene	mg/kg	0.034	0.025	1
Benzo(a)pyrene	mg/kg	0.63	0.49	1
Methylene chloride	mg/kg	0.027	0.016	6

1. Soil cleanup levels cited are the most stringent Method 2 levels for the “Under 40 Inch Zone”, from 18 AAC 75.

**4.2.1 Fuels:** DRO was found at a concentration of 230 mg/kg at the surface of AP-9695. This result is just under the ADEC cleanup level of 250 mg/kg. DRO and RRO were found at low concentrations in nearly all other samples. GRO was found in low concentrations in two samples. All GRO, and RRO results were far below ADEC cleanup criteria.

**4.2.2 Volatile Organic Compounds (VOCs):** Benzene was detected at concentrations exceeding ADEC cleanup levels at the surface of AP-9695. This compound was detected at a concentration of 0.034 mg/kg with an associated cleanup level of 0.025 mg/kg. Methylene chloride was detected above cleanup levels in six of the project samples. A similar concentration of this compound was detected in the trip blanks that accompanied these samples to the lab. Methylene chloride is a common lab contaminant and it's presence in these samples is assumed to be from laboratory contamination. Trace concentrations of many other compounds were detected at levels below ADEC cleanup levels.

**4.2.3 Semivolatile Organic Compounds (SVOCs):** The compound benzo(a)pyrene was detected at 0.63 mg/kg at the surface of AP-9697. This chemical has an ADEC cleanup level of 0.49 mg/kg. Several other SVOC compounds were detected at low concentrations far below ADEC cleanup levels.

**4.2.4 Pesticides:** Trace concentrations of several pesticides were detected in a few samples at concentrations far below ADEC cleanup levels

**4.2.5 PCBs:** PCB-1260 (Aroclor-1260) was detected at low concentrations in the surface of AP-9695. PCBs were not detected in any other sample.

**4.2.6 Metals:** In eight of fourteen samples analyzed for metals, the reported total arsenic concentration exceeded the cited ADEC soil cleanup levels for contaminated sites (Table 4-2). In addition, four of the fourteen samples had results above the maximum ingestion values of 8 mg/kg specified in 18 AAC 75.341, Table B-1.

Table 4-2 Statistical Summary of Arsenic Data	
	Arsenic
ADEC cleanup level (mg/kg)	3.9
# site samples (n)	14
Ratio of site samples exceeding cleanup level	8/14
<b>Site Range (mg/kg)</b>	<b>2.3-13</b>
<i>Background Range (recommended) (mg/kg)<sup>1</sup></i>	0.14-29
<b>Site 95% UCL (mg/kg)</b>	<b>7.76</b>
<i>Background 95% UCL (mg/kg)<sup>1</sup></i>	8.46

<sup>1</sup> Ref 7.8, Table 1-6

The site arsenic 95% Upper Confidence Limit (UCL) is comparable to the UCL from the Fort Wainwright background study (ref 7.8). The range of arsenic concentrations is also within the range of known background concentration.

Total chromium exceeded cleanup levels in one sample. However the cleanup level is based on the more toxic hexavalent chromium. Analysis for hexavalent chromium proved levels of this compound are far below cleanup levels.

All other metals were reported at concentrations below ADEC soil cleanup levels.

## 5. Data Quality Review and Usability Assessment

After analysis at the project laboratories, the project data was reviewed for deviations to the requirements presented in the Sampling and Analysis Plan (ref 7.9), the ADEC Technical Memo 06-002 (ref 7.5), and the Department of Defense (DoD) Quality Systems Manual (QSM, ref 7.6) in the following areas – precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS). Elements reviewed include sample handling, holding times, method and trip blanks, laboratory control sample (LCS) recoveries and relative percent differences (RPDs), matrix spikes and matrix spike duplicates (MS/MSD) recoveries and RPDs, surrogate recovery, and field duplicate comparability. Reporting limits were screened against the most stringent 18AAC75 Method 2 Under 40 Inch criteria for soils. Calibration curves and continuing calibration standard recoveries were not reviewed. Quality control deviations which do not impact data quality (e.g. a high LCS recovery associated with a nondetect result) are not discussed.

The following qualifiers, listed below in order of increasing severity, are used in the data tables to indicate quality control deficiencies:

Qualifier	Definition
J	Analyte result is considered an estimated value because the level is below the laboratory PQL but above the MDL
MH,ML,MN	Analyte result is considered an estimated value biased (high, low, uncertain) due to matrix effects
B	Analyte result is considered a high estimated value due to contamination present in the method blank.
QH,QL,QN	Analyte result is considered an estimated value biased (high, low, uncertain) due to a quality control failure
R	Analyte result is rejected - result is not usable.

When the use of more than one qualifier is required, the more severe flag will be used.

All samples were sent to TestAmerica-Tacoma in one Sample Delivery Group (SDG). This lab is validated by the State of Alaska through the Contaminated Sites Program and is approved through the National Environmental Laboratory Assessment Program. The lab has a Self Declaration Letter on file at the Alaska District indicating adherence to the policies and procedures outlined in the QSM. Details of the data review are presented below in the following section. The ADEC Check Sheets can be found in Appendix C.

## 5.1. SDG 580-9696

**5.1.1. Sample Handling:** Twenty-six soil samples (including four duplicates) were received in sample delivery group 580-9696 by the laboratory. All sample receiving criteria were met.

**5.1.2. Holding Times:** All samples were analyzed within the method specified holding times.

**5.1.3. Blanks:** Method blanks and trip blanks were analyzed at the proper frequency. Target analytes were not detected in any method or trip blank except for the following:

- DRO was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-01C, -02A, -02B, and -03B. The affected results are flagged “B”; however, all results are well below the ADEC cleanup level and data usability is not impacted.
- Hexavalent chromium was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-01B, -05A, -08A, -09A, -11A, -12A, -13A, and -14A. The affected results are flagged “B”; however, all results are well below the ADEC cleanup level and data usability is not impacted.
- Selenium was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-01B and 08FTW336C-03A. The affected results are flagged “B”; however, all results are well below the ADEC cleanup level and data usability is not impacted.
- Bromomethane and methylene chloride were detected in the method blank at concentrations greater than the MDL, but less than the PQL; these concentrations are greater than 20% (one-fifth) the concentrations detected in the samples in this SDG. All results are flagged “B”. All results for bromomethane are below the ADEC cleanup level and data usability is not impacted; however, several of the results for methylene chloride exceed its ADEC cleanup level.
- Chloromethane was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-07A, -10A, --98TB, and -99TB. The affected results are flagged “B”; however, data usability is not significantly impacted as there is not ADEC cleanup level for chloromethane.
- Benzyl butyl phthalate was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-01B, -02A, -03A, -04A, -05A, -07A, -08A, -09A, -11A, and -13A. The affected results are flagged “B”; however, all results are well below the ADEC cleanup level and data usability is not impacted.
- Di-n-butylphthalate was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the

concentrations detected in the following samples: 08FTW336C-02A, -04A, -05A, -06A, -07A, -08A, -09A, -10A, -11A, -12A, and -14A. The affected results are flagged “B; however, all results are well below the ADEC cleanup level and data usability is not impacted.

**5.1.4. Laboratory Control Samples:** Laboratory Control Samples/Laboratory Control Sample Duplicates (LCS/LCSD) were analyzed at the required frequency. Recoveries were within the QSM acceptance limits or any deviations do not impact data usability except for the following:

- The LCS recoveries for 1,1,1,2-tetrachloroethane and cis-1,3-dichloropropene were below QSM acceptance criteria. All results for these VOC are qualified biased low and flagged “QL”. There is no ADEC cleanup level for 1,1,1,2-tetrachloroethane, so data usability is not significantly impacted. All results for cis-1,3-dichloropropene are well below ADEC cleanup levels and data usability is not impacted.
- The LCS recovery for di-n-butylphthalate was above QSM acceptance criteria. Detections of di-n-butylphthalate are qualified biased high and flagged “QH”. All results are well below ADEC cleanup levels and data usability is not significantly impacted.

**5.1.5. Laboratory Control Sample Precision:** The LCS precision as measured by the RPD was within the QSM acceptance limits or any deviations do not impact data usability.

**5.1.6. Surrogates:** Surrogate recoveries for all samples were within the QSM acceptance limits or deviations do not impact data quality except for the following:

- One of the GRO surrogates for 08FTW336C-06A was above laboratory control limits. There was no impact on data usability as GRO was not detected in this sample.
- One of the VOC surrogates for 08FTW336C-06A was above laboratory control limits. Detections of VOCs in this sample are qualified biased high and flagged “QH”. Non-detects are not impacted by the high bias. With the exception of methylene chloride, data usability is not impacted as all results are well below ADEC cleanup levels.
- One of the chlorinated pesticide surrogates for 08FTW336C-07A and 08FTW336C-11A was below laboratory control limits. Chlorinated pesticide data for these samples are qualified biased low and flagged “QL”. Data usability is not impacted as all results are well below ADEC cleanup levels.
- Two of the base/neutral SVOC surrogates for 08FTW336C-03A and 08FTW336C-04A were below laboratory control limits. The base neutral SVOC data for these samples are qualified biased low and flagged “QL”. Data usability is not impacted as all results are well below ADEC cleanup levels.
- One of the SVOC surrogates for 08FTW336C-05A, -07A, -10A, and -13A were below laboratory control limits. Control was based on the five remaining acceptable SVOC surrogates.
- Three of the SVOC surrogates for 08FTW336C-08A and 08FTW336C-11A were below laboratory control limits. SVOC data for these samples are qualified biased

low and flagged “QL”. Data usability is not impacted as all results are well below ADEC cleanup levels.

- Two of the SVOC surrogates for 08FTW336C-09 were below laboratory control limits. Control was based on the four remaining acceptable SVOC surrogates.

**5.1.7. Matrix spikes:** Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples were analyzed at the required frequency and recoveries were within QSM acceptance limits or deviations do not impact data quality except as follows:

- The matrix spike and/or matrix spike duplicate recoveries for 1,1,1,2-tetrachloroethane, 1,1,1-trichloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-dibromoethane, 1,3,5-trimethylbenzene, 1,3-dichlorobenzene, 1,3-dichloropropane, 1,4-dichlorobenzene, 2,2-dichlororopropene, 2-chlorotoluene, 4-chlorotoluene, 4-isopropyltoluene, benzene, bromobenzene, bromochloromethane, bromodichloromethane, bromoform, carbon disulfide, carbon tetrachloride, Chlorobenzene, chloroform, cis-1,2-dichloroethene, cis-1,3-dichloropropene, dibromochloromethane, dibromomethane, ethylbenzene, isopropylbenzene, methylene chloride, n-propylbenzene, o-xylene, sec-butylbenzene, styrene, tert-butylbenzene, Tetrachloroethene, toluene, trans-1,2-dichloroethene, trans-1,3-dichloropropene, trichloroethene, m&p-xylenes, 1,2,3-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1-methylnaphthalene, 2-methylnaphthalene, bis(2-chloroisopropyl)ether, hexachlorobutadiene, hexachlorocyclopentadiene, Hexachloroethane, naphthalene, and nitrobenzene in the MS/MSD associated with sample 08FTW336C-07A were below the QSM acceptance criteria. All results for these analytes in the primary sample are flagged “ML”. With the exception of methylene chloride, data usability is not impacted since all results are well below ADEC cleanup levels. The recoveries for RRO, hexavalent chromium, and di-n-butylphthalate in this MS/MSD pair were above QSM acceptance criteria. Results for these analytes in the primary sample are flagged “MH”.

**5.1.8. Matrix Spike precision:** The reported MS/MSD precision was within QSM acceptance limits with the following exceptions:

- The MS/MSD RPDs for hexachlorocyclopentadiene, 1,1,2,2-tetrachloroethane, Tetrachloroethene, 2,2-dichloropropane, 1,2-dibromo-3-chloropropane, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,1-trichloroethane, ethylbenzene, 1,1-dichloroethene, bromochloromethane, bromobenzene, chloroform, 1,1,2-trichlorobenzene, 1,2-dichlorobenzene, 1,2-dibromoethane, 1,3-dichloropropane, 1,3-dichlorobenzene, carbon tetrachloride, 1,1-dichloropropene, m&p-Xylenes, 1,3,5-trimethylbenzene, benzene, carbon disulfide, toluene, n-propylbenzene, Chlorobenzene, 2-chlorotoluene, 4-isopropyltoluene, naphthalene, isopropylbenzene, 4-chlorotoluene, 1,1,1,2-tetrachloroethane, bromoform, cis-1,3-dichloropropene, tert-butylbenzene, dibromochloromethane, n-butylbenzene, sec-butylbenzene, styrene, 1,2,4-trimethylbenzene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,3-trichloropropane, trichloroethene, bis(2-chloroethyl)ether, trans-1,3-dichloropropene, hexachlorobutadiene, o-xylene, methylene chloride, chloroethane, bis(2-chloroisopropyl)ether, nitrobenzene, 1,3-dichlorobenzene, naphthalene, 2-

methylnaphthalene, 1-methylnaphthalene, 1,2-dichlorobenzene, n-nitroso-n-propylamine, and 2-chlorophenol exceeded the QSM criteria in the spikes of sample 08FTW336C-07A. If the results were previously qualified due to Section 5.1.7 above, the flag was changed from “ML” or “MH” to “MN” to account for the increased variability indicated by the RPD failure.

### **5.2. Field duplicates:**

Four field duplicates were collected and submitted to the laboratory during this field effort. A total of twenty-two primary samples were submitted, thus the required 10% duplicate frequency was met. All results are compliant with the criteria specified in ADEC Tech Memo 06-002 except as noted below:

- For duplicate pair 08FTW336C-11A/-13A, the RPDs for DRO, toluene, and di-n-butylphthalate were high (greater than 50%), because low concentrations were detected in one-half the duplicate pair but not the other. The RPD for cadmium was high (greater than 50%), likely due to the heterogeneity of the soil. Data usability is not impacted as all results are well below ADEC cleanup levels.
- For duplicate pair 08FTW336C-12A/-14AL, the RPDs for DRO, RRO, mercury, 2-hexanone, 1-methylnaphthalene, acenaphthene, acenaphthylene, carbazole, dibenzo(a,h)anthracene, dibenzofuran, di-n-octylphthalate, fluorene, indeno(1,2,3-cd)pyrene, and naphthalene were high (greater than 50%) because low concentrations were detected in one-half of the duplicate pair but not the other. The RPDs for silver, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, toluene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene were high (greater than 50%), likely due to the heterogeneity of the sample. Data usability is not impacted as all results are well below ADEC cleanup levels.

### **5.3. Reporting Limit Assessment:**

The laboratory reporting limits are defined as practical quantification limits (PQLs) and are based on the lowest level calibration standard corrected for sample preparation, dilution, and moisture (if applicable). The MDL is defined as the limit at which an analyte has a 99% chance of being greater than zero (i.e. “detected”). This limit must be less than the PQL and represents the very least that the laboratory can detect. Consequently, any nondetect result with an MDL greater than the ADEC cleanup level cannot be used to prove the absence of that analyte. The following analytes have MDLs greater than the applicable ADEC cleanup levels in one or more samples: 1,2,3-trichloropropane, 1,2-dibromoethane, and bis(2-chloroethyl)ether.

### **5.4. Overall Assessment:**

All results for this SDG are usable as reported and flagged.

## **6. Summary and Recommendations**

### **6.1 Summary**

DRO was found at one location approaching ADEC cleanup levels. The surface sample at AP-9695 had a DRO concentration of 230 mg/kg, just below the cleanup level of 250 mg/kg.

Benzene was detected at a concentration above ADEC cleanup levels at the surface of AP-9695. This analyte had a concentration of 0.034 mg/kg, and a cleanup level of 0.25 mg/kg.

The SVOC compound benzo(a)pyrene was detected at a concentration above ADEC cleanup levels at the surface of AP-9697. This analyte had a concentration of 0.63 mg/kg, and a cleanup level of 0.49 mg/kg.

Arsenic was detected at levels above ADEC cleanup limits in some samples. These levels are also above the ingestion limits established in Table B-1 of 18 AAC 75.341. These concentrations are within the background range determined for Fort Wainwright soils

### **6.2 Recommendations**

This site is part of an operable unit. This site is known to have been contaminated in the past. Institutional controls have been placed on this site that restrict excavation and disposal options.

The construction contractor should be prepared to field screen, sample, and stockpile any contaminated soils excavated from the area surrounding AP-9695 and AP-9697.

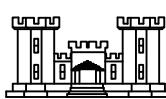
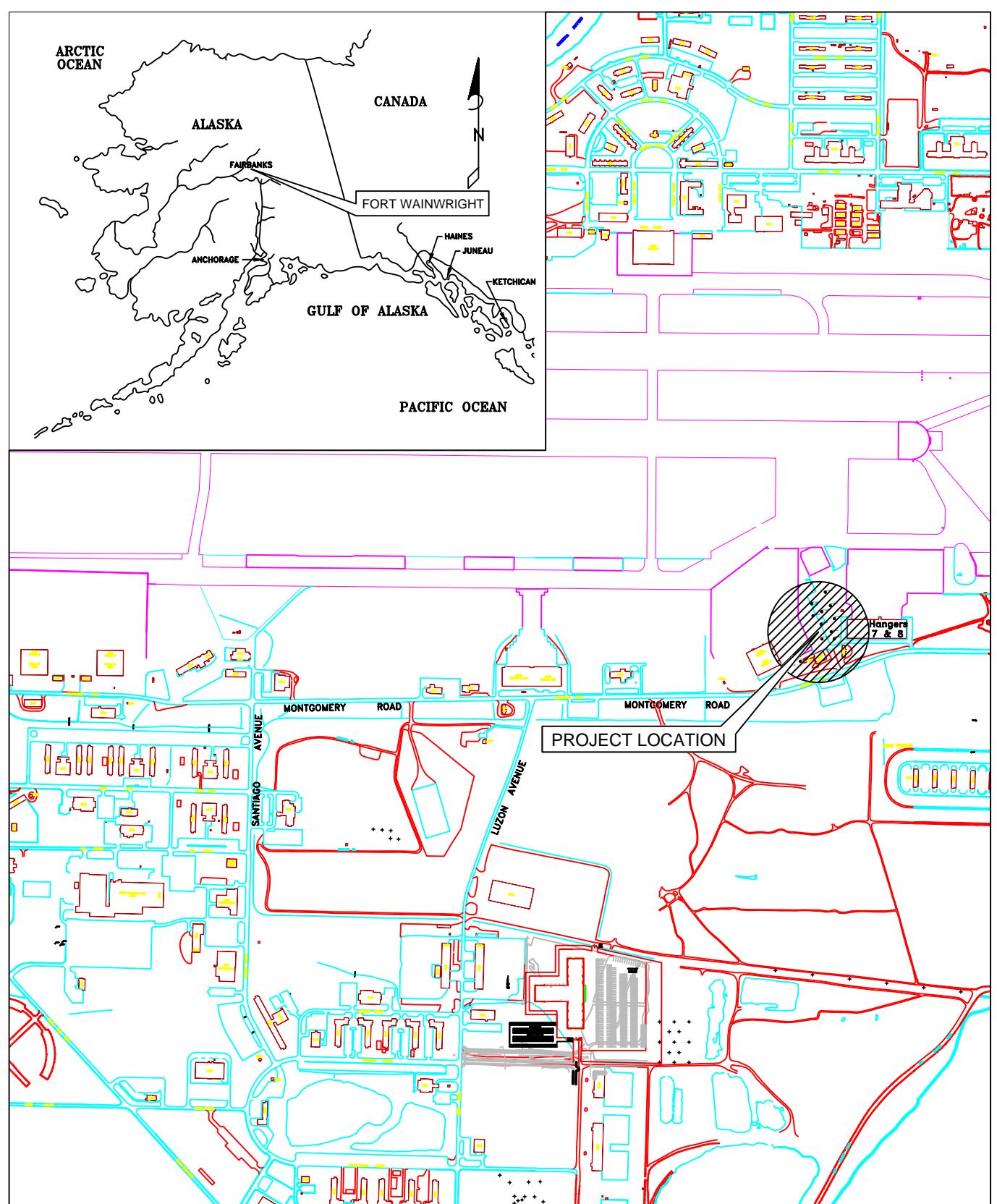
The contractor must be prepared to accomplish control measures to mitigate the site workers potential exposure to arsenic, benzene, and benzo(a)pyrene (e.g. from fugitive dust, etc.).

## 7. References

- 7.1 Alaska Department of Environmental Conservation, Contaminated Sites Database: Cleanup Chronology Report for Fort Wainwright (2P) Bldg. 2077 FTW-003, December 2008
- 7.2 Alaska Department of Environmental Conservation, Contaminated Sites Database: Cleanup Chronology Report for Fort Wainwright (2P) Bldg. 2080, December 2008
- 7.3 Alaska Department of Environmental Conservation, Guidance No. SPAR 2002-1, Off-Site Disposal of Soil Not Requiring Institutional Controls, 11 January 2003.
- 7.4 Alaska Department of Environmental Conservation, 18 AAC 75, Oil and Hazardous Substances Pollution Control, October 2008.
- 7.5 Alaska Department of Environmental Conservation, Technical Memorandum 06-002, Environmental Laboratory Data and Quality Assurance Requirements, October 2006
- 7.6 Department of Defense, Quality Systems Manual for Environmental Laboratories, Final Version 3, January 2006.
- 7.7 Test America Laboratories Inc., Analytical Report 580-9696, FTW336 Aircraft Parts Storage. August 2008
- 7.8 U.S. Army Corps of Engineers, Background Data Analysis For Arsenic, Barium, Cadmium, Chromium and Lead on Fort Wainwright, AK, March 1994.
- 7.9 U.S. Army Corps of Engineers, Sample and Analysis Plan, Foundation Study Site Investigation HTRW Soil Sampling and Analysis, Barracks (FTW300B, 07-046); Aviation Task Force Phase I (FTW336, 08-016 and 08-047); Training Aids Center (FTW337, 08-048); Aviation Task Force Phase II (FTW348, 08-049); Stryker Wash Facility, additional road borings (FTW339, 08-053) Fort Wainwright, Alaska (07-020), May 2007.

## **Appendix A**

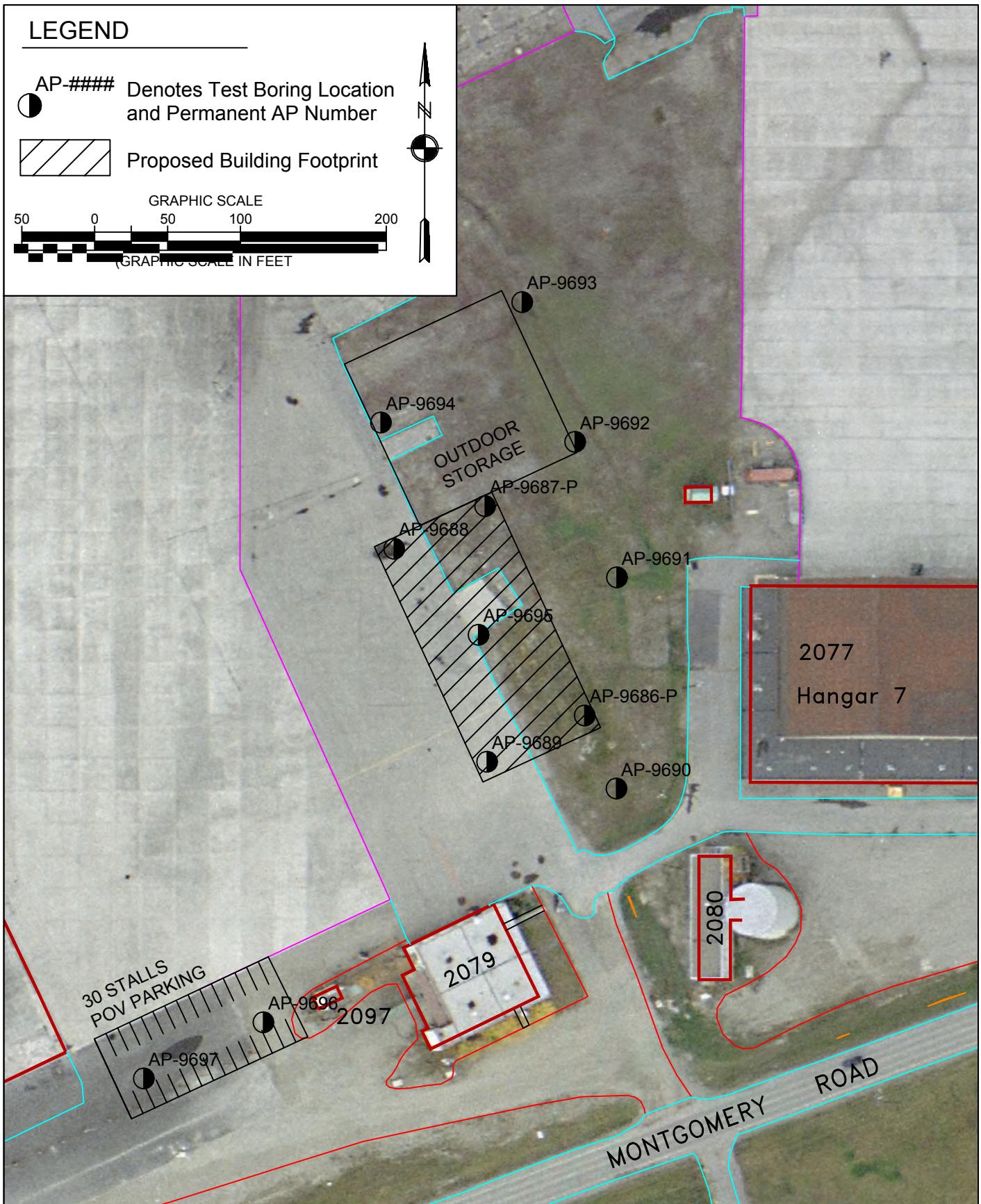
### **Figures**



ALASKA DISTRICT  
CORPS OF ENGINEERS  
MATERIALS SECTION

PROJECT LOCATION AND VICINITY MAP  
ATF AIRCRAFT PARTS STORAGE  
BUILDING (FTW336)  
FORT WAINWRIGHT, ALASKA

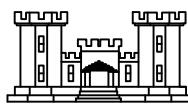
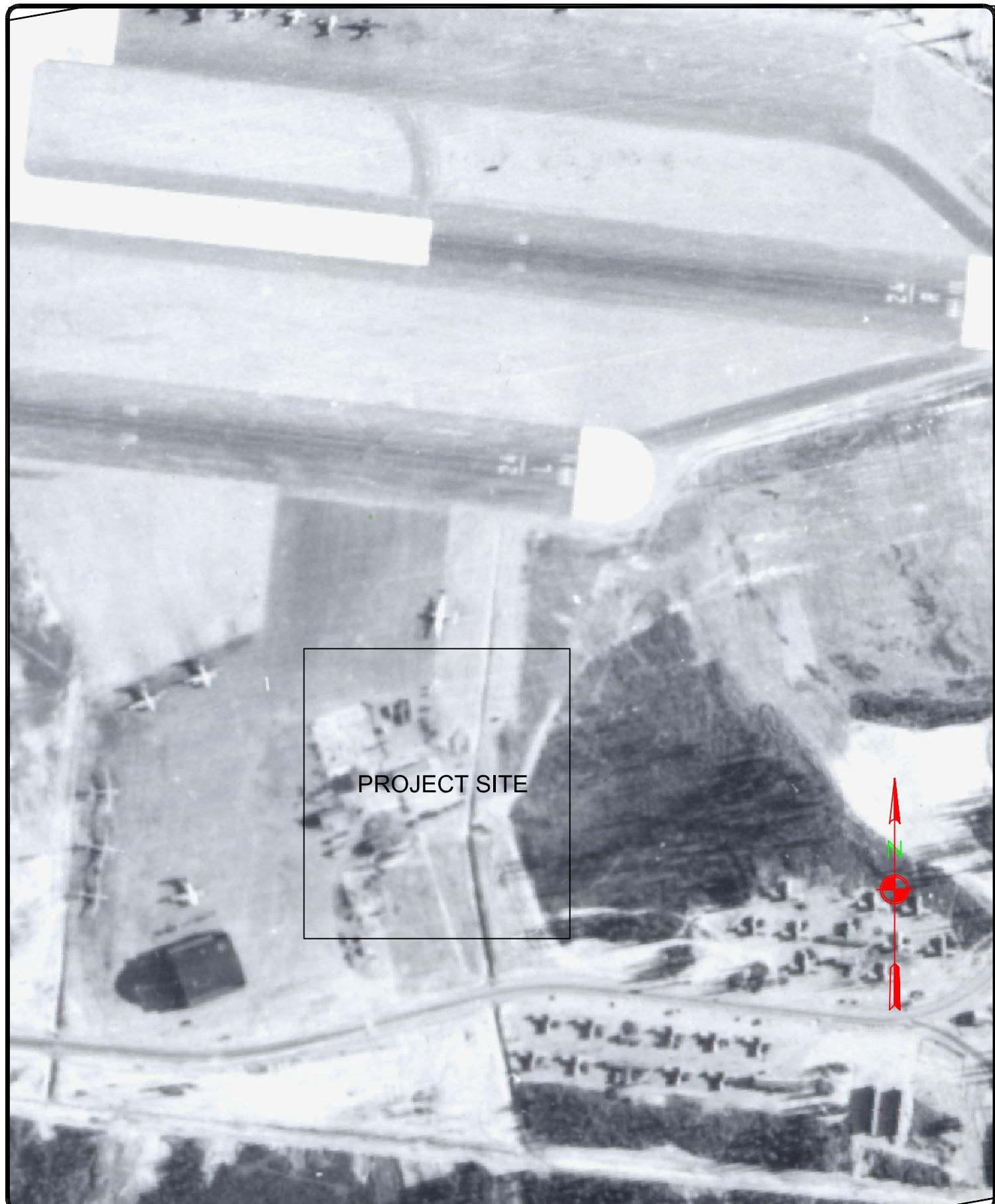
SCALE: NTS  
DATE: DECEMBER 2008  
DRAWN/RVW: IJR/CRW  
FIGURE 1



ALASKA DISTRICT  
CORPS OF ENGINEERS  
Materials Section

PROJECT LOCATION MAP with 2005 Overlay  
ATF AVIATION PARTS STORAGE  
BUILDING (FTW336A)  
FORT WAINWRIGHT, ALASKA

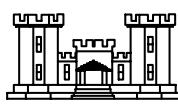
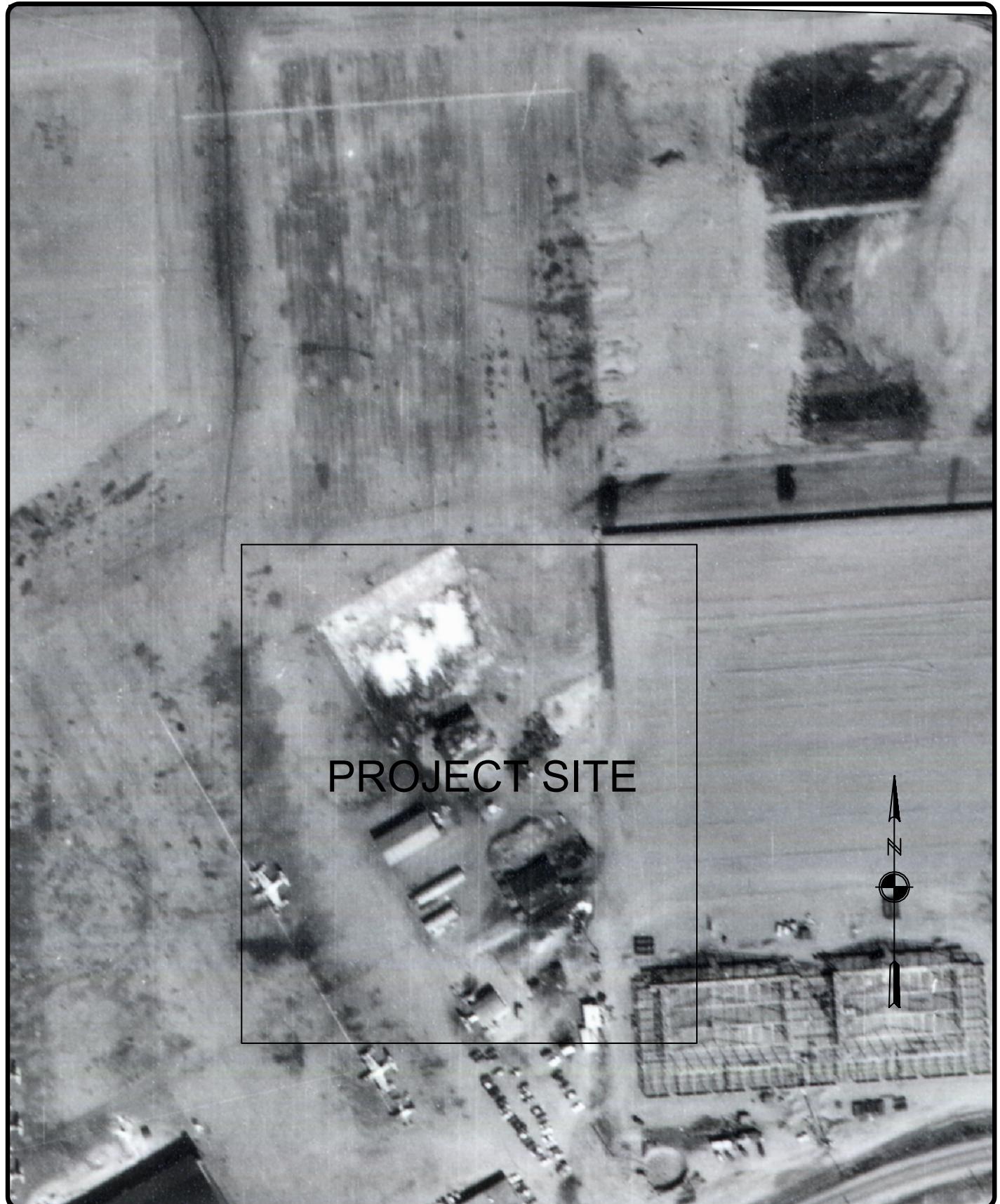
SCALE: GRAPHICAL  
DATE: MARCH 2009  
DRAWN/RVW: RTW/CRW  
FIGURE 2



ALASKA DISTRICT  
CORPS OF ENGINEERS  
MATERIALS SECTION

1947 AERIAL PHOTOGRAPH  
Aircraft Parts Storage  
(FTW336A)  
FORT WAINWRIGHT, ALASKA

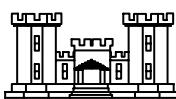
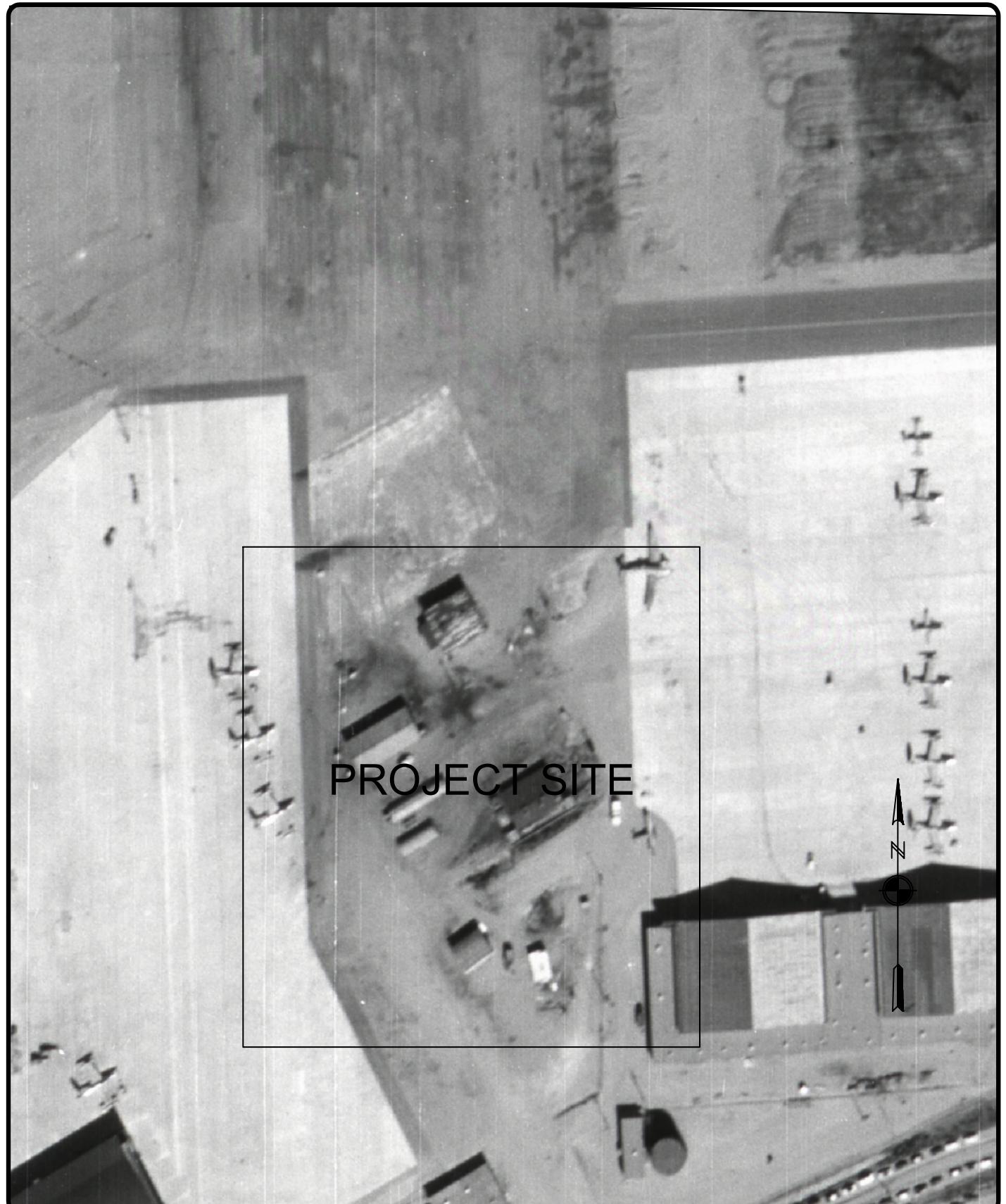
SCALE: NTS  
DATE: DECEMBER 2008  
DRAWN/RVW: JMS  
**FIGURE 3**



ALASKA DISTRICT  
CORPS OF ENGINEERS  
MATERIALS SECTION

1956 AERIAL PHOTOGRAPH  
Aircraft Parts Storage  
(FTW336A)  
FORT WAINWRIGHT, ALASKA

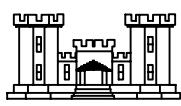
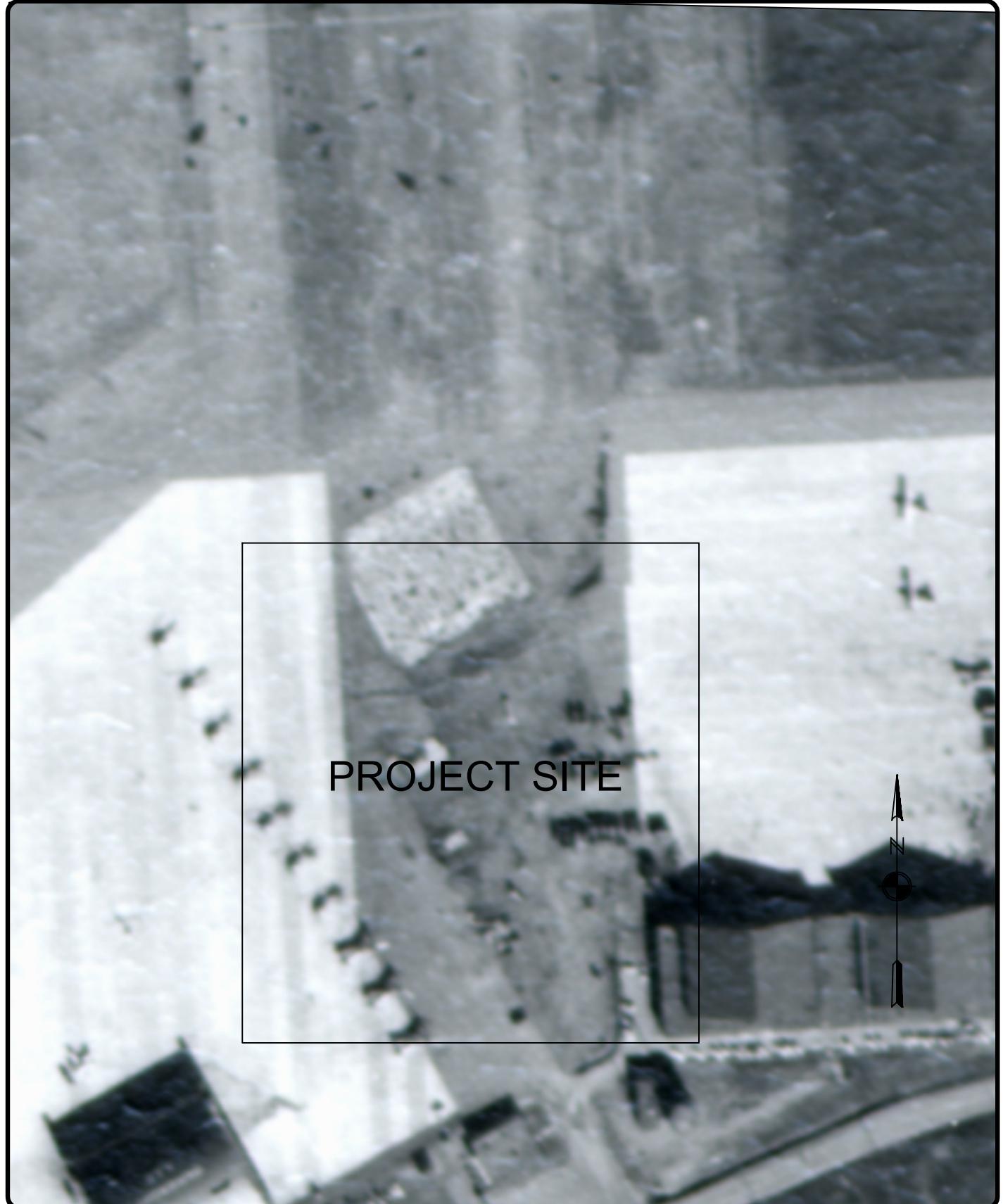
SCALE: NTS  
DATE: DECEMBER 2008  
DRAWN/RVW: JMS  
**FIGURE 4**



ALASKA DISTRICT  
CORPS OF ENGINEERS  
MATERIALS SECTION

1957 AERIAL PHOTOGRAPH  
Aircraft Parts Storage  
(FTW336A)  
FORT WAINWRIGHT, ALASKA

SCALE: NTS  
DATE: DECEMBER 2008  
DRAWN/RVW: JMS  
FIGURE 5



ALASKA DISTRICT  
CORPS OF ENGINEERS  
MATERIALS SECTION

1969 AERIAL PHOTOGRAPH  
Aircraft Parts Storage  
(FTW336A)  
FORT WAINWRIGHT, ALASKA

SCALE: NTS  
DATE: DECEMBER 2008  
DRAWN/RVW: JMS  
**FIGURE 6**

**Appendix B**

**Chemical Data Tables**

## FTW336A Analytical Data

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AP Number TB Number & Depth				AP-9686 TB-01 0.0'	AP-9686 TB-01 2.5'	AP-9686 TB-01 10'	AP-9687 TB-02 5.0'	AP-9687 TB-02 10'	AP-9688 TB-03 5.0'	
ANALYTE	Method	Units	ADEC	Sample ID Collection Date SDG	08FTW336C-01A 11-Apr-2008 580-9696	08FTW336C-01B 11-Apr-2008 580-9696	08FTW336C-01C 11-Apr-2008 580-9696	08FTW336C-02A 11-Apr-2008 580-9696	08FTW336C-02B 11-Apr-2008 580-9696	08FTW336C-03A 12-Apr-2008 580-9696
Gasoline Range Organics (C6-C10)	AK101	mg/kg	300	0.73 [3.3] J	ND [2.1]			ND [2.2]		ND [2]
Diesel Range Organics (C10-C25)	AK102	mg/kg	250	26 [23]	ND [20]	4.5 [21] J,B	2.6 [20] J,B	9.4 [20] J,B		ND [19]
Residual Range Organics (C25-C36)	AK103	mg/kg	10000	170 [58]	ND [51]	14 [53] J	ND [51]	16 [50] J		ND [48]
Chromium, Hexavalent	SW601B	mg/kg	25		0.18 [0.25] J,B			0.27 [0.26] B		0.29 [0.26] B
Arsenic	SW6020	mg/kg	3.9		2.3 [0.2] B			3.5 [0.2] B		3.9 [0.2] B
Barium	SW6020	mg/kg	1100		45 [0.2] B			52 [0.2] B		60 [0.2] B
Cadmium	SW6020	mg/kg	5		0.057 [0.2] J,B			0.092 [0.2] J,B		0.09 [0.2] J,B
Chromium	SW6020	mg/kg	25		6.6 [0.2] B			7.6 [0.2] B		10 [0.2] B
Lead	SW6020	mg/kg	400		2.3 [0.2] B			3.5 [0.2] B		3.3 [0.2] B
Selenium	SW6020	mg/kg	3.4		0.067 [0.51] J,B			0.11 [0.5] J,B		0.082 [0.51] J,B
Silver	SW6020	mg/kg	11.2		0.024 [0.2] J,B			0.025 [0.2] J,B		0.031 [0.2] J,B
Mercury	SW7471A	mg/kg	1.4		ND [0.019]			0.0085 [0.018] J		ND [0.02]
4,4'-DDD	SW8081A	mg/kg	7.2		ND [0.0019]			ND [0.002]		ND [0.002]
4,4'-DDE	SW8081A	mg/kg	5.1		ND [0.0019]			ND [0.002]		ND [0.002]
4,4'-DDT	SW8081A	mg/kg	7.3		ND [0.0019]			0.00038 [0.002] J		ND [0.002]
Aldrin	SW8081A	mg/kg	0.07		ND [0.00094]			ND [0.001]		ND [0.001]
alpha-BHC	SW8081A	mg/kg	0.0064		ND [0.00094]			ND [0.001]		ND [0.001]
alpha-Chlordane	SW8081A	mg/kg	3		ND [0.00094]			ND [0.001]		ND [0.001]
beta-BHC	SW8081A	mg/kg	0.022		0.0011 [0.00094] B			0.0014 [0.001] B		0.0014 [0.001] B
delta-BHC	SW8081A	mg/kg	NA		ND [0.00094]			ND [0.001]		ND [0.001]
Dieldrin	SW8081A	mg/kg	0.0076		ND [0.0019]			ND [0.002]		ND [0.002]
Endosulfan I	SW8081A	mg/kg	7		ND [0.00094]			ND [0.001]		ND [0.001]
Endosulfan II	SW8081A	mg/kg	7		ND [0.0019]			ND [0.002]		ND [0.002]
Endosulfan sulfate	SW8081A	mg/kg	7		ND [0.0019]			ND [0.002]		ND [0.002]
Endrin	SW8081A	mg/kg	0.29		ND [0.0019]			ND [0.002]		ND [0.002]
Endrin aldehyde	SW8081A	mg/kg	NA		ND [0.0019]			ND [0.002]		ND [0.002]
Endrin ketone	SW8081A	mg/kg	NA		ND [0.0019]			ND [0.002]		ND [0.002]
gamma-BHC (Lindane)	SW8081A	mg/kg	0.0095		ND [0.00094]			ND [0.001]		ND [0.001]
gamma-Chlordane	SW8081A	mg/kg	3		ND [0.00094]			ND [0.001]		ND [0.001]
Heptachlor	SW8081A	mg/kg	0.28		ND [0.00094]			ND [0.001]		ND [0.001]
Heptachlor epoxide	SW8081A	mg/kg	0.014		ND [0.00094]			ND [0.001]		ND [0.001]
Methoxychlor	SW8081A	mg/kg	23		ND [0.0094]			ND [0.01]		ND [0.01]
Toxaphene	SW8081A	mg/kg	3.9		ND [0.094]			ND [0.1]		ND [0.1]
PCB-1016 (Aroclor 1016)	SW8082	mg/kg	1		ND [0.0094]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.01]	ND [0.01]
PCB-1221 (Aroclor 1221)	SW8082	mg/kg	1		ND [0.0094]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.01]	ND [0.01]
PCB-1232 (Aroclor 1232)	SW8082	mg/kg	1		ND [0.0094]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.01]	ND [0.01]
PCB-1242 (Aroclor 1242)	SW8082	mg/kg	1		ND [0.0094]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.01]	ND [0.01]
PCB-1248 (Aroclor 1248)	SW8082	mg/kg	1		ND [0.0094]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.01]	ND [0.01]
PCB-1254 (Aroclor 1254)	SW8082	mg/kg	1		ND [0.0094]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.01]	ND [0.01]
PCB-1260 (Aroclor 1260)	SW8082	mg/kg	1		ND [0.0094]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.01]	ND [0.01]
1,1,1,2-Tetrachloroethane	SW8260B	mg/kg	NA	ND [0.033] QL	ND [0.021] QL			ND [0.022] QL		ND [0.02] QL
1,1,1-Trichloroethane	SW8260B	mg/kg	0.82	ND [0.013]	ND [0.0083]			ND [0.0087]		ND [0.0081]

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

## FTW336A Analytical Data

Page 2 of 20

ANALYTE	Method	Units	ADEC	AP Number	AP-9686	AP-9686	AP-9686	AP-9687	AP-9687	AP-9688
				TB Number & Depth	TB-01 0.0'	TB-01 2.5'	TB-01 10'	TB-02 5.0'	TB-02 10'	TB-03 5.0'
				Sample ID	08FTW336C-01A	08FTW336C-01B	08FTW336C-01C	08FTW336C-02A	08FTW336C-02B	08FTW336C-03A
				Collection Date	11-Apr-2008	11-Apr-2008	11-Apr-2008	11-Apr-2008	11-Apr-2008	12-Apr-2008
				SDG	580-9696	580-9696	580-9696	580-9696	580-9696	580-9696
1,1,2,2-Tetrachloroethane	SW8260B	mg/kg	0.017	ND [0.0066]	ND [0.0041]			ND [0.0043]		ND [0.004]
1,1,2-Trichloroethane	SW8260B	mg/kg	0.018	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,1-Dichloroethane	SW8260B	mg/kg	25	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,1-Dichloropropene	SW8260B	mg/kg	0.03	ND [0.013]	ND [0.0083]			ND [0.0087]		ND [0.0081]
1,2,3-Trichlorobenzene	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,2,3-Trichloropropane	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,2,4-Trichlorobenzene	SW8260B	mg/kg	0.85	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,2,4-Trimethylbenzene	SW8260B	mg/kg	23	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,2-Dibromo-3-chloropropane	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,2-Dibromoethane	SW8260B	mg/kg	0.00016	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,2-Dichlorobenzene	SW8260B	mg/kg	5.1	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,2-Dichloroethane	SW8260B	mg/kg	0.016	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,2-Dichloropropane	SW8260B	mg/kg	0.018	ND [0.0066]	ND [0.0041]			ND [0.0043]		ND [0.004]
1,3,5-Trimethylbenzene	SW8260B	mg/kg	23	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,3-Dichlorobenzene	SW8260B	mg/kg	28	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
1,3-Dichloropropane	SW8260B	mg/kg	NA	ND [0.013]	ND [0.0083]			ND [0.0087]		ND [0.0081]
1,4-Dichlorobenzene	SW8260B	mg/kg	0.064	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
2,2-Dichloropropane	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
2-Butanone	SW8260B	mg/kg	59	ND [0.17]	ND [0.1]			ND [0.11]		ND [0.1]
2-Chlorotoluene	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
2-Hexanone	SW8260B	mg/kg	NA	ND [0.17]	ND [0.1]			ND [0.11]		ND [0.1]
4-Chlorotoluene	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
4-Isopropyltoluene	SW8260B	mg/kg	NA	0.0051 [0.033]	J	ND [0.021]		ND [0.022]		ND [0.02]
4-Methyl-2-pentanone	SW8260B	mg/kg	8.1	ND [0.17]	ND [0.1]			ND [0.11]		ND [0.1]
Acetone	SW8260B	mg/kg	88	ND [0.17]	ND [0.1]			ND [0.11]		ND [0.1]
Benzene	SW8260B	mg/kg	0.025	0.0025 [0.0066]	J	ND [0.0041]		ND [0.0043]		ND [0.004]
Bromobenzene	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Bromochloromethane	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Bromodichloromethane	SW8260B	mg/kg	0.044	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Bromoform	SW8260B	mg/kg	0.34	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Bromomethane	SW8260B	mg/kg	0.16	0.049 [0.17]	J,B	0.032 [0.1] J,B		0.031 [0.11] J,B		0.028 [0.1] J,B
Carbon disulfide	SW8260B	mg/kg	12	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Carbon tetrachloride	SW8260B	mg/kg	0.023	ND [0.013]	ND [0.0083]			ND [0.0087]		ND [0.0081]
Chlorobenzene	SW8260B	mg/kg	0.63	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Chloroethane	SW8260B	mg/kg	23	ND [0.17]	ND [0.1]			ND [0.11]		ND [0.1]
Chloroform	SW8260B	mg/kg	0.46	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Chloromethane	SW8260B	mg/kg	0.21	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
cis-1,2-Dichloroethene	SW8260B	mg/kg	0.24	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
cis-1,3-Dichloropropene	SW8260B	mg/kg	0.02	ND [0.033]	QL	ND [0.021] QL		ND [0.022] QL		ND [0.02] QL
Dibromochloromethane	SW8260B	mg/kg	0.032	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Dibromomethane	SW8260B	mg/kg	1.1	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Dichlorodifluoromethane	SW8260B	mg/kg	140	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Ethylbenzene	SW8260B	mg/kg	6.9	0.013 [0.033]	J	ND [0.021]		ND [0.022]		ND [0.02]
Hexachlorobutadiene	SW8260B	mg/kg	NA	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Isopropylbenzene	SW8260B	mg/kg	51	ND [0.033]	ND [0.021]			ND [0.022]		ND [0.02]
Methylene chloride	SW8260B	mg/kg	0.016	0.019 [0.033]	J,B	0.014 [0.021] J,B		0.014 [0.022] J,B		0.013 [0.02] J,B

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

## FTW336A Analytical Data

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AP Number TB Number & Depth				AP-9686 TB-01 0.0'	AP-9686 TB-01 2.5'	AP-9686 TB-01 10'	AP-9687 TB-02 5.0'	AP-9687 TB-02 10'	AP-9688 TB-03 5.0'
	Sample ID	Collection Date	SDG	08FTW336C-01A 11-Apr-2008 580-9696	08FTW336C-01B 11-Apr-2008 580-9696	08FTW336C-01C 11-Apr-2008 580-9696	08FTW336C-02A 11-Apr-2008 580-9696	08FTW336C-02B 11-Apr-2008 580-9696	08FTW336C-03A 12-Apr-2008 580-9696
ANALYTE	Method	Units	ADEC						
Naphthalene	SW8260B	mg/kg	20	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
n-Butylbenzene	SW8260B	mg/kg	15	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
n-Propylbenzene	SW8260B	mg/kg	15	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
o-Xylene	SW8260B	mg/kg	63	0.035 [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
sec-Butylbenzene	SW8260B	mg/kg	12	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
Styrene	SW8260B	mg/kg	0.96	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
tert-Butylbenzene	SW8260B	mg/kg	12	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
Tetrachloroethene (PCE)	SW8260B	mg/kg	0.024	ND [0.021]	ND [0.013]		ND [0.014]		ND [0.013]
Toluene	SW8260B	mg/kg	6.5	0.043 [0.033]	0.0042 [0.021] J		ND [0.022]		ND [0.02]
trans-1,2-Dichloroethene	SW8260B	mg/kg	0.37	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
trans-1,3-Dichloropropene	SW8260B	mg/kg	0.02	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
Trichloroethene (TCE)	SW8260B	mg/kg	0.02	ND [0.013]	ND [0.0083]		ND [0.0087]		ND [0.0081]
Trichlorofluoromethane	SW8260B	mg/kg	86	ND [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
Vinyl chloride	SW8260B	mg/kg	0.0085	ND [0.013]	ND [0.0083]		ND [0.0087]		ND [0.0081]
Xylene, Isomers m & p	SW8260B	mg/kg	63	0.098 [0.033]	ND [0.021]		ND [0.022]		ND [0.02]
1,2,4-Trichlorobenzene	SW8270C	mg/kg	0.85		ND [0.0051]		ND [0.0051]		ND [0.0051] QL
1,2-Dichlorobenzene	SW8270C	mg/kg	5.1		ND [0.0056]		ND [0.0056]		ND [0.0056] QL
1,3-Dichlorobenzene	SW8270C	mg/kg	28		ND [0.0051]		ND [0.0051]		ND [0.0051] QL
1,4-Dichlorobenzene	SW8270C	mg/kg	0.64		ND [0.0051]		ND [0.0051]		ND [0.0051] QL
1-Methylnaphthalene	SW8270C	mg/kg	6.2		ND [0.003]		ND [0.003]		ND [0.003] QL
2,4,5-Trichlorophenol	SW8270C	mg/kg	67		ND [0.01]		ND [0.01]		ND [0.01]
2,4,6-Trichlorophenol	SW8270C	mg/kg	1.4		ND [0.015]		ND [0.015]		ND [0.015]
2,4-Dichlorophenol	SW8270C	mg/kg	1.3		ND [0.01]		ND [0.01]		ND [0.01]
2,4-Dimethylphenol	SW8270C	mg/kg	8.8		ND [0.01]		ND [0.01]		ND [0.01]
2,4-Dinitrophenol	SW8270C	mg/kg	0.54		ND [0.1]		ND [0.1]		ND [0.1]
2,4-Dinitrotoluene	SW8270C	mg/kg	0.0093		ND [0.01]		ND [0.01]		ND [0.01] QL
2,6-Dinitrotoluene	SW8270C	mg/kg	0.0094		ND [0.01]		ND [0.01]		ND [0.01] QL
2-Chloronaphthalene	SW8270C	mg/kg	120		ND [0.002]		ND [0.002]		ND [0.002] QL
2-Chlorophenol	SW8270C	mg/kg	1.5		ND [0.01]		ND [0.01]		ND [0.01]
2-Methyl-4,6-dinitrophenol	SW8270C	mg/kg	NA		ND [0.1]		ND [0.1]		ND [0.1]
2-Methylnaphthalene	SW8270C	mg/kg	6.1		ND [0.002]		ND [0.002]		ND [0.002] QL
2-Methylphenol (o-Cresol)	SW8270C	mg/kg	15		ND [0.01]		ND [0.01]		ND [0.01]
2-Nitroaniline	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01] QL
2-Nitrophenol	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01]
3,3'-Dichlorobenzidine	SW8270C	mg/kg	0.19		ND [0.02]		ND [0.02]		ND [0.02] QL
3-Methylphenol/4-Methylphenol Coelution	SW8270C	mg/kg	NA		ND [0.02]		ND [0.02]		ND [0.02]
3-Nitroaniline	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01] QL
4-Bromophenyl phenyl ether	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01] QL
4-Chloro-3-methylphenol	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01]
4-Chloroaniline	SW8270C	mg/kg	0.057		ND [0.01]		ND [0.01]		ND [0.01] QL
4-Chlorophenyl phenyl ether	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01] QL
4-Nitroaniline	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01] QL
4-Nitrophenol	SW8270C	mg/kg	NA		ND [0.1]		ND [0.1]		ND [0.1]
Acenaphthene	SW8270C	mg/kg	180		ND [0.002]		ND [0.002]		ND [0.002] QL
Acenaphthylene	SW8270C	mg/kg	180		ND [0.002]		ND [0.002]		ND [0.002] QL
Anthracene	SW8270C	mg/kg	3000		ND [0.002]		ND [0.002]		ND [0.002] QL

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

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Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

## FTW336A Analytical Data

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AP Number TB Number & Depth				AP-9686 TB-01 0.0'	AP-9686 TB-01 2.5'	AP-9686 TB-01 10'	AP-9687 TB-02 5.0'	AP-9687 TB-02 10'	AP-9688 TB-03 5.0'
ANALYTE	Method	Units	ADEC	08FTW336C-01A 11-Apr-2008 580-9696	08FTW336C-01B 11-Apr-2008 580-9696	08FTW336C-01C 11-Apr-2008 580-9696	08FTW336C-02A 11-Apr-2008 580-9696	08FTW336C-02B 11-Apr-2008 580-9696	08FTW336C-03A 12-Apr-2008 580-9696
Benzo(a)anthracene	SW8270C	mg/kg	3.6		ND [0.002]		ND [0.002]		ND [0.002] QL
Benzo(a)pyrene	SW8270C	mg/kg	0.49		ND [0.003]		ND [0.003]		ND [0.003] QL
Benzo(b)fluoranthene	SW8270C	mg/kg	4.9		ND [0.002]		ND [0.002]		ND [0.002] QL
Benzo(g,h,i)perylene	SW8270C	mg/kg	1400		ND [0.0025]		ND [0.0025]		ND [0.0025] QL
Benzo(k)fluoranthene	SW8270C	mg/kg	49		ND [0.0025]		ND [0.0025]		ND [0.0025] QL
Benzoic acid	SW8270C	mg/kg	410		ND [0.25]		ND [0.25]		ND [0.25]
Benzyl alcohol	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01] QL
Benzyl butyl phthalate	SW8270C	mg/kg	920		0.0068 [0.02] J,B		0.0096 [0.02] J,B		0.0078 [0.02] J,B,QL
bis-(2-Chloroethoxy)methane	SW8270C	mg/kg	NA		ND [0.01]		ND [0.01]		ND [0.01] QL
bis-(2-Chloroethyl)ether	SW8270C	mg/kg	0.0022		ND [0.01]		ND [0.01]		ND [0.01] QL
bis(2-Chloroisopropyl)ether	SW8270C	mg/kg	NA		ND [0.025]		ND [0.025]		ND [0.025] QL
bis-(2-Ethylhexyl)phthalate	SW8270C	mg/kg	13		ND [0.15]		ND [0.15]		ND [0.15] QL
Carbazole	SW8270C	mg/kg	6.5		ND [0.01]		ND [0.01]		ND [0.01] QL
Chrysene	SW8270C	mg/kg	360		ND [0.0025]		ND [0.0025]		ND [0.0025] QL
Dibenzo(a,h)anthracene	SW8270C	mg/kg	0.49		ND [0.0041]		ND [0.004]		ND [0.0041] QL
Dibenzofuran	SW8270C	mg/kg	11		ND [0.01]		ND [0.01]		ND [0.01] QL
Diethyl phthalate	SW8270C	mg/kg	130		ND [0.02]		ND [0.02]		ND [0.02] QL
Dimethyl phthalate	SW8270C	mg/kg	1100		ND [0.01]		ND [0.01]		ND [0.01] QL
Di-n-butyl phthalate	SW8270C	mg/kg	80		ND [0.051]		0.0017 [0.051] J,B,QH		ND [0.051] QL
Di-n-octyl phthalate	SW8270C	mg/kg	3100		ND [0.051]		ND [0.051]		ND [0.051] QL
Fluoranthene	SW8270C	mg/kg	1400		ND [0.002]		ND [0.002]		ND [0.002] QL
Fluorene	SW8270C	mg/kg	220		ND [0.002]		ND [0.002]		ND [0.002] QL
Hexachlorobenzene	SW8270C	mg/kg	0.047		ND [0.0051]		ND [0.0051]		ND [0.0051] QL
Hexachlorobutadiene	SW8270C	mg/kg	NA		ND [0.0051]		ND [0.0051]		ND [0.0051] QL
Hexachlorocyclopentadiene	SW8270C	mg/kg	1.3		ND [0.01]		ND [0.01]		ND [0.01] QL
Hexachloroethane	SW8270C	mg/kg	0.21		ND [0.01]		ND [0.01]		ND [0.01] QL
Indeno(1,2,3-cd)pyrene	SW8270C	mg/kg	4.9		ND [0.0041]		ND [0.004]		ND [0.0041] QL
Isophorone	SW8270C	mg/kg	3.1		ND [0.01]		ND [0.01]		ND [0.01] QL
Naphthalene	SW8270C	mg/kg	20		ND [0.002]		ND [0.002]		ND [0.002] QL
Nitrobenzene	SW8270C	mg/kg	0.094		ND [0.01]		ND [0.01]		ND [0.01] QL
n-Nitrosodi-n-propylamine	SW8270C	mg/kg	0.0011		ND [0.01]		ND [0.01]		ND [0.01] QL
n-Nitrosodiphenylamine	SW8270C	mg/kg	15		ND [0.0051]		ND [0.0051]		ND [0.0051] QL
Pentachlorophenol	SW8270C	mg/kg	0.047		ND [0.02]		ND [0.02]		ND [0.02]
Phenanthrene	SW8270C	mg/kg	3000		ND [0.002]		ND [0.002]		ND [0.002] QL
Phenol	SW8270C	mg/kg	68		ND [0.01]		ND [0.01]		ND [0.01]
Pyrene	SW8270C	mg/kg	1000		ND [0.002]		ND [0.002]		ND [0.002] QL

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## FTW336A Analytical Data

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	AP Number	AP-9688	AP-9689	AP-9689	AP-9690	AP-6971	AP-9691
	TB Number & Depth	TB-03 10'	TB-04 5.0'	TB-05 10'	TB-05 0.0'	TB-06 5.0'	TB-06 10'
	Sample ID	08FTW336C-03B	08FTW336C-04A	08FTW336C-04B	08FTW336C-05A	08FTW336C-06A	08FTW336C-06B
	Collection Date	12-Apr-2008	12-Apr-2008	12-Apr-2008	12-Apr-2008	13-Apr-2008	13-Apr-2008
	SDG	580-9696	580-9696	580-9696	580-9696	580-9696	580-9696
ANALYTE	Method	Units	ADEC				
Gasoline Range Organics (C6-C10)	AK101	mg/kg	300		ND [2.2]		ND [4.5]
Diesel Range Organics (C10-C25)	AK102	mg/kg	250	13 [20] J,B	8.4 [21] J	22 [22]	11 [29] J
Residual Range Organics (C25-C36)	AK103	mg/kg	10000	190 [50]	44 [52] J	150 [54]	19 [73] J
Chromium, Hexavalent	SW601B	mg/kg	25		0.3 [0.27] B		0.33 [0.38] J,B
Arsenic	SW6020	mg/kg	3.9		6.9 [0.21] B		13 [0.29] B
Barium	SW6020	mg/kg	1100		77 [0.21] B		140 [0.29] B
Cadmium	SW6020	mg/kg	5		0.15 [0.21] J,B		0.32 [0.29] B
Chromium	SW6020	mg/kg	25		13 [0.21] B		25 [0.29] B
Lead	SW6020	mg/kg	400		4.6 [0.21] B		12 [0.29] B
Selenium	SW6020	mg/kg	3.4		0.12 [0.54] J,B		0.46 [0.72] J,B
Silver	SW6020	mg/kg	11.2		0.042 [0.21] J,B		0.12 [0.29] J,B
Mercury	SW7471A	mg/kg	1.4		ND [0.022]		0.037 [0.028]
4,4'-DDD	SW8081A	mg/kg	7.2		ND [0.0022]		ND [0.0028]
4,4'-DDE	SW8081A	mg/kg	5.1		ND [0.0022]	0.0024 [0.0023]	ND [0.0028]
4,4'-DDT	SW8081A	mg/kg	7.3		ND [0.0022]	0.0083 [0.0023]	ND [0.0028]
Aldrin	SW8081A	mg/kg	0.07		ND [0.0011]	ND [0.0011]	ND [0.0014]
alpha-BHC	SW8081A	mg/kg	0.0064		ND [0.0011]	ND [0.0011]	ND [0.0014]
alpha-Chlordane	SW8081A	mg/kg	3		ND [0.0011]	ND [0.0011]	0.00038 [0.0014] J
beta-BHC	SW8081A	mg/kg	0.022		0.00092 [0.0011] J,B	0.0013 [0.0011] B	0.0012 [0.0014] J,B
delta-BHC	SW8081A	mg/kg	NA		ND [0.0011]	ND [0.0011]	ND [0.0014]
Dieldrin	SW8081A	mg/kg	0.0076		ND [0.0022]	ND [0.0023]	ND [0.0028]
Endosulfan I	SW8081A	mg/kg	7		ND [0.0011]	ND [0.0011]	0.00028 [0.0014] J
Endosulfan II	SW8081A	mg/kg	7		ND [0.0022]	ND [0.0023]	ND [0.0028]
Endosulfan sulfate	SW8081A	mg/kg	7		ND [0.0022]	ND [0.0023]	ND [0.0028]
Endrin	SW8081A	mg/kg	0.29		ND [0.0022]	ND [0.0023]	ND [0.0028]
Endrin aldehyde	SW8081A	mg/kg	NA		ND [0.0022]	ND [0.0023]	ND [0.0028]
Endrin ketone	SW8081A	mg/kg	NA		ND [0.0022]	ND [0.0023]	ND [0.0028]
gamma-BHC (Lindane)	SW8081A	mg/kg	0.0095		ND [0.0011]	ND [0.0011]	ND [0.0014]
gamma-Chlordane	SW8081A	mg/kg	3		ND [0.0011]	ND [0.0011]	0.00027 [0.0014] J
Heptachlor	SW8081A	mg/kg	0.28		ND [0.0011]	ND [0.0011]	ND [0.0014]
Heptachlor epoxide	SW8081A	mg/kg	0.014		ND [0.0011]	ND [0.0011]	0.00078 [0.0014] J
Methoxychlor	SW8081A	mg/kg	23		ND [0.011]	ND [0.011]	ND [0.014]
Toxaphene	SW8081A	mg/kg	3.9		ND [0.11]	ND [0.11]	ND [0.14]
PCB-1016 (Aroclor 1016)	SW8082	mg/kg	1	ND [0.0098]	ND [0.011]	ND [0.011]	ND [0.014]
PCB-1221 (Aroclor 1221)	SW8082	mg/kg	1	ND [0.0098]	ND [0.011]	ND [0.011]	ND [0.014]
PCB-1232 (Aroclor 1232)	SW8082	mg/kg	1	ND [0.0098]	ND [0.011]	ND [0.011]	ND [0.014]
PCB-1242 (Aroclor 1242)	SW8082	mg/kg	1	ND [0.0098]	ND [0.011]	ND [0.011]	ND [0.014]
PCB-1248 (Aroclor 1248)	SW8082	mg/kg	1	ND [0.0098]	ND [0.011]	ND [0.011]	ND [0.014]
PCB-1254 (Aroclor 1254)	SW8082	mg/kg	1	ND [0.0098]	ND [0.011]	ND [0.011]	ND [0.014]
PCB-1260 (Aroclor 1260)	SW8082	mg/kg	1	ND [0.0098]	ND [0.011]	ND [0.011]	ND [0.014]
1,1,1,2-Tetrachloroethane	SW8260B	mg/kg	NA		ND [0.022] QL		ND [0.045] QL
1,1,1-Trichloroethane	SW8260B	mg/kg	0.82		ND [0.009]		ND [0.012]
							ND [0.018]

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

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ANALYTE	Method	Units	ADEC	AP Number	AP-9688	AP-9689	AP-9689	AP-9690	AP-6971	AP-9691
				TB Number & Depth	TB-03 10'	TB-04 5.0'	TB-05 10'	TB-05 0.0'	TB-06 5.0'	TB-06 10'
				Collection Date	Sample ID	SDG	08FTW336C-03B	12-Apr-2008	08FTW336C-04A	08FTW336C-06B
1,1,2,2-Tetrachloroethane	SW8260B	mg/kg	0.017			ND [0.0045]			ND [0.006]	ND [0.0089]
1,1,2-Trichloroethane	SW8260B	mg/kg	0.018			ND [0.022]			ND [0.03]	ND [0.045]
1,1-Dichloroethane	SW8260B	mg/kg	25			ND [0.022]			ND [0.03]	ND [0.045]
1,1-Dichloropropene	SW8260B	mg/kg	0.03			ND [0.009]			ND [0.012]	ND [0.018]
1,2,3-Trichlorobenzene	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
1,2,3-Trichloropropane	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
1,2,4-Trichlorobenzene	SW8260B	mg/kg	0.85			ND [0.022]			ND [0.03]	ND [0.045]
1,2,4-Trimethylbenzene	SW8260B	mg/kg	23			ND [0.022]			ND [0.03]	ND [0.045]
1,2-Dibromo-3-chloropropane	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
1,2-Dibromoethane	SW8260B	mg/kg	0.00016			ND [0.022]			ND [0.03]	ND [0.045]
1,2-Dichlorobenzene	SW8260B	mg/kg	5.1			ND [0.022]			ND [0.03]	ND [0.045]
1,2-Dichloroethane	SW8260B	mg/kg	0.016			ND [0.022]			ND [0.03]	ND [0.045]
1,2-Dichloropropane	SW8260B	mg/kg	0.018			ND [0.0045]			ND [0.006]	ND [0.0089]
1,3,5-Trimethylbenzene	SW8260B	mg/kg	23			ND [0.022]			ND [0.03]	ND [0.045]
1,3-Dichlorobenzene	SW8260B	mg/kg	28			ND [0.022]			ND [0.03]	ND [0.045]
1,3-Dichloropropane	SW8260B	mg/kg	NA			ND [0.009]			ND [0.012]	ND [0.018]
1,4-Dichlorobenzene	SW8260B	mg/kg	0.064			ND [0.022]			ND [0.03]	ND [0.045]
2,2-Dichloropropane	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
2-Butanone	SW8260B	mg/kg	59			ND [0.11]			ND [0.15]	ND [0.22]
2-Chlorotoluene	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
2-Hexanone	SW8260B	mg/kg	NA			ND [0.11]			ND [0.15]	ND [0.22]
4-Chlorotoluene	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
4-Isopropyltoluene	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	0.021 [0.045] J,QH
4-Methyl-2-pentanone	SW8260B	mg/kg	8.1			ND [0.11]			ND [0.15]	ND [0.22]
Acetone	SW8260B	mg/kg	88			ND [0.11]			ND [0.15]	ND [0.22]
Benzene	SW8260B	mg/kg	0.025			ND [0.0045]			ND [0.006]	ND [0.0089]
Bromobenzene	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
Bromochloromethane	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
Bromodichloromethane	SW8260B	mg/kg	0.044			ND [0.022]			ND [0.03]	ND [0.045]
Bromoform	SW8260B	mg/kg	0.34			ND [0.022]			ND [0.03]	ND [0.045]
Bromomethane	SW8260B	mg/kg	0.16			0.036 [0.11] J,B			0.045 [0.15] J,B	0.07 [0.22] J,B,QH
Carbon disulfide	SW8260B	mg/kg	12			ND [0.022]			ND [0.03]	ND [0.045]
Carbon tetrachloride	SW8260B	mg/kg	0.023			ND [0.009]			ND [0.012]	ND [0.018]
Chlorobenzene	SW8260B	mg/kg	0.63			ND [0.022]			ND [0.03]	ND [0.045]
Chloroethane	SW8260B	mg/kg	23			ND [0.11]			ND [0.15]	ND [0.22]
Chloroform	SW8260B	mg/kg	0.46			ND [0.022]			ND [0.03]	ND [0.045]
Chloromethane	SW8260B	mg/kg	0.21			ND [0.022]			ND [0.03]	ND [0.045]
cis-1,2-Dichloroethene	SW8260B	mg/kg	0.24			ND [0.022]			ND [0.03]	ND [0.045]
cis-1,3-Dichloropropene	SW8260B	mg/kg	0.02			ND [0.022] QL			ND [0.03] QL	ND [0.045] QL
Dibromochloromethane	SW8260B	mg/kg	0.032			ND [0.022]			ND [0.03]	ND [0.045]
Dibromomethane	SW8260B	mg/kg	1.1			ND [0.022]			ND [0.03]	ND [0.045]
Dichlorodifluoromethane	SW8260B	mg/kg	140			ND [0.022]			ND [0.03]	ND [0.045]
Ethylbenzene	SW8260B	mg/kg	6.9			ND [0.022]			ND [0.03]	ND [0.045]
Hexachlorobutadiene	SW8260B	mg/kg	NA			ND [0.022]			ND [0.03]	ND [0.045]
Isopropylbenzene	SW8260B	mg/kg	51			ND [0.022]			ND [0.03]	ND [0.045]
Methylene chloride	SW8260B	mg/kg	0.016			0.014 [0.022] J,B			0.022 [0.03] J,B	0.03 [0.045] J,B,QH

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[] - Laboratory PQL.

Solid shade indicates ADEC exceedance

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## FTW336A Analytical Data

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ANALYTE	Method	Units	ADEC	AP Number	AP-9688	AP-9689	AP-9689	AP-9690	AP-6971	AP-9691						
				TB Number & Depth	TB-03 10'	TB-04 5.0'	TB-05 10'	TB-05 0.0'	TB-06 5.0'	TB-06 10'						
				Collection Date	Sample ID	SDG	12-Apr-2008	08FTW336C-03B	12-Apr-2008	08FTW336C-04A	12-Apr-2008	08FTW336C-04B	13-Apr-2008	08FTW336C-05A	13-Apr-2008	08FTW336C-06A
Naphthalene	SW8260B	mg/kg	20			ND [0.022]			ND [0.03]		ND [0.045]					
n-Butylbenzene	SW8260B	mg/kg	15			ND [0.022]			ND [0.03]		ND [0.045]					
n-Propylbenzene	SW8260B	mg/kg	15			ND [0.022]			ND [0.03]		ND [0.045]					
o-Xylene	SW8260B	mg/kg	63			ND [0.022]			ND [0.03]		ND [0.045]					
sec-Butylbenzene	SW8260B	mg/kg	12			ND [0.022]			ND [0.03]		ND [0.045]					
Styrene	SW8260B	mg/kg	0.96			ND [0.022]			ND [0.03]		ND [0.045]					
tert-Butylbenzene	SW8260B	mg/kg	12			ND [0.022]			ND [0.03]		ND [0.045]					
Tetrachloroethene (PCE)	SW8260B	mg/kg	0.024			ND [0.014]			ND [0.019]		ND [0.028]					
Toluene	SW8260B	mg/kg	6.5			ND [0.022]			ND [0.03]		ND [0.045]					
trans-1,2-Dichloroethene	SW8260B	mg/kg	0.37			ND [0.022]			ND [0.03]		ND [0.045]					
trans-1,3-Dichloropropene	SW8260B	mg/kg	0.02			ND [0.022]			ND [0.03]		ND [0.045]					
Trichloroethene (TCE)	SW8260B	mg/kg	0.02			ND [0.009]			ND [0.012]		ND [0.018]					
Trichlorofluoromethane	SW8260B	mg/kg	86			ND [0.022]			ND [0.03]		ND [0.045]					
Vinyl chloride	SW8260B	mg/kg	0.0085			ND [0.009]			ND [0.012]		ND [0.018]					
Xylene, Isomers m & p	SW8260B	mg/kg	63			ND [0.022]			ND [0.03]		ND [0.045]					
1,2,4-Trichlorobenzene	SW8270C	mg/kg	0.85			ND [0.0055] QL			ND [0.0059]		ND [0.0076]					
1,2-Dichlorobenzene	SW8270C	mg/kg	5.1			ND [0.0061] QL			ND [0.0065]		ND [0.0084]					
1,3-Dichlorobenzene	SW8270C	mg/kg	28			ND [0.0055] QL			ND [0.0059]		ND [0.0076]					
1,4-Dichlorobenzene	SW8270C	mg/kg	0.64			ND [0.0055] QL			ND [0.0059]		ND [0.0076]					
1-Methylnaphthalene	SW8270C	mg/kg	6.2			ND [0.0033] QL			ND [0.0035]		ND [0.0046]					
2,4,5-Trichlorophenol	SW8270C	mg/kg	67			ND [0.011]			ND [0.012]		ND [0.015]					
2,4,6-Trichlorophenol	SW8270C	mg/kg	1.4			ND [0.017]			ND [0.018]		ND [0.023]					
2,4-Dichlorophenol	SW8270C	mg/kg	1.3			ND [0.011]			ND [0.012]		ND [0.015]					
2,4-Dimethylphenol	SW8270C	mg/kg	8.8			ND [0.011]			ND [0.012]		ND [0.015]					
2,4-Dinitrophenol	SW8270C	mg/kg	0.54			ND [0.11]			ND [0.12]		ND [0.15]					
2,4-Dinitrotoluene	SW8270C	mg/kg	0.0093			ND [0.011] QL			ND [0.012]		ND [0.015]					
2,6-Dinitrotoluene	SW8270C	mg/kg	0.0094			ND [0.011] QL			ND [0.012]		ND [0.015]					
2-Chloronaphthalene	SW8270C	mg/kg	120			ND [0.0022] QL			ND [0.0024]		ND [0.003]					
2-Chlorophenol	SW8270C	mg/kg	1.5			ND [0.011]			ND [0.012]		ND [0.015]					
2-Methyl-4,6-dinitrophenol	SW8270C	mg/kg	NA			ND [0.11]			ND [0.12]		ND [0.15]					
2-Methylnaphthalene	SW8270C	mg/kg	6.1			ND [0.0022] QL			ND [0.0024]		ND [0.003]					
2-Methylphenol (o-Cresol)	SW8270C	mg/kg	15			ND [0.011]			ND [0.012]		ND [0.015]					
2-Nitroaniline	SW8270C	mg/kg	NA			ND [0.011] QL			ND [0.012]		ND [0.015]					
2-Nitrophenol	SW8270C	mg/kg	NA			ND [0.011]			ND [0.012]		ND [0.015]					
3,3'-Dichlorobenzidine	SW8270C	mg/kg	0.19			ND [0.022] QL			ND [0.024]		ND [0.03]					
3-Methylphenol/4-Methylphenol Coelution	SW8270C	mg/kg	NA			ND [0.022]			ND [0.024]		ND [0.03]					
3-Nitroaniline	SW8270C	mg/kg	NA			ND [0.011] QL			ND [0.012]		ND [0.015]					
4-Bromophenyl phenyl ether	SW8270C	mg/kg	NA			ND [0.011] QL			ND [0.012]		ND [0.015]					
4-Chloro-3-methylphenol	SW8270C	mg/kg	NA			ND [0.011]			ND [0.012]		ND [0.015]					
4-Chloroaniline	SW8270C	mg/kg	0.057			ND [0.011] QL			ND [0.012]		ND [0.015]					
4-Chlorophenyl phenyl ether	SW8270C	mg/kg	NA			ND [0.011] QL			ND [0.012]		ND [0.015]					
4-Nitroaniline	SW8270C	mg/kg	NA			ND [0.011] QL			ND [0.012]		ND [0.015]					
4-Nitrophenol	SW8270C	mg/kg	NA			ND [0.11]			ND [0.12]		ND [0.15]					
Acenaphthene	SW8270C	mg/kg	180			ND [0.0022] QL			ND [0.0024]		ND [0.003]					
Acenaphthylene	SW8270C	mg/kg	180			ND [0.0022] QL			ND [0.0024]		ND [0.003]					
Anthracene	SW8270C	mg/kg	3000			ND [0.0022] QL			0.00065 [0.0024] J		ND [0.003]					

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

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## FTW336A Analytical Data

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ANALYTE	Method	Units	ADEC	AP Number	AP-9688	AP-9689	AP-9689	AP-9690	AP-6971	AP-9691
				TB Number & Depth	TB-03 10'	TB-04 5.0'	TB-05 10'	TB-05 0.0'	TB-06 5.0'	TB-06 10'
				Collection Date	Sample ID	SDG	08FTW336C-03B	12-Apr-2008	08FTW336C-04A	08FTW336C-06A
Benzo(a)anthracene	SW8270C	mg/kg	3.6			ND [0.0022] QL			0.0041 [0.0024]	ND [0.003]
Benzo(a)pyrene	SW8270C	mg/kg	0.49			ND [0.0033] QL			0.0058 [0.0035]	ND [0.0046]
Benzo(b)fluoranthene	SW8270C	mg/kg	4.9			ND [0.0022] QL			0.0069 [0.0024]	ND [0.003]
Benzo(g,h,i)perylene	SW8270C	mg/kg	1400			ND [0.0028] QL			0.0033 [0.003]	ND [0.0038]
Benzo(k)fluoranthene	SW8270C	mg/kg	49			ND [0.0028] QL			0.0012 [0.003] J	ND [0.0038]
Benzoic acid	SW8270C	mg/kg	410			ND [0.28]			ND [0.3]	ND [0.38]
Benzyl alcohol	SW8270C	mg/kg	NA			ND [0.011] QL			ND [0.012]	ND [0.015]
Benzyl butyl phthalate	SW8270C	mg/kg	920			0.008 [0.022] J,B,QL			0.0099 [0.024] J,B	ND [0.03]
bis-(2-Chloroethoxy)methane	SW8270C	mg/kg	NA			ND [0.011] QL			ND [0.012]	ND [0.015]
bis-(2-Chloroethyl)ether	SW8270C	mg/kg	0.0022			ND [0.011] QL			ND [0.012]	ND [0.015]
bis(2-Chloroisopropyl)ether	SW8270C	mg/kg	NA			ND [0.028] QL			ND [0.03]	ND [0.038]
bis-(2-Ethylhexyl)phthalate	SW8270C	mg/kg	13			ND [0.17] QL			ND [0.18]	ND [0.23]
Carbazole	SW8270C	mg/kg	6.5			ND [0.011] QL			ND [0.012]	ND [0.015]
Chrysene	SW8270C	mg/kg	360			ND [0.0028] QL			0.0045 [0.003]	ND [0.0038]
Dibenzo(a,h)anthracene	SW8270C	mg/kg	0.49			ND [0.0044] QL			0.0048 [0.0047]	ND [0.0061]
Dibenzofuran	SW8270C	mg/kg	11			ND [0.011] QL			ND [0.012]	ND [0.015]
Diethyl phthalate	SW8270C	mg/kg	130			ND [0.022] QL			ND [0.024]	ND [0.03]
Dimethyl phthalate	SW8270C	mg/kg	1100			ND [0.011] QL			ND [0.012]	ND [0.015]
Di-n-butyl phthalate	SW8270C	mg/kg	80			0.0017 [0.055] J,B,QN			0.0017 [0.059] J,B,QH	0.0044 [0.076] J,B,QH
Di-n-octyl phthalate	SW8270C	mg/kg	3100			ND [0.055] QL			ND [0.059]	ND [0.076]
Fluoranthene	SW8270C	mg/kg	1400			ND [0.0022] QL			0.0064 [0.0024]	ND [0.003]
Fluorene	SW8270C	mg/kg	220			ND [0.0022] QL			ND [0.0024]	ND [0.003]
Hexachlorobenzene	SW8270C	mg/kg	0.047			ND [0.0055] QL			ND [0.0059]	ND [0.0076]
Hexachlorobutadiene	SW8270C	mg/kg	NA			ND [0.0055] QL			ND [0.0059]	ND [0.0076]
Hexachlorocyclopentadiene	SW8270C	mg/kg	1.3			ND [0.011] QL			ND [0.012]	ND [0.015]
Hexachloroethane	SW8270C	mg/kg	0.21			ND [0.011] QL			ND [0.012]	ND [0.015]
Indeno(1,2,3-cd)pyrene	SW8270C	mg/kg	4.9			ND [0.0044] QL			0.0044 [0.0047] J	ND [0.0061]
Isophorone	SW8270C	mg/kg	3.1			ND [0.011] QL			ND [0.012]	ND [0.015]
Naphthalene	SW8270C	mg/kg	20			ND [0.0022] QL			ND [0.0024]	ND [0.003]
Nitrobenzene	SW8270C	mg/kg	0.094			ND [0.011] QL			ND [0.012]	ND [0.015]
n-Nitrosodi-n-propylamine	SW8270C	mg/kg	0.0011			ND [0.011] QL			ND [0.012]	ND [0.015]
n-Nitrosodiphenylamine	SW8270C	mg/kg	15			ND [0.0055] QL			ND [0.0059]	ND [0.0076]
Pentachlorophenol	SW8270C	mg/kg	0.047			ND [0.022]			ND [0.024]	ND [0.03]
Phenanthrene	SW8270C	mg/kg	3000			ND [0.0022] QL			0.0015 [0.0024] J	ND [0.003]
Phenol	SW8270C	mg/kg	68			ND [0.011]			ND [0.012]	ND [0.015]
Pyrene	SW8270C	mg/kg	1000			ND [0.0022] QL			0.0054 [0.0024]	0.00052 [0.003] J

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

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AP Number TB Number & Depth Sample ID Collection Date SDG				AP-9692 TB-07 2.5' 08FTW336C-07A 13-Apr-2008 580-9696	AP-9692 TB-07 10' 08FTW336C-07B 13-Apr-2008 580-9696	AP-9693 TB-08 0.0' 08FTW336C-08A 13-Apr-2008 580-9696	AP-9694 TB-09 5.0' 08FTW336C-09A 14-Apr-2008 580-9696	AP-9694 TB-09 10' 08FTW336C-09B 14-Apr-2008 580-9696
ANALYTE	Method	Units	ADEC					
Gasoline Range Organics (C6-C10)	AK101	mg/kg	300	ND [3]		ND [1.8]	2.9 [2]	
Diesel Range Organics (C10-C25)	AK102	mg/kg	250	7.4 [23] J	3.1 [19] J	11 [21] J	6.1 [20] J	25 [20]
Residual Range Organics (C25-C36)	AK103	mg/kg	10000	15 [57] J,MH	ND [47]	ND [53]	7.5 [50] J	ND [49]
Chromium, Hexavalent	SW601B	mg/kg	25	0.19 [0.3] J,B,MH		0.16 [0.25] J,B	0.13 [0.25] J,B	
Arsenic	SW6020	mg/kg	3.9	9.8 [0.23] B		3 [0.2] B	3.8 [0.2] B	
Barium	SW6020	mg/kg	1100	85 [0.23] B		41 [0.2] B	58 [0.2] B	
Cadmium	SW6020	mg/kg	5	0.18 [0.23] J,B		0.064 [0.2] J,B	0.093 [0.2] J,B	
Chromium	SW6020	mg/kg	25	13 [0.23] B		7.2 [0.2] B	26 [0.2] B	
Lead	SW6020	mg/kg	400	6 [0.23] B		2.9 [0.2] B	3.4 [0.2] B	
Selenium	SW6020	mg/kg	3.4	0.15 [0.57] J,B		0.091 [0.51] J,B	0.1 [0.49] J,B	
Silver	SW6020	mg/kg	11.2	0.048 [0.23] J,B		0.023 [0.2] J,B	0.036 [0.2] J,B	
Mercury	SW7471A	mg/kg	1.4	0.014 [0.022] J		ND [0.02]	ND [0.02]	
4,4'-DDD	SW8081A	mg/kg	7.2	ND [0.0022] QL		ND [0.0021]	ND [0.0021]	
4,4'-DDE	SW8081A	mg/kg	5.1	0.0014 [0.0022] J,QL		ND [0.0021]	ND [0.0021]	
4,4'-DDT	SW8081A	mg/kg	7.3	0.0011 [0.0022] J,QL		0.00036 [0.0021] J	ND [0.0021]	
Aldrin	SW8081A	mg/kg	0.07	ND [0.0011] QL		ND [0.001]	ND [0.001]	
alpha-BHC	SW8081A	mg/kg	0.0064	ND [0.0011] QL		ND [0.001]	ND [0.001]	
alpha-Chlordane	SW8081A	mg/kg	3	ND [0.0011] QL		ND [0.001]	ND [0.001]	
beta-BHC	SW8081A	mg/kg	0.022	0.00026 [0.0011] J,B,QL		0.0008 [0.001] J,B	0.00069 [0.001] J,B	
delta-BHC	SW8081A	mg/kg	NA	ND [0.0011] QL		ND [0.001]	ND [0.001]	
Dieldrin	SW8081A	mg/kg	0.0076	ND [0.0022] QL		ND [0.0021]	ND [0.0021]	
Endosulfan I	SW8081A	mg/kg	7	ND [0.0011] QL		ND [0.001]	ND [0.001]	
Endosulfan II	SW8081A	mg/kg	7	ND [0.0022] QL		ND [0.0021]	ND [0.0021]	
Endosulfan sulfate	SW8081A	mg/kg	7	ND [0.0022] QL		ND [0.0021]	ND [0.0021]	
Endrin	SW8081A	mg/kg	0.29	ND [0.0022] QL		ND [0.0021]	ND [0.0021]	
Endrin aldehyde	SW8081A	mg/kg	NA	ND [0.0022] QL		ND [0.0021]	ND [0.0021]	
Endrin ketone	SW8081A	mg/kg	NA	ND [0.0022] QL		ND [0.0021]	ND [0.0021]	
gamma-BHC (Lindane)	SW8081A	mg/kg	0.0095	ND [0.0011] QL		ND [0.001]	ND [0.001]	
gamma-Chlordane	SW8081A	mg/kg	3	ND [0.0011] QL		ND [0.001]	ND [0.001]	
Heptachlor	SW8081A	mg/kg	0.28	ND [0.0011] QL		ND [0.001]	ND [0.001]	
Heptachlor epoxide	SW8081A	mg/kg	0.014	ND [0.0011] QL		ND [0.001]	ND [0.001]	
Methoxychlor	SW8081A	mg/kg	23	ND [0.011] QL		ND [0.01]	ND [0.01]	
Toxaphene	SW8081A	mg/kg	3.9	ND [0.11] QL		ND [0.1]	ND [0.1]	
PCB-1016 (Aroclor 1016)	SW8082	mg/kg	1	ND [0.011]	ND [0.0096]	ND [0.01]	ND [0.01]	ND [0.0099]
PCB-1221 (Aroclor 1221)	SW8082	mg/kg	1	ND [0.011]	ND [0.0096]	ND [0.01]	ND [0.01]	ND [0.0099]
PCB-1232 (Aroclor 1232)	SW8082	mg/kg	1	ND [0.011]	ND [0.0096]	ND [0.01]	ND [0.01]	ND [0.0099]
PCB-1242 (Aroclor 1242)	SW8082	mg/kg	1	ND [0.011]	ND [0.0096]	ND [0.01]	ND [0.01]	ND [0.0099]
PCB-1248 (Aroclor 1248)	SW8082	mg/kg	1	ND [0.011]	ND [0.0096]	ND [0.01]	ND [0.01]	ND [0.0099]
PCB-1254 (Aroclor 1254)	SW8082	mg/kg	1	ND [0.011]	ND [0.0096]	ND [0.01]	ND [0.01]	ND [0.0099]
PCB-1260 (Aroclor 1260)	SW8082	mg/kg	1	ND [0.011]	ND [0.0096]	ND [0.01]	ND [0.01]	ND [0.0099]
1,1,1,2-Tetrachloroethane	SW8260B	mg/kg	NA	ND [0.03] QL		ND [0.018] QL	ND [0.02] QL	
1,1,1-Trichloroethane	SW8260B	mg/kg	0.82	ND [0.012]		ND [0.0071]	ND [0.0079]	

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

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Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

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AP Number TB Number & Depth Sample ID Collection Date SDG				AP-9692 TB-07 2.5' 08FTW336C-07A 13-Apr-2008 580-9696	AP-9692 TB-07 10' 08FTW336C-07B 13-Apr-2008 580-9696	AP-9693 TB-08 0.0' 08FTW336C-08A 13-Apr-2008 580-9696	AP-9694 TB-09 5.0' 08FTW336C-09A 14-Apr-2008 580-9696	AP-9694 TB-09 10' 08FTW336C-09B 14-Apr-2008 580-9696
ANALYTE	Method	Units	ADEC					
1,1,2,2-Tetrachloroethane	SW8260B	mg/kg	0.017	ND [0.0061]		ND [0.0035]	ND [0.004]	
1,1,2-Trichloroethane	SW8260B	mg/kg	0.018	ND [0.03]		ND [0.018]	ND [0.02]	
1,1-Dichloroethane	SW8260B	mg/kg	25	ND [0.03]		ND [0.018]	ND [0.02]	
1,1-Dichloropropene	SW8260B	mg/kg	0.03	ND [0.012]		ND [0.0071]	ND [0.0079]	
1,2,3-Trichlorobenzene	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
1,2,3-Trichloropropane	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
1,2,4-Trichlorobenzene	SW8260B	mg/kg	0.85	ND [0.03]		ND [0.018]	ND [0.02]	
1,2,4-Trimethylbenzene	SW8260B	mg/kg	23	ND [0.03]		ND [0.018]	ND [0.02]	
1,2-Dibromo-3-chloropropane	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
1,2-Dibromoethane	SW8260B	mg/kg	0.00016	ND [0.03]		ND [0.018]	ND [0.02]	
1,2-Dichlorobenzene	SW8260B	mg/kg	5.1	ND [0.03]		ND [0.018]	ND [0.02]	
1,2-Dichloroethane	SW8260B	mg/kg	0.016	ND [0.03]		ND [0.018]	ND [0.02]	
1,2-Dichloropropane	SW8260B	mg/kg	0.018	ND [0.0061]		ND [0.0035]	ND [0.004]	
1,3,5-Trimethylbenzene	SW8260B	mg/kg	23	ND [0.03]		ND [0.018]	ND [0.02]	
1,3-Dichlorobenzene	SW8260B	mg/kg	28	ND [0.03]		ND [0.018]	ND [0.02]	
1,3-Dichloropropane	SW8260B	mg/kg	NA	ND [0.012]		ND [0.0071]	ND [0.0079]	
1,4-Dichlorobenzene	SW8260B	mg/kg	0.064	ND [0.03]		ND [0.018]	ND [0.02]	
2,2-Dichloropropane	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
2-Butanone	SW8260B	mg/kg	59	ND [0.15]		ND [0.089]	ND [0.099]	
2-Chlorotoluene	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
2-Hexanone	SW8260B	mg/kg	NA	ND [0.15]		ND [0.089]	ND [0.099]	
4-Chlorotoluene	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
4-Isopropyltoluene	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
4-Methyl-2-pentanone	SW8260B	mg/kg	8.1	ND [0.15]		ND [0.089]	ND [0.099]	
Acetone	SW8260B	mg/kg	88	ND [0.15]		ND [0.089]	ND [0.099]	
Benzene	SW8260B	mg/kg	0.025	ND [0.0061]		ND [0.0035]	ND [0.004]	
Bromobenzene	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
Bromoform	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
Bromochloromethane	SW8260B	mg/kg	0.044	ND [0.03]		ND [0.018]	ND [0.02]	
Bromodichloromethane	SW8260B	mg/kg	0.34	ND [0.03]		ND [0.018]	ND [0.02]	
Bromomethane	SW8260B	mg/kg	0.16	0.051 [0.15] J,B		0.023 [0.089] J,B	0.03 [0.099] J,B	
Carbon disulfide	SW8260B	mg/kg	12	ND [0.03]		ND [0.018]	ND [0.02]	
Carbon tetrachloride	SW8260B	mg/kg	0.023	ND [0.012]		ND [0.0071]	ND [0.0079]	
Chlorobenzene	SW8260B	mg/kg	0.63	ND [0.03]		ND [0.018]	ND [0.02]	
Chloroethane	SW8260B	mg/kg	23	ND [0.15]		ND [0.089]	ND [0.099]	
Chloroform	SW8260B	mg/kg	0.46	ND [0.03]		ND [0.018]	ND [0.02]	
Chloromethane	SW8260B	mg/kg	0.21	0.0055 [0.03] J,B		ND [0.018]	ND [0.02]	
cis-1,2-Dichloroethene	SW8260B	mg/kg	0.24	ND [0.03]		ND [0.018]	ND [0.02]	
cis-1,3-Dichloropropene	SW8260B	mg/kg	0.02	ND [0.03] QL		ND [0.018] QL	ND [0.02] QL	
Dibromochloromethane	SW8260B	mg/kg	0.032	ND [0.03]		ND [0.018]	ND [0.02]	
Dibromomethane	SW8260B	mg/kg	1.1	ND [0.03]		ND [0.018]	ND [0.02]	
Dichlorodifluoromethane	SW8260B	mg/kg	140	ND [0.03]		ND [0.018]	ND [0.02]	
Ethylbenzene	SW8260B	mg/kg	6.9	ND [0.03]		ND [0.018]	ND [0.02]	
Hexachlorobutadiene	SW8260B	mg/kg	NA	ND [0.03]		ND [0.018]	ND [0.02]	
Isopropylbenzene	SW8260B	mg/kg	51	ND [0.03]		ND [0.018]	ND [0.02]	
Methylene chloride	SW8260B	mg/kg	0.016	0.02 [0.03] J,B		0.013 [0.018] J,B	0.022 [0.02] B	

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## FTW336A Analytical Data

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AP Number TB Number & Depth Sample ID Collection Date SDG				AP-9692 TB-07 2.5' 08FTW336C-07A 13-Apr-2008 580-9696	AP-9692 TB-07 10' 08FTW336C-07B 13-Apr-2008 580-9696	AP-9693 TB-08 0.0' 08FTW336C-08A 13-Apr-2008 580-9696	AP-9694 TB-09 5.0' 08FTW336C-09A 14-Apr-2008 580-9696	AP-9694 TB-09 10' 08FTW336C-09B 14-Apr-2008 580-9696
ANALYTE	Method	Units	ADEC					
Naphthalene	SW8260B	mg/kg	20	ND [0.03]		ND [0.018]	ND [0.02]	
n-Butylbenzene	SW8260B	mg/kg	15	ND [0.03]		ND [0.018]	ND [0.02]	
n-Propylbenzene	SW8260B	mg/kg	15	ND [0.03]		ND [0.018]	ND [0.02]	
o-Xylene	SW8260B	mg/kg	63	ND [0.03]		ND [0.018]	ND [0.02]	
sec-Butylbenzene	SW8260B	mg/kg	12	ND [0.03]		ND [0.018]	ND [0.02]	
Styrene	SW8260B	mg/kg	0.96	ND [0.03]		ND [0.018]	ND [0.02]	
tert-Butylbenzene	SW8260B	mg/kg	12	ND [0.03]		ND [0.018]	ND [0.02]	
Tetrachloroethene (PCE)	SW8260B	mg/kg	0.024	ND [0.019]		ND [0.011]	ND [0.012]	
Toluene	SW8260B	mg/kg	6.5	ND [0.03]		ND [0.018]	0.49 [0.02]	
trans-1,2-Dichloroethene	SW8260B	mg/kg	0.37	ND [0.03]		ND [0.018]	ND [0.02]	
trans-1,3-Dichloropropene	SW8260B	mg/kg	0.02	ND [0.03]		ND [0.018]	ND [0.02]	
Trichloroethene (TCE)	SW8260B	mg/kg	0.02	ND [0.012]		ND [0.0071]	ND [0.0079]	
Trichlorofluoromethane	SW8260B	mg/kg	86	ND [0.03]		ND [0.018]	0.0052 [0.02] J	
Vinyl chloride	SW8260B	mg/kg	0.0085	ND [0.012]		ND [0.0071]	ND [0.0079]	
Xylene, Isomers m & p	SW8260B	mg/kg	63	ND [0.03]		ND [0.018]	ND [0.02]	
1,2,4-Trichlorobenzene	SW8270C	mg/kg	0.85	ND [0.0058]		ND [0.0052] QL	ND [0.0052]	
1,2-Dichlorobenzene	SW8270C	mg/kg	5.1	ND [0.0064]		ND [0.0057] QL	ND [0.0057]	
1,3-Dichlorobenzene	SW8270C	mg/kg	28	ND [0.0058]		ND [0.0052] QL	ND [0.0052]	
1,4-Dichlorobenzene	SW8270C	mg/kg	0.64	ND [0.0058]		ND [0.0052] QL	ND [0.0052]	
1-Methylnaphthalene	SW8270C	mg/kg	6.2	0.0017 [0.0035] J		ND [0.0031] QL	ND [0.0031]	
2,4,5-Trichlorophenol	SW8270C	mg/kg	67	ND [0.012]		ND [0.01] QL	ND [0.01]	
2,4,6-Trichlorophenol	SW8270C	mg/kg	1.4	ND [0.017]		ND [0.016] QL	ND [0.015]	
2,4-Dichlorophenol	SW8270C	mg/kg	1.3	ND [0.012]		ND [0.01] QL	ND [0.01]	
2,4-Dimethylphenol	SW8270C	mg/kg	8.8	ND [0.012]		ND [0.01] QL	ND [0.01]	
2,4-Dinitrophenol	SW8270C	mg/kg	0.54	ND [0.12]		ND [0.1] QL	ND [0.1]	
2,4-Dinitrotoluene	SW8270C	mg/kg	0.0093	ND [0.012]		ND [0.01] QL	ND [0.01]	
2,6-Dinitrotoluene	SW8270C	mg/kg	0.0094	ND [0.012]		ND [0.01] QL	ND [0.01]	
2-Chloronaphthalene	SW8270C	mg/kg	120	ND [0.0023]		ND [0.0021] QL	ND [0.0021]	
2-Chlorophenol	SW8270C	mg/kg	1.5	ND [0.012]		ND [0.01] QL	ND [0.01]	
2-Methyl-4,6-dinitrophenol	SW8270C	mg/kg	NA	ND [0.12]		ND [0.1] QL	ND [0.1]	
2-Methylnaphthalene	SW8270C	mg/kg	6.1	0.0021 [0.0023] J		ND [0.0021] QL	ND [0.0021]	
2-Methylphenol (o-Cresol)	SW8270C	mg/kg	15	ND [0.012]		ND [0.01] QL	ND [0.01]	
2-Nitroaniline	SW8270C	mg/kg	NA	ND [0.012]		ND [0.01] QL	ND [0.01]	
2-Nitrophenol	SW8270C	mg/kg	NA	ND [0.012]		ND [0.01] QL	ND [0.01]	
3,3'-Dichlorobenzidine	SW8270C	mg/kg	0.19	ND [0.023]		ND [0.021] QL	ND [0.021]	
3-Methylphenol/4-Methylphenol Coelution	SW8270C	mg/kg	NA	ND [0.023]		ND [0.021] QL	ND [0.021]	
3-Nitroaniline	SW8270C	mg/kg	NA	ND [0.012]		ND [0.01] QL	ND [0.01]	
4-Bromophenyl phenyl ether	SW8270C	mg/kg	NA	ND [0.012]		ND [0.01] QL	ND [0.01]	
4-Chloro-3-methylphenol	SW8270C	mg/kg	NA	ND [0.012]		ND [0.01] QL	ND [0.01]	
4-Chloroaniline	SW8270C	mg/kg	0.057	ND [0.012]		ND [0.01] QL	ND [0.01]	
4-Chlorophenyl phenyl ether	SW8270C	mg/kg	NA	ND [0.012]		ND [0.01] QL	ND [0.01]	
4-Nitroaniline	SW8270C	mg/kg	NA	ND [0.012]		ND [0.01] QL	ND [0.01]	
4-Nitrophenol	SW8270C	mg/kg	NA	ND [0.12]		ND [0.1] QL	ND [0.1]	
Acenaphthene	SW8270C	mg/kg	180	ND [0.0023]		ND [0.0021] QL	ND [0.0021]	
Acenaphthylene	SW8270C	mg/kg	180	ND [0.0023]		ND [0.0021] QL	ND [0.0021]	
Anthracene	SW8270C	mg/kg	3000	ND [0.0023]		ND [0.0021] QL	ND [0.0021]	

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

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Solid shade indicates ADEC exceedance

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ANALYTE	Method	Units	ADEC	AP Number	AP-9692	AP-9692	AP-9693	AP-9694	AP-9694
				TB Number & Depth	TB-07 2.5' 08FTW336C-07A	TB-07 10' 08FTW336C-07B	TB-08 0.0' 08FTW336C-08A	TB-09 5.0' 08FTW336C-09A	TB-09 10' 08FTW336C-09B
			SDG	Collection Date	13-Apr-2008	13-Apr-2008	13-Apr-2008	14-Apr-2008	14-Apr-2008
				SDG	580-9696	580-9696	580-9696	580-9696	580-9696
Benzo(a)anthracene	SW8270C	mg/kg	3.6	ND [0.0023]			ND [0.0021] QL	ND [0.0021]	
Benzo(a)pyrene	SW8270C	mg/kg	0.49	ND [0.0035]			ND [0.0031] QL	ND [0.0031]	
Benzo(b)fluoranthene	SW8270C	mg/kg	4.9	ND [0.0023]			ND [0.0021] QL	ND [0.0021]	
Benzo(g,h,i)perylene	SW8270C	mg/kg	1400	ND [0.0029]			ND [0.0026] QL	ND [0.0026]	
Benzo(k)fluoranthene	SW8270C	mg/kg	49	ND [0.0029]			ND [0.0026] QL	ND [0.0026]	
Benzoic acid	SW8270C	mg/kg	410	ND [0.29]			ND [0.26] QL	ND [0.26]	
Benzyl alcohol	SW8270C	mg/kg	NA	ND [0.012]			ND [0.01] QL	ND [0.01]	
Benzyl butyl phthalate	SW8270C	mg/kg	920	0.0092 [0.023] J,B			0.0083 [0.021] J,B,QL	0.0086 [0.021] J,B	
bis-(2-Chloroethoxy)methane	SW8270C	mg/kg	NA	ND [0.012]			ND [0.01] QL	ND [0.01]	
bis-(2-Chloroethyl)ether	SW8270C	mg/kg	0.0022	ND [0.012]			ND [0.01] QL	ND [0.01]	
bis(2-Chloroisopropyl)ether	SW8270C	mg/kg	NA	ND [0.029]			ND [0.026] QL	ND [0.026]	
bis-(2-Ethylhexyl)phthalate	SW8270C	mg/kg	13	ND [0.17]			ND [0.16] QL	ND [0.15]	
Carbazole	SW8270C	mg/kg	6.5	ND [0.012]			ND [0.01] QL	ND [0.01]	
Chrysene	SW8270C	mg/kg	360	ND [0.0029]			ND [0.0026] QL	ND [0.0026]	
Dibenzo(a,h)anthracene	SW8270C	mg/kg	0.49	ND [0.0046]			ND [0.0042] QL	ND [0.0041]	
Dibenzofuran	SW8270C	mg/kg	11	ND [0.012]			ND [0.01] QL	ND [0.01]	
Diethyl phthalate	SW8270C	mg/kg	130	ND [0.023]			ND [0.021] QL	ND [0.021]	
Dimethyl phthalate	SW8270C	mg/kg	1100	ND [0.012]			ND [0.01] QL	ND [0.01]	
Di-n-butyl phthalate	SW8270C	mg/kg	80	0.0022 [0.058] J,B,QH,MH			0.0022 [0.052] J,B,QN	0.0022 [0.052] J,B,QH	
Di-n-octyl phthalate	SW8270C	mg/kg	3100	ND [0.058]			ND [0.052]	ND [0.052]	
Fluoranthene	SW8270C	mg/kg	1400	0.00036 [0.0023] J			ND [0.0021] QL	ND [0.0021]	
Fluorene	SW8270C	mg/kg	220	ND [0.0023]			ND [0.0021] QL	ND [0.0021]	
Hexachlorobenzene	SW8270C	mg/kg	0.047	ND [0.0058]			ND [0.0052] QL	ND [0.0052]	
Hexachlorobutadiene	SW8270C	mg/kg	NA	ND [0.0058]			ND [0.0052] QL	ND [0.0052]	
Hexachlorocyclopentadiene	SW8270C	mg/kg	1.3	ND [0.012]			ND [0.01] QL	ND [0.01]	
Hexachloroethane	SW8270C	mg/kg	0.21	ND [0.012]			ND [0.01] QL	ND [0.01]	
Indeno(1,2,3-cd)pyrene	SW8270C	mg/kg	4.9	ND [0.0046]			ND [0.0042] QL	ND [0.0041]	
Isophorone	SW8270C	mg/kg	3.1	ND [0.012]			ND [0.01] QL	ND [0.01]	
Naphthalene	SW8270C	mg/kg	20	ND [0.0023]			ND [0.0021] QL	ND [0.0021]	
Nitrobenzene	SW8270C	mg/kg	0.094	ND [0.012]			ND [0.01] QL	ND [0.01]	
n-Nitrosodi-n-propylamine	SW8270C	mg/kg	0.0011	ND [0.012]			ND [0.01] QL	ND [0.01]	
n-Nitrosodiphenylamine	SW8270C	mg/kg	15	ND [0.0058]			ND [0.0052] QL	ND [0.0052]	
Pentachlorophenol	SW8270C	mg/kg	0.047	ND [0.023]			ND [0.021] QL	ND [0.021]	
Phenanthrene	SW8270C	mg/kg	3000	0.00061 [0.0023] J			ND [0.0021] QL	ND [0.0021]	
Phenol	SW8270C	mg/kg	68	ND [0.012]			ND [0.01] QL	ND [0.01]	
Pyrene	SW8270C	mg/kg	1000	0.00055 [0.0023] J			ND [0.0021] QL	0.00029 [0.0021] J	

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

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AP Number TB Number & Depth Sample ID Collection Date SDG				AP-9695 TB-10 0.0' 08FTW336C-10A 15-Apr-2008 580-9696	AP-9696 TB-11 2.5' 08FTW336C-11A 17-Apr-2008 580-9696	Dupe of -11A AP-9696 TB-11 2.5' 08FTW336C-13A 17-Apr-2008 580-9696	AP-9696 TB-11 10' 08FTW336C-11B 17-Apr-2008 580-9696	Dupe of -11B AP-9696 TB-11 10' 08FTW336C-13B 17-Apr-2008 580-9696	AP-9697 TB-12 0.0' 08FTW336C-12A 17-Apr-2008 580-9696
ANALYTE	Method	Units	ADEC						
Gasoline Range Organics (C6-C10)	AK101	mg/kg	300	3.3 [2.1]	ND [2.6]	ND [2.2]			ND [2.1]
Diesel Range Organics (C10-C25)	AK102	mg/kg	250	230 [20]	3.6 [22] J	ND [21]	ND [20]	ND [20]	24 [20]
Residual Range Organics (C25-C36)	AK103	mg/kg	10000	1300 [50]	ND [54]	ND [53]	ND [50]	ND [51]	290 [51]
Chromium, Hexavalent	SW601B	mg/kg	25	0.26 [0.25] B	0.12 [0.28] J,B	0.12 [0.26] J,B			0.16 [0.25] J,B
Arsenic	SW6020	mg/kg	3.9	6.5 [0.2] B	9 [0.22] B	5.9 [0.22] B			3.8 [0.2] B
Barium	SW6020	mg/kg	1100	120 [0.2] B	100 [0.22] B	65 [0.22] B			54 [0.2] B
Cadmium	SW6020	mg/kg	5	1.3 [0.2] B	0.22 [0.22] B	0.13 [0.22] J,B			0.11 [0.2] J,B
Chromium	SW6020	mg/kg	25	18 [0.2] B	14 [0.22] B	11 [0.22] B			7 [0.2] B
Lead	SW6020	mg/kg	400	110 [0.2] B	7.7 [0.22] B	5.1 [0.22] B			9.8 [0.2] B
Selenium	SW6020	mg/kg	3.4	0.12 [0.51] J,B	0.2 [0.55] J,B	0.14 [0.54] J,B			0.092 [0.51] J,B
Silver	SW6020	mg/kg	11.2	0.086 [0.2] J,B	0.059 [0.22] J,B	0.052 [0.22] J,B			0.11 [0.2] J,B
Mercury	SW7471A	mg/kg	1.4	0.021 [0.018]	ND [0.02]	0.014 [0.021] J			0.0089 [0.019] J
4,4'-DDD	SW8081A	mg/kg	7.2	0.14 [0.0097]	ND [0.0022] QL	ND [0.0021]			0.00045 [0.002] J
4,4'-DDE	SW8081A	mg/kg	5.1	0.016 [0.0097]	ND [0.0022] QL	ND [0.0021]			0.00043 [0.002] J
4,4'-DDT	SW8081A	mg/kg	7.3	0.18 [0.0097]	ND [0.0022] QL	0.0014 [0.0021] J			0.0086 [0.002]
Aldrin	SW8081A	mg/kg	0.07	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
alpha-BHC	SW8081A	mg/kg	0.0064	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
alpha-Chlordane	SW8081A	mg/kg	3	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
beta-BHC	SW8081A	mg/kg	0.022	ND [0.0048]	0.00099 [0.0011] J,B,QL	0.0011 [0.001] B			0.00068 [0.001] J,B
delta-BHC	SW8081A	mg/kg	NA	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
Dieldrin	SW8081A	mg/kg	0.0076	ND [0.0097]	ND [0.0022] QL	ND [0.0021]			ND [0.002]
Endosulfan I	SW8081A	mg/kg	7	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
Endosulfan II	SW8081A	mg/kg	7	ND [0.0097]	ND [0.0022] QL	ND [0.0021]			ND [0.002]
Endosulfan sulfate	SW8081A	mg/kg	7	ND [0.0097]	ND [0.0022] QL	ND [0.0021]			ND [0.002]
Endrin	SW8081A	mg/kg	0.29	ND [0.0097]	ND [0.0022] QL	ND [0.0021]			ND [0.002]
Endrin aldehyde	SW8081A	mg/kg	NA	ND [0.0097]	ND [0.0022] QL	ND [0.0021]			ND [0.002]
Endrin ketone	SW8081A	mg/kg	NA	ND [0.0097]	ND [0.0022] QL	ND [0.0021]			ND [0.002]
gamma-BHC (Lindane)	SW8081A	mg/kg	0.0095	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
gamma-Chlordane	SW8081A	mg/kg	3	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
Heptachlor	SW8081A	mg/kg	0.28	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
Heptachlor epoxide	SW8081A	mg/kg	0.014	ND [0.0048]	ND [0.0011] QL	ND [0.001]			ND [0.001]
Methoxychlor	SW8081A	mg/kg	23	ND [0.048]	ND [0.011] QL	ND [0.01]			ND [0.01]
Toxaphene	SW8081A	mg/kg	3.9	ND [0.48]	ND [0.11] QL	ND [0.1]			ND [0.1]
PCB-1016 (Aroclor 1016)	SW8082	mg/kg	1	ND [0.0097]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.0098]	ND [0.01]
PCB-1221 (Aroclor 1221)	SW8082	mg/kg	1	ND [0.0097]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.0098]	ND [0.01]
PCB-1232 (Aroclor 1232)	SW8082	mg/kg	1	ND [0.0097]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.0098]	ND [0.01]
PCB-1242 (Aroclor 1242)	SW8082	mg/kg	1	ND [0.0097]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.0098]	ND [0.01]
PCB-1248 (Aroclor 1248)	SW8082	mg/kg	1	ND [0.0097]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.0098]	ND [0.01]
PCB-1254 (Aroclor 1254)	SW8082	mg/kg	1	ND [0.0097]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.0098]	ND [0.01]
PCB-1260 (Aroclor 1260)	SW8082	mg/kg	1	0.028 [0.0097]	ND [0.011]	ND [0.01]	ND [0.01]	ND [0.0098]	ND [0.01]
1,1,1,2-Tetrachloroethane	SW8260B	mg/kg	NA	ND [0.021] QL	ND [0.026] QL	ND [0.022] QL			ND [0.021] QL
1,1,1-Trichloroethane	SW8260B	mg/kg	0.82	ND [0.0085]	ND [0.01]	ND [0.0086]			ND [0.0086]

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

## FTW336A Analytical Data

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AP Number TB Number & Depth Sample ID Collection Date SDG				AP-9695 TB-10 0.0' 08FTW336C-10A 15-Apr-2008 580-9696	AP-9696 TB-11 2.5' 08FTW336C-11A 17-Apr-2008 580-9696	Dupe of -11A AP-9696 TB-11 2.5' 08FTW336C-13A 17-Apr-2008 580-9696	AP-9696 TB-11 10' 08FTW336C-11B 17-Apr-2008 580-9696	Dupe of -11B AP-9696 TB-11 10' 08FTW336C-13B 17-Apr-2008 580-9696	AP-9697 TB-12 0.0' 08FTW336C-12A 17-Apr-2008 580-9696
ANALYTE	Method	Units	ADEC						
1,1,2,2-Tetrachloroethane	SW8260B	mg/kg	0.017	ND [0.0042]	ND [0.0052]	ND [0.0043]			ND [0.0043]
1,1,2-Trichloroethane	SW8260B	mg/kg	0.018	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,1-Dichloroethane	SW8260B	mg/kg	25	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,1-Dichloropropene	SW8260B	mg/kg	0.03	ND [0.0085]	ND [0.01]	ND [0.0086]			ND [0.0086]
1,2,3-Trichlorobenzene	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,2,3-Trichloropropane	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,2,4-Trichlorobenzene	SW8260B	mg/kg	0.85	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,2,4-Trimethylbenzene	SW8260B	mg/kg	23	0.06 [0.021] B	ND [0.026]	ND [0.022]			ND [0.021]
1,2-Dibromo-3-chloropropane	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,2-Dibromoethane	SW8260B	mg/kg	0.00016	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,2-Dichlorobenzene	SW8260B	mg/kg	5.1	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,2-Dichloroethane	SW8260B	mg/kg	0.016	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,2-Dichloropropane	SW8260B	mg/kg	0.018	ND [0.0042]	ND [0.0052]	ND [0.0043]			ND [0.0043]
1,3,5-Trimethylbenzene	SW8260B	mg/kg	23	0.022 [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,3-Dichlorobenzene	SW8260B	mg/kg	28	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,3-Dichloropropane	SW8260B	mg/kg	NA	ND [0.0085]	ND [0.01]	ND [0.0086]			ND [0.0086]
1,4-Dichlorobenzene	SW8260B	mg/kg	0.064	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
2,2-Dichloropropane	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
2-Butanone	SW8260B	mg/kg	59	0.056 [0.11] J	ND [0.13]	ND [0.11]			ND [0.11]
2-Chlorotoluene	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
2-Hexanone	SW8260B	mg/kg	NA	0.021 [0.11] J	ND [0.13]	ND [0.11]			0.016 [0.11] J
4-Chlorotoluene	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
4-Isopropyltoluene	SW8260B	mg/kg	NA	0.0028 [0.021] J	ND [0.026]	ND [0.022]			ND [0.021]
4-Methyl-2-pentanone	SW8260B	mg/kg	8.1	ND [0.11]	ND [0.13]	ND [0.11]			ND [0.11]
Acetone	SW8260B	mg/kg	88	ND [0.11]	ND [0.13]	ND [0.11]			ND [0.11]
Benzene	SW8260B	mg/kg	0.025	0.034 [0.0042]	ND [0.0052]	ND [0.0043]			ND [0.0043]
Bromobenzene	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Bromochloromethane	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Bromodichloromethane	SW8260B	mg/kg	0.044	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Bromoform	SW8260B	mg/kg	0.34	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Bromomethane	SW8260B	mg/kg	0.16	0.031 [0.11] J,B	0.035 [0.13] J,B	0.031 [0.11] J,B			0.036 [0.11] J
Carbon disulfide	SW8260B	mg/kg	12	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Carbon tetrachloride	SW8260B	mg/kg	0.023	ND [0.0085]	ND [0.01]	ND [0.0086]			ND [0.0086]
Chlorobenzene	SW8260B	mg/kg	0.63	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Chloroethane	SW8260B	mg/kg	23	ND [0.11]	ND [0.13]	ND [0.11]			ND [0.11]
Chloroform	SW8260B	mg/kg	0.46	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Chloromethane	SW8260B	mg/kg	0.21	0.0041 [0.021] J,B	ND [0.026]	ND [0.022]			ND [0.021]
cis-1,2-Dichloroethene	SW8260B	mg/kg	0.24	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
cis-1,3-Dichloropropene	SW8260B	mg/kg	0.02	ND [0.021] QL	ND [0.026] QL	ND [0.022] QL			ND [0.021] QL
Dibromochloromethane	SW8260B	mg/kg	0.032	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Dibromomethane	SW8260B	mg/kg	1.1	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Dichlorodifluoromethane	SW8260B	mg/kg	140	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Ethylbenzene	SW8260B	mg/kg	6.9	0.023 [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Hexachlorobutadiene	SW8260B	mg/kg	NA	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Isopropylbenzene	SW8260B	mg/kg	51	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Methylene chloride	SW8260B	mg/kg	0.016	0.016 [0.021] J,B	0.019 [0.026] J,B	0.014 [0.022] J,B			0.016 [0.021] J,B

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

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ANALYTE	Method	Units	ADEC						
Naphthalene	SW8260B	mg/kg	20	0.067 [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
n-Butylbenzene	SW8260B	mg/kg	15	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
n-Propylbenzene	SW8260B	mg/kg	15	0.0068 [0.021] J	ND [0.026]	ND [0.022]			ND [0.021]
o-Xylene	SW8260B	mg/kg	63	0.052 [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
sec-Butylbenzene	SW8260B	mg/kg	12	0.0012 [0.021] J	ND [0.026]	ND [0.022]			ND [0.021]
Styrene	SW8260B	mg/kg	0.96	0.026 [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
tert-Butylbenzene	SW8260B	mg/kg	12	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Tetrachloroethene (PCE)	SW8260B	mg/kg	0.024	ND [0.013]	ND [0.016]	ND [0.013]			ND [0.013]
Toluene	SW8260B	mg/kg	6.5	0.15 [0.021]	0.0075 [0.026] J	ND [0.022]			0.0052 [0.021] J
trans-1,2-Dichloroethene	SW8260B	mg/kg	0.37	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
trans-1,3-Dichloropropene	SW8260B	mg/kg	0.02	ND [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
Trichloroethene (TCE)	SW8260B	mg/kg	0.02	ND [0.0085]	ND [0.01]	ND [0.0086]			ND [0.0086]
Trichlorofluoromethane	SW8260B	mg/kg	86	ND [0.021]	ND [0.026]	ND [0.022]			0.0036 [0.021] J
Vinyl chloride	SW8260B	mg/kg	0.0085	ND [0.0085]	ND [0.01]	ND [0.0086]			ND [0.0086]
Xylene, Isomers m & p	SW8260B	mg/kg	63	0.17 [0.021]	ND [0.026]	ND [0.022]			ND [0.021]
1,2,4-Trichlorobenzene	SW8270C	mg/kg	0.85	ND [0.0052]	ND [0.0055] QL	ND [0.0053]			ND [0.0052]
1,2-Dichlorobenzene	SW8270C	mg/kg	5.1	ND [0.0057]	ND [0.006] QL	ND [0.0059]			ND [0.0057]
1,3-Dichlorobenzene	SW8270C	mg/kg	28	ND [0.0052]	ND [0.0055] QL	ND [0.0053]			ND [0.0052]
1,4-Dichlorobenzene	SW8270C	mg/kg	0.64	ND [0.0052]	ND [0.0055] QL	ND [0.0053]			ND [0.0052]
1-Methylnaphthalene	SW8270C	mg/kg	6.2	0.033 [0.0031]	ND [0.0033] QL	ND [0.0032]			0.041 [0.0031]
2,4,5-Trichlorophenol	SW8270C	mg/kg	67	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
2,4,6-Trichlorophenol	SW8270C	mg/kg	1.4	ND [0.016]	ND [0.016] QL	ND [0.016]			ND [0.016]
2,4-Dichlorophenol	SW8270C	mg/kg	1.3	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
2,4-Dimethylphenol	SW8270C	mg/kg	8.8	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
2,4-Dinitrophenol	SW8270C	mg/kg	0.54	ND [0.1]	ND [0.11] QL	ND [0.11]			ND [0.1]
2,4-Dinitrotoluene	SW8270C	mg/kg	0.0093	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
2,6-Dinitrotoluene	SW8270C	mg/kg	0.0094	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
2-Chloronaphthalene	SW8270C	mg/kg	120	ND [0.0021]	ND [0.0022] QL	ND [0.0021]			ND [0.0021]
2-Chlorophenol	SW8270C	mg/kg	1.5	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
2-Methyl-4,6-dinitrophenol	SW8270C	mg/kg	NA	ND [0.1]	ND [0.11] QL	ND [0.11]			ND [0.1]
2-Methylnaphthalene	SW8270C	mg/kg	6.1	0.094 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.031 [0.0021]
2-Methylphenol (o-Cresol)	SW8270C	mg/kg	15	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
2-Nitroaniline	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
2-Nitrophenol	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
3,3'-Dichlorobenzidine	SW8270C	mg/kg	0.19	ND [0.021]	ND [0.022] QL	ND [0.021]			ND [0.021]
3-Methylphenol/4-Methylphenol Coelution	SW8270C	mg/kg	NA	ND [0.021]	ND [0.022] QL	ND [0.021]			ND [0.021]
3-Nitroaniline	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
4-Bromophenyl phenyl ether	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
4-Chloro-3-methylphenol	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
4-Chloroaniline	SW8270C	mg/kg	0.057	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
4-Chlorophenyl phenyl ether	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
4-Nitroaniline	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
4-Nitrophenol	SW8270C	mg/kg	NA	ND [0.1]	ND [0.11] QL	ND [0.11]			ND [0.1]
Acenaphthene	SW8270C	mg/kg	180	0.015 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.14 [0.0021]
Acenaphthylene	SW8270C	mg/kg	180	0.0099 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.0047 [0.0021]
Anthracene	SW8270C	mg/kg	3000	0.042 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.29 [0.0021]

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

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Solid shade indicates ADEC exceedance

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## FTW336A Analytical Data

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AP Number TB Number & Depth Sample ID Collection Date SDG				AP-9695 TB-10 0.0' 08FTW336C-10A 15-Apr-2008 580-9696	AP-9696 TB-11 2.5' 08FTW336C-11A 17-Apr-2008 580-9696	Dupe of -11A AP-9696 TB-11 2.5' 08FTW336C-13A 17-Apr-2008 580-9696	AP-9696 TB-11 10' 08FTW336C-11B 17-Apr-2008 580-9696	Dupe of -11B AP-9696 TB-11 10' 08FTW336C-13B 17-Apr-2008 580-9696	AP-9697 TB-12 0.0' 08FTW336C-12A 17-Apr-2008 580-9696
ANALYTE	Method	Units	ADEC						
Benzo(a)anthracene	SW8270C	mg/kg	3.6	0.24 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.72 [0.021]
Benzo(a)pyrene	SW8270C	mg/kg	0.49	0.29 [0.0031]	ND [0.0033] QL	ND [0.0032]			0.63 [0.031]
Benzo(b)fluoranthene	SW8270C	mg/kg	4.9	0.42 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.8 [0.021]
Benzo(g,h,i)perylene	SW8270C	mg/kg	1400	0.22 [0.0026]	ND [0.0027] QL	ND [0.0027]			0.25 [0.0026]
Benzo(k)fluoranthene	SW8270C	mg/kg	49	0.14 [0.0026]	ND [0.0027] QL	ND [0.0027]			0.28 [0.0026]
Benzoic acid	SW8270C	mg/kg	410	0.12 [0.26] J	ND [0.27] QL	ND [0.27]			ND [0.26]
Benzyl alcohol	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
Benzyl butyl phthalate	SW8270C	mg/kg	920	ND [0.021]	0.0085 [0.022] J,B,QL	0.0083 [0.021] J,B			ND [0.021]
bis-(2-Chloroethoxy)methane	SW8270C	mg/kg	NA	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
bis-(2-Chloroethyl)ether	SW8270C	mg/kg	0.0022	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
bis(2-Chloroisopropyl)ether	SW8270C	mg/kg	NA	ND [0.026]	ND [0.027] QL	ND [0.027]			ND [0.026]
bis-(2-Ethylhexyl)phthalate	SW8270C	mg/kg	13	0.062 [0.16] J	ND [0.16] QL	ND [0.16]			ND [0.16]
Carbazole	SW8270C	mg/kg	6.5	0.044 [0.01]	ND [0.011] QL	ND [0.011]			0.12 [0.01]
Chrysene	SW8270C	mg/kg	360	0.27 [0.0026]	ND [0.0027] QL	ND [0.0027]			0.67 [0.026]
Dibenzo(a,h)anthracene	SW8270C	mg/kg	0.49	0.049 [0.0042]	ND [0.0044] QL	ND [0.0043]			0.077 [0.0042]
Dibenzofuran	SW8270C	mg/kg	11	0.0087 [0.01] J	ND [0.011] QL	ND [0.011]			0.052 [0.01]
Diethyl phthalate	SW8270C	mg/kg	130	ND [0.021]	ND [0.022] QL	ND [0.021]			ND [0.021]
Dimethyl phthalate	SW8270C	mg/kg	1100	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
Di-n-butyl phthalate	SW8270C	mg/kg	80	0.011 [0.052] J,B,QH	0.0016 [0.055] J,B,QN	ND [0.053]			0.0023 [0.052] J,B,QH
Di-n-octyl phthalate	SW8270C	mg/kg	3100	ND [0.052]	ND [0.055] QL	ND [0.053]			ND [0.052]
Fluoranthene	SW8270C	mg/kg	1400	0.44 [0.0021]	ND [0.0022] QL	ND [0.0021]			1.6 [0.021]
Fluorene	SW8270C	mg/kg	220	0.017 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.12 [0.0021]
Hexachlorobenzene	SW8270C	mg/kg	0.047	ND [0.0052]	ND [0.0055] QL	ND [0.0053]			ND [0.0052]
Hexachlorobutadiene	SW8270C	mg/kg	NA	ND [0.0052]	ND [0.0055] QL	ND [0.0053]			ND [0.0052]
Hexachlorocyclopentadiene	SW8270C	mg/kg	1.3	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
Hexachloroethane	SW8270C	mg/kg	0.21	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
Indeno(1,2,3-cd)pyrene	SW8270C	mg/kg	4.9	0.2 [0.0042]	ND [0.0044] QL	ND [0.0043]			0.27 [0.0042]
Isophorone	SW8270C	mg/kg	3.1	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
Naphthalene	SW8270C	mg/kg	20	0.069 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.014 [0.0021]
Nitrobenzene	SW8270C	mg/kg	0.094	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
n-Nitrosodi-n-propylamine	SW8270C	mg/kg	0.0011	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
n-Nitrosodiphenylamine	SW8270C	mg/kg	15	ND [0.0052]	ND [0.0055] QL	ND [0.0053]			ND [0.0052]
Pentachlorophenol	SW8270C	mg/kg	0.047	ND [0.021]	ND [0.022] QL	ND [0.021]			ND [0.021]
Phenanthrene	SW8270C	mg/kg	3000	0.18 [0.0021]	ND [0.0022] QL	ND [0.0021]			0.85 [0.021]
Phenol	SW8270C	mg/kg	68	ND [0.01]	ND [0.011] QL	ND [0.011]			ND [0.01]
Pyrene	SW8270C	mg/kg	1000	0.36 [0.0021]	ND [0.0022] QL	ND [0.0021]			1.2 [0.021]

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

# FTW336A Analytical Data

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ANALYTE	Method	Units	ADEC	Dupe of -12A	Dupe of -12B	Trip Blank	Trip Blank
				AP Number TB Number & Depth Sample ID Collection Date SDG	AP-9697 TB-12 0' 08FTW336C-14A 17-Apr-2008 580-9696		
Gasoline Range Organics (C6-C10)	AK101	mg/kg	300	ND [2.1]			ND [4]
Diesel Range Organics (C10-C25)	AK102	mg/kg	250	ND [21]	ND [19]	ND [20]	
Residual Range Organics (C25-C36)	AK103	mg/kg	10000	ND [52]	ND [47]	ND [49]	
Chromium, Hexavalent	SW601B	mg/kg	25	0.16 [0.25] J,B			
Arsenic	SW6020	mg/kg	3.9	4.2 [0.2] B			
Barium	SW6020	mg/kg	1100	72 [0.2] B			
Cadmium	SW6020	mg/kg	5	0.13 [0.2] J,B			
Chromium	SW6020	mg/kg	25	11 [0.2] B			
Lead	SW6020	mg/kg	400	13 [0.2] B			
Selenium	SW6020	mg/kg	3.4	0.1 [0.5] J,B			
Silver	SW6020	mg/kg	11.2	0.074 [0.2] J,B			
Mercury	SW7471A	mg/kg	1.4	ND [0.021]			
4,4'-DDD	SW8081A	mg/kg	7.2	0.00051 [0.002] J			
4,4'-DDE	SW8081A	mg/kg	5.1	0.00056 [0.002] J			
4,4'-DDT	SW8081A	mg/kg	7.3	0.0095 [0.002]			
Aldrin	SW8081A	mg/kg	0.07	ND [0.001]			
alpha-BHC	SW8081A	mg/kg	0.0064	ND [0.001]			
alpha-Chlordane	SW8081A	mg/kg	3	ND [0.001]			
beta-BHC	SW8081A	mg/kg	0.022	0.00068 [0.001] J,B			
delta-BHC	SW8081A	mg/kg	NA	ND [0.001]			
Dieldrin	SW8081A	mg/kg	0.0076	ND [0.002]			
Endosulfan I	SW8081A	mg/kg	7	ND [0.001]			
Endosulfan II	SW8081A	mg/kg	7	ND [0.002]			
Endosulfan sulfate	SW8081A	mg/kg	7	ND [0.002]			
Endrin	SW8081A	mg/kg	0.29	ND [0.002]			
Endrin aldehyde	SW8081A	mg/kg	NA	ND [0.002]			
Endrin ketone	SW8081A	mg/kg	NA	ND [0.002]			
gamma-BHC (Lindane)	SW8081A	mg/kg	0.0095	ND [0.001]			
gamma-Chlordane	SW8081A	mg/kg	3	ND [0.001]			
Heptachlor	SW8081A	mg/kg	0.28	ND [0.001]			
Heptachlor epoxide	SW8081A	mg/kg	0.014	ND [0.001]			
Methoxychlor	SW8081A	mg/kg	23	ND [0.01]			
Toxaphene	SW8081A	mg/kg	3.9	ND [0.1]			
PCB-1016 (Aroclor 1016)	SW8082	mg/kg	1	ND [0.01]	ND [0.0098]	ND [0.0098]	
PCB-1221 (Aroclor 1221)	SW8082	mg/kg	1	ND [0.01]	ND [0.0098]	ND [0.0098]	
PCB-1232 (Aroclor 1232)	SW8082	mg/kg	1	ND [0.01]	ND [0.0098]	ND [0.0098]	
PCB-1242 (Aroclor 1242)	SW8082	mg/kg	1	ND [0.01]	ND [0.0098]	ND [0.0098]	
PCB-1248 (Aroclor 1248)	SW8082	mg/kg	1	ND [0.01]	ND [0.0098]	ND [0.0098]	
PCB-1254 (Aroclor 1254)	SW8082	mg/kg	1	ND [0.01]	ND [0.0098]	ND [0.0098]	
PCB-1260 (Aroclor 1260)	SW8082	mg/kg	1	ND [0.01]	ND [0.0098]	ND [0.0098]	
1,1,1,2-Tetrachloroethane	SW8260B	mg/kg	NA	ND [0.021] QL		ND [0.04] QL	ND [0.04] QL
1,1,1-Trichloroethane	SW8260B	mg/kg	0.82	ND [0.0085]		ND [0.016]	ND [0.016]

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[ ] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

## FTW336A Analytical Data

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ANALYTE	Method	Units	ADEC	Dupe of -12A	Dupe of -12B	Trip Blank	Trip Blank
				AP Number	AP-9697		
				TB Number & Depth	TB-12 0.0'		
				Sample ID	08FTW336C-14A	08FTW336C-12B	08FTW336C-14B
				Collection Date	17-Apr-2008	17-Apr-2008	17-Apr-2008
				SDG	580-9696	580-9696	580-9696
1,1,2,2-Tetrachloroethane	SW8260B	mg/kg	0.017	ND [0.0043]			ND [0.008]
1,1,2-Trichloroethane	SW8260B	mg/kg	0.018	ND [0.021]			ND [0.04]
1,1-Dichloroethane	SW8260B	mg/kg	25	ND [0.021]			ND [0.04]
1,1-Dichloroethene	SW8260B	mg/kg	0.03	ND [0.0085]			ND [0.016]
1,1-Dichloropropene	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
1,2,3-Trichlorobenzene	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
1,2,3-Trichloropropane	SW8260B	mg/kg	0.00053	ND [0.021]			ND [0.04]
1,2,4-Trichlorobenzene	SW8260B	mg/kg	0.85	ND [0.021]			ND [0.04]
1,2,4-Trimethylbenzene	SW8260B	mg/kg	23	ND [0.021]			ND [0.04]
1,2-Dibromo-3-chloropropane	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
1,2-Dibromoethane	SW8260B	mg/kg	0.00016	ND [0.021]			ND [0.04]
1,2-Dichlorobenzene	SW8260B	mg/kg	5.1	ND [0.021]			ND [0.04]
1,2-Dichloroethane	SW8260B	mg/kg	0.016	ND [0.021]			ND [0.04]
1,2-Dichloropropane	SW8260B	mg/kg	0.018	ND [0.0043]			ND [0.008]
1,3,5-Trimethylbenzene	SW8260B	mg/kg	23	ND [0.021]			ND [0.04]
1,3-Dichlorobenzene	SW8260B	mg/kg	28	ND [0.021]			ND [0.04]
1,3-Dichloropropane	SW8260B	mg/kg	NA	ND [0.0085]			ND [0.016]
1,4-Dichlorobenzene	SW8260B	mg/kg	0.064	ND [0.021]			ND [0.04]
2,2-Dichloropropane	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
2-Butanone	SW8260B	mg/kg	59	ND [0.11]			ND [0.2]
2-Chlorotoluene	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
2-Hexanone	SW8260B	mg/kg	NA	ND [0.11]			ND [0.2]
4-Chlorotoluene	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
4-Isopropyltoluene	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
4-Methyl-2-pentanone	SW8260B	mg/kg	8.1	ND [0.11]			ND [0.2]
Acetone	SW8260B	mg/kg	88	ND [0.11]			ND [0.2]
Benzene	SW8260B	mg/kg	0.025	ND [0.0043]			ND [0.008]
Bromobenzene	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
Bromochloromethane	SW8260B	mg/kg	NA	ND [0.021]			ND [0.04]
Bromodichloromethane	SW8260B	mg/kg	0.044	ND [0.021]			ND [0.04]
Bromoform	SW8260B	mg/kg	0.34	ND [0.021]			ND [0.04]
Bromomethane	SW8260B	mg/kg	0.16	0.029 [0.11] J,B		0.075 [0.2] J,B	0.077 [0.2] J,B
Carbon disulfide	SW8260B	mg/kg	12	ND [0.021]		ND [0.04]	ND [0.04]
Carbon tetrachloride	SW8260B	mg/kg	0.023	ND [0.0085]		ND [0.016]	ND [0.016]
Chlorobenzene	SW8260B	mg/kg	0.63	ND [0.021]		ND [0.04]	ND [0.04]
Chloroethane	SW8260B	mg/kg	23	ND [0.11]		ND [0.2]	ND [0.2]
Chloroform	SW8260B	mg/kg	0.46	ND [0.021]		ND [0.04]	ND [0.04]
Chloromethane	SW8260B	mg/kg	0.21	ND [0.021]		0.01 [0.04] J,B	0.0094 [0.04] J,B
cis-1,2-Dichloroethene	SW8260B	mg/kg	0.24	ND [0.021]		ND [0.04]	ND [0.04]
cis-1,3-Dichloropropene	SW8260B	mg/kg	0.02	ND [0.021] QL		ND [0.04] QL	ND [0.04] QL
Dibromochloromethane	SW8260B	mg/kg	0.032	ND [0.021]		ND [0.04]	ND [0.04]
Dibromomethane	SW8260B	mg/kg	1.1	ND [0.021]		ND [0.04]	ND [0.04]
Dichlorodifluoromethane	SW8260B	mg/kg	140	ND [0.021]		ND [0.04]	ND [0.04]
Ethylbenzene	SW8260B	mg/kg	6.9	ND [0.021]		ND [0.04]	ND [0.04]
Hexachlorobutadiene	SW8260B	mg/kg	NA	ND [0.021]		ND [0.04]	ND [0.04]
Isopropylbenzene	SW8260B	mg/kg	51	ND [0.021]		ND [0.04]	ND [0.04]
Methylene chloride	SW8260B	mg/kg	0.016	0.016 [0.021] J,B		0.027 [0.04] J,B	0.027 [0.04] J,B

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

# FTW336A Analytical Data

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ANALYTE	Method	Units	ADEC	Dupe of -12A	AP-9697 TB-12 0.0' 08FTW336C-14A 17-Apr-2008 580-9696	Dupe of -12B	Trip Blank 08FTW336C-98TB 18-Apr-07 580-9696	Trip Blank
				AP-9697 TB-12 10' 08FTW336C-12B 17-Apr-2008 580-9696		AP-9697 TB-12 10' 08FTW336C-14B 17-Apr-2008 580-9696		08FTW336C-99TB 18-Apr-07 580-9696
				Collection Date	SDG			
Naphthalene	SW8260B	mg/kg	20	ND [0.021]			ND [0.04]	ND [0.04]
n-Butylbenzene	SW8260B	mg/kg	15	ND [0.021]			ND [0.04]	ND [0.04]
n-Propylbenzene	SW8260B	mg/kg	15	ND [0.021]			ND [0.04]	ND [0.04]
o-Xylene	SW8260B	mg/kg	63	ND [0.021]			ND [0.04]	ND [0.04]
sec-Butylbenzene	SW8260B	mg/kg	12	ND [0.021]			ND [0.04]	ND [0.04]
Styrene	SW8260B	mg/kg	0.96	ND [0.021]			ND [0.04]	ND [0.04]
tert-Butylbenzene	SW8260B	mg/kg	12	ND [0.021]			ND [0.04]	ND [0.04]
Tetrachloroethene (PCE)	SW8260B	mg/kg	0.024	ND [0.013]			ND [0.025]	ND [0.025]
Toluene	SW8260B	mg/kg	6.5	0.012 [0.021] J			ND [0.04]	ND [0.04]
trans-1,2-Dichloroethene	SW8260B	mg/kg	0.37	ND [0.021]			ND [0.04]	ND [0.04]
trans-1,3-Dichloropropene	SW8260B	mg/kg	0.02	ND [0.021]			ND [0.04]	ND [0.04]
Trichloroethene (TCE)	SW8260B	mg/kg	0.02	ND [0.0085]			ND [0.016]	ND [0.016]
Trichlorofluoromethane	SW8260B	mg/kg	86	0.0037 [0.021] J			ND [0.04]	ND [0.04]
Vinyl chloride	SW8260B	mg/kg	0.0085	ND [0.0085]			ND [0.016]	ND [0.016]
Xylene, Isomers m & p	SW8260B	mg/kg	63	ND [0.021]			ND [0.04]	ND [0.04]
1,2,4-Trichlorobenzene	SW8270C	mg/kg	0.85	ND [0.0052]				
1,2-Dichlorobenzene	SW8270C	mg/kg	5.1	ND [0.0057]				
1,3-Dichlorobenzene	SW8270C	mg/kg	28	ND [0.0052]				
1,4-Dichlorobenzene	SW8270C	mg/kg	0.64	ND [0.0052]				
1-Methylnaphthalene	SW8270C	mg/kg	6.2	ND [0.0031]				
2,4,5-Trichlorophenol	SW8270C	mg/kg	67	ND [0.01]				
2,4,6-Trichlorophenol	SW8270C	mg/kg	1.4	ND [0.016]				
2,4-Dichlorophenol	SW8270C	mg/kg	1.3	ND [0.01]				
2,4-Dimethylphenol	SW8270C	mg/kg	8.8	ND [0.01]				
2,4-Dinitrophenol	SW8270C	mg/kg	0.54	ND [0.1]				
2,4-Dinitrotoluene	SW8270C	mg/kg	0.0093	ND [0.01]				
2,6-Dinitrotoluene	SW8270C	mg/kg	0.0094	ND [0.01]				
2-Chloronaphthalene	SW8270C	mg/kg	120	ND [0.0021]				
2-Chlorophenol	SW8270C	mg/kg	1.5	ND [0.01]				
2-Methyl-4,6-dinitrophenol	SW8270C	mg/kg	NA	ND [0.1]				
2-Methylnaphthalene	SW8270C	mg/kg	6.1	ND [0.0021]				
2-Methylphenol (o-Cresol)	SW8270C	mg/kg	15	ND [0.01]				
2-Nitroaniline	SW8270C	mg/kg	NA	ND [0.01]				
2-Nitrophenol	SW8270C	mg/kg	NA	ND [0.01]				
3,3'-Dichlorobenzidine	SW8270C	mg/kg	0.19	ND [0.021]				
3-Methylphenol/4-Methylphenol Coelution	SW8270C	mg/kg	NA	ND [0.021]				
3-Nitroaniline	SW8270C	mg/kg	NA	ND [0.01]				
4-Bromophenyl phenyl ether	SW8270C	mg/kg	NA	ND [0.01]				
4-Chloro-3-methylphenol	SW8270C	mg/kg	NA	ND [0.01]				
4-Chloroaniline	SW8270C	mg/kg	0.057	ND [0.01]				
4-Chlorophenyl phenyl ether	SW8270C	mg/kg	NA	ND [0.01]				
4-Nitroaniline	SW8270C	mg/kg	NA	ND [0.01]				
4-Nitrophenol	SW8270C	mg/kg	NA	ND [0.1]				
Acenaphthene	SW8270C	mg/kg	180	ND [0.0021]				
Acenaphthylene	SW8270C	mg/kg	180	ND [0.0021]				
Anthracene	SW8270C	mg/kg	3000	0.00068 [0.0021] J				

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[ ] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

# FTW336A Analytical Data

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ANALYTE	Method	Units	ADEC	Dupe of -12A	AP-9697 TB-12 0'	Dupe of -12B	AP-9697 TB-12 10'	Trip Blank	Trip Blank
				SDG					
Benzo(a)anthracene	SW8270C	mg/kg	3.6	0.0048 [0.0021]					
Benzo(a)pyrene	SW8270C	mg/kg	0.49	0.01 [0.0031]					
Benzo(b)fluoranthene	SW8270C	mg/kg	4.9	0.013 [0.0021]					
Benzo(g,h,i)perylene	SW8270C	mg/kg	1400	0.0089 [0.0026]					
Benzo(k)fluoranthene	SW8270C	mg/kg	49	0.0028 [0.0026]					
Benzoic acid	SW8270C	mg/kg	410	ND [0.26]					
Benzyl alcohol	SW8270C	mg/kg	NA	ND [0.01]					
Benzyl butyl phthalate	SW8270C	mg/kg	920	ND [0.021]					
bis-(2-Chloroethoxy)methane	SW8270C	mg/kg	NA	ND [0.01]					
bis-(2-Chloroethyl)ether	SW8270C	mg/kg	0.0022	ND [0.01]					
bis(2-Chloroisopropyl)ether	SW8270C	mg/kg	NA	ND [0.026]					
bis-(2-Ethylhexyl)phthalate	SW8270C	mg/kg	13	ND [0.16]					
Carbazole	SW8270C	mg/kg	6.5	ND [0.01]					
Chrysene	SW8270C	mg/kg	360	0.0074 [0.0026]					
Dibenzo(a,h)anthracene	SW8270C	mg/kg	0.49	ND [0.0041]					
Dibenzofuran	SW8270C	mg/kg	11	ND [0.01]					
Diethyl phthalate	SW8270C	mg/kg	130	ND [0.021]					
Dimethyl phthalate	SW8270C	mg/kg	1100	ND [0.01]					
Di-n-butyl phthalate	SW8270C	mg/kg	80	0.0026 [0.052] J,B,QH					
Di-n-octyl phthalate	SW8270C	mg/kg	3100	0.02 [0.052] J					
Fluoranthene	SW8270C	mg/kg	1400	0.0062 [0.0021]					
Fluorene	SW8270C	mg/kg	220	ND [0.0021]					
Hexachlorobenzene	SW8270C	mg/kg	0.047	ND [0.0052]					
Hexachlorobutadiene	SW8270C	mg/kg	NA	ND [0.0052]					
Hexachlorocyclopentadiene	SW8270C	mg/kg	1.3	ND [0.01]					
Hexachloroethane	SW8270C	mg/kg	0.21	ND [0.01]					
Indeno(1,2,3-cd)pyrene	SW8270C	mg/kg	4.9	0.008 [0.0041]					
Isophorone	SW8270C	mg/kg	3.1	ND [0.01]					
Naphthalene	SW8270C	mg/kg	20	ND [0.0021]					
Nitrobenzene	SW8270C	mg/kg	0.094	ND [0.01]					
n-Nitrosodi-n-propylamine	SW8270C	mg/kg	0.0011	ND [0.01]					
n-Nitrosodiphenylamine	SW8270C	mg/kg	15	ND [0.0052]					
Pentachlorophenol	SW8270C	mg/kg	0.047	ND [0.021]					
Phenanthrene	SW8270C	mg/kg	3000	0.0014 [0.0021] J					
Phenol	SW8270C	mg/kg	68	ND [0.01]					
Pyrene	SW8270C	mg/kg	1000	0.0061 [0.0021]					

ADEC - most stringent of 18 AAC 75 Method 2 Table B1 and B2 Cleanup Level for Under 40 Inches

[ ] - Laboratory PQL.

Solid shade indicates ADEC exceedance

Data Flags are defined at the end of the table

## Data Flag Explanations

ND - Analyte is not detected;      [ ] - Laboratory Practical Quantification Limit

Qualifier	Definition
J	Analyte result is considered an estimated value because the level is below the laboratory PQL but above the MDL
MH, ML, MN	Analyte result is considered an estimated value biased high, low, uncertain due to matrix effects
B	Analyte result is considered a high estimated value due to contamination present in the method blank.
QH, QL, QN	Analyte result is considered an estimated value biased high, low, uncertain due to a quality control failure
R	Analyte result is rejected - result is not usable.

**Appendix C**

**ADEC Laboratory Data Review Checklist**

## **Laboratory Data Review Checklist**

Mark Harvison

Completed by:

Chemist

Title:

June 12, 2008

Date:

FTW336C Airplane Parts Storage

CS Report Name:

May 02, 2008

Report Date:

U.S. Army Corps of Engineers

Consultant Firm:

TestAmerica-Tacoma

Laboratory Name:

Laboratory Report 580-9696

Number:

ADEC File

Number:

ADEC RecKey

Number:

### **1. Laboratory**

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes     No

Comments:

[Large empty rectangular box for comments]

- b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes     No

Comments:

not applicable

2. Chain of Custody (COC)

- a. COC information completed, signed, and dated (including released/received by)?

Yes     No

Comments:

[Large empty rectangular box for comments]

- b. Correct analyses requested?

Yes     No

Comments:

[Large empty rectangular box for comments]

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt ( $4^{\circ} \pm 2^{\circ}$  C)?

Yes     No

Comments:

[Large empty rectangular box for comments]

- b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes     No

Comments:

[Large empty rectangular box for comments]

- c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes     No

Comments:

[Large empty rectangular box for comments]

- d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes     No

Comments:

not applicable

[Large empty rectangular box for comments]

- e. Data quality or usability affected? Explain.  
Comments:

not applicable

**4. Case Narrative**

- a. Present and understandable?

Yes     No

Comments:

[Redacted]

- b. Discrepancies, errors or QC failures identified by the lab?

Yes     No

Comments:

[Redacted]

- c. Were all corrective actions documented?

Yes     No

Comments:

[Redacted]

- d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative only describes qualifications made to the data based on problems encountered during the sample analysis.

**5. Samples Results**

- a. Correct analyses performed/reported as requested on COC?

Yes     No

Comments:

[Redacted]

- b. All applicable holding times met?

Yes     No

Comments:

[Redacted]

- c. All soils reported on a dry weight basis?

Yes     No

Comments:

[Redacted]

- d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

Yes     No

Comments:

The following analytes have PQLs above their respective ADEC cleanup levels: alpha-BHC (1/14), gamma-BHC (1/14), 1,1,2-trichloroethane (17/17), 1,2,3-trichloropropane (17/17), 1,2-dibromoethane (17/17), 1,2-dichloroethane (17/17), bromomethane (4/17), cis-1,3-dichloropropene (16/17), methylene chloride (17/17), trans-1,3-dichloropropene (16/17), vinyl chloride (8/17), 2,4-dinitrotoluene (14/14), 2,6-dinitrotoluene (14/14), 3,3'-dichlorobenzidine (14/14), bis(2-chloroethyl)ether (14/14), and pentachlorophenol (14/14).

The following analytes have MDLs above their respective ADEC cleanup levels: 1,2,3-trichloropropane (17/17), 1,2-dibromomethane (17/17), and bis(2-chloroethyl)ether (14/14).

- e. Data quality or usability affected? Explain.

Comments:

The laboratory data cannot be used to determine the definitive absence of the compounds listed as having their MDLs above their respective ADEC cleanup levels.

## 6. QC Samples

- a. Method Blank

- i. One method blank reported per matrix, analysis and 20 samples?

Yes     No

Comments:

- ii. All method blank results less than PQL?

Yes     No

Comments:

beta-BHC was detected in the method blank at a concentration equal to the PQL.

- iii. If above PQL, what samples are affected?

Comments:

All samples are affected. Detections of beta-BHC in the samples are flagged "B"; however, data usability is not impacted as all results are well below the ADEC cleanup level.

- iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes     No

Comments:

v. Data quality or usability affected? Explain.

Comments:

DRO was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-01C, -02A, -02B, and -03B. The impacted results are flagged "B"; however, all results are well below the ADEC cleanup level and data usability is not impacted.

Hexavalent chromium was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-01B, -05A, -08A, -09A, -11A, -12A, -13A, & -14A. The impacted results are flagged "B"; however, all results are well below the ADEC cleanup level and data usability is not impacted.

Selenium was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in 08FTW336C-01B and 08FTW336-03A. The impacted results are flagged "B"; however, both results are well below the ADEC cleanup level and data usability is not impacted.

Bromomethane and methylene chloride were detected in the method blank at concentrations greater than the MDL, but less than the PQL; these concentrations are greater than 20% (one-fifth) the concentrations detected in the samples in this SDG. All results are flagged "B". All results for bromomethane are well below its ADEC cleanup levels and data usability is not impacted; however, several of the results for methylene chloride exceed its ADEC cleanup level.

Chloromethane was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-07A, -10A, -98TB, and -99TB. The impacted results are flagged "B". Data usability is not significantly impacted as there is no ADEC cleanup level for chloromethane.

Benzyl butyl phthalate was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-01B, -02A, -03A, -04A, -05A, -07A, -08A, -09A, -11A, and -13A. The impacted results are flagged "B"; however, all results are well below the ADEC cleanup level and data usability is not impacted.

di-n-Butylphthalate was detected in the method blank at a concentration greater than the MDL, but less than the PQL; this concentration is greater than 20% (one-fifth) the concentrations detected in the following samples: 08FTW336C-02A, -04A, -05A, -06A, -07A, -08A, -09A, -10A, -11A, -12A, and -14A. The impacted results are flagged "B"; however, all results are well below the ADEC cleanup level and data usability is not impacted.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples?

Yes     No

Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes     No

Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes     No

Comments:

The LCS recoveries for 1,1,1,2-tetrachloroethane and cis-1,3-dichloropropene were below QSM acceptance criteria. All results for these two VOCs are qualified biased low and flagged "QL". The LCS recovery for di-n-butylphthalate was above QSM acceptance criteria. Detections of di-n-butylphthalate are qualified biased high and flagged "QH". Non-detects are not impacted by the high bias.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes     No

Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

All samples are affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes     No

Comments:

vii. Data quality or usability affected? Explain.

Comments:

The results for cis-1,3-dichloropropene and di-n-butylphthalate are well below their ADEC cleanup levels and data usability is not impacted. As there is no ADEC cleanup level for 1,1,1,2-tetrachloroethane, data usability is not impacted.

c. Surrogates – Organics Only

- i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes     No

Comments:

- ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes     No

Comments:

- iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes     No

Comments:

- iv. Data quality or usability affected? Explain.

Comments:

One of the GRO surrogates for 08FTW336C-06A was above laboratory control limits. There was no impact on the data usability as GRO was not detected in this sample.

One of the VOC surrogates for 08FTW336C-06A was above laboratory control limits. Detections of VOCs are qualified biased low and flagged "QH". Non-detects are not impacted by the high bias.

One of the chlorinated pesticide surrogates for 08FTW336C-07A and 08FTW336C-11A was below laboratory control limits. Chlorinated pesticide data for these samples are qualified biased low and flagged "QL".

Two of the base/neutral SVOC surrogates for 08FTW336C-03A, -04A were below laboratory control limits. The base/neutral SVOC data for these samples are qualified biased low and flagged "QL".

One of the SVOC surrogates for 08FTW336C-05A, -07A, and -13A were below laboratory control limits. Control was based on the five remaining acceptable SVOC surrogates.

Three of the SVOC surrogates for 08FTW336C-08A and -11A were below laboratory control limits. The SVOC data for this sample are qualified biased low and flagged "QL".

Two of the SVOC surrogates for 08FTW336C-09A were below laboratory control limits. Control was based on the four remaining acceptable SVOC surrogates.

One of the SVOC surrogates for 08FTW336C-10A was above laboratory control limits. Control was based on the five remaining acceptable SVOC surrogates.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

Yes     No

Comments:

ii. All results less than PQL?

Yes     No

Comments:

iii. If above PQL, what samples are affected?

Comments:

not applicable

iv. Data quality or usability affected? Explain.

Comments:

not applicable

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes     No

Comments:

Sample 08FTW336C-13A is the duplicate to 08FTW336C-11A.  
Sample 08FTW336C-13B is the duplicate to 08FTW336C-11B.  
Sample 08FTW336C-14A is the duplicate to 08FTW336C-12A.  
Sample 08FTW336C-14B is the duplicate to 08FTW336C-12B.

ii. Submitted blind to lab?

Yes     No

Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \frac{\text{Absolute value of: } (R_1 - R_2)}{(R_1 + R_2)/2} \times 100$$

Where  $R_1$  = Sample Concentration  
 $R_2$  = Field Duplicate Concentration

Yes     No

Comments:

The RPDs for DRO, toluene, and di-n-butylphthalate in duplicate pair 08FTW336C-11A/-13A were high (greater than 50%) because low concentrations were detected in one-half the duplicate pair, but not the other. The RPD for cadmium was high (greater than 50%), likely due to the heterogeneity of the sample.

The RPDs for DRO, RRO, mercury, 2-hexanone, 1-methylnaphthalene, acenaphthene, acenaphthylene, carbazole, dibenzo(a,h)anthracene, dibenzofuran, di-n-octylphthalate, fluorene, indeno(1,2,3-cd)pyrene, and naphthalene in duplicate pair 08FTW336C-12A/-14A were high (greater than 50%) because low concentrations were detected in one-half the duplicate pair, but not the other. The RPDs for silver, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, toluene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene were high (greater than 50%), likely due to the heterogeneity of the sample.

iv. Data quality or usability affected? Explain.

Comments:

Data usability is not impacted as all results are well below ADEC cleanup levels.

f. Decontamination or Equipment Blank (if applicable)

Yes     No     Not Applicable

i. All results less than PQL?

Yes     No

Comments:

[Empty box for comments]

ii. If above PQL, what samples are affected?

Comments:

[Empty box for comments]

iii. Data quality or usability affected? Explain.

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes     No

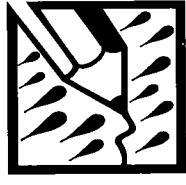
Comments:

**Appendix D**  
**Field Notebook**

08-047

FTW 336C

ATF , Airplane Parts Storage



"*Bit in the Rain*"

ALL-WEATHER

**LEVEL**

No. 311

field work  
11-APR-2008 -> 17-APR-2008

11 APR - 08

11 APR - 08 25° F sunny

### Safety meeting

- PPE
  - site history
  - sig safety
  - cold weather
- hospital route
- Charles Wilson
- Lee Griffin
- Paul owners

TB-01

Depth	Time	PTD Desc Sample
0' - 2	1218	0 / 0 sand & gravel
2.5 - 4.5	1232	0 / 0 sand & gravel, sand
[OIB]		1x 40' AEROMAR 1665' x 402.118m DRC, RRD, PCA, pressure, metals

Sample taken @ 0-3' from PTD

[OIA]  
from marine  
area. ORO, RRD

Depth	Time	PTD Desc Sample
4.5 - 6.5	1243	0 / 0 sand & gravel
9.5 - 11.5	1300	0 / 0 sand w/ gravel
[OIC]		1x 8m DRC, RRD, PCA
14.5 - 16.5	1309	0 / 0 wet sand & gravel damp
16.5 - 21.5	1327	wet gravel & sand
24.5 - 26.5	1338	— wet gravel & sand
29.5 - 31.5	1351	— sand top, gravel shoe

PTD calibrated to 100' PMS

called Lee Griffin - he said  
that the most probable CoC  
would be Diesel & air-gas  
maybe some old solvents.

11 APR - 08  
SPP-DS

4  
1B-03 30' 11-APR-08 33°F Windy

5  
1B-03 30' 11-APR-08 33°F Windy

Depth	Time	SPB	Desc.	Sample
0-2	1549	0/0	wet sand - mostly - fine sand & gravel	
2.5-4.5	1557	0/0	frozen gravelly sand	
4.5-6.5	1603	0/0	gravel & sand	
6.5-10.5	1602	46.01, 10.00	ice	
10.5-14.5	1602	0/0	ice	
14.5-18.5	1602	0/0	ice	
18.5-21.5	1602	0/0	ice	
21.5-24.5	1602	0/0	ice	
24.5-26.5	1602	0/0	ice	
26.5-31.5	1603	0/0	ice	

Depth	Time	SPB	Desc.	Sample
0-1.5	0845	47/0	Asphalt	SPB
2.5-4.5	0856	-1/0	sand & gravel fill	
4.5-6.5	0906	0/0	gravel & sand (frozen) 12"	
6.5-8.5	0915	0/0	ice	
8.5-11.5	0915	0/0	ice	
11.5-14.5	0936	0/0	sand & gravel, 6" with chunk	
14.5-16.5	0936	0/0	sand & gravel, 6" with chunk	
16.5-21.5	1017	0/0	ice	
21.5-24.5	1030	-	ice	
24.5-26.5	1045	-	ice	
26.5-31.5	1045	-	ice	

SPB  
11-APR-08

SPB

SPB

6

TB-045 30' 12. APR. 08 26°F sunny

TB-05 15' 12. APR. 08

24°F cloudy

depth	Time	P/TD	Perf.	Sample	Sample
18'-15'	1338	0/0	Sand & gravel f. /		
2.5 - 3.5	1344	0/0	Sand & gravel		
4.5 - 6.5	1355	0/0	gravel & sand (12")	sand (12")	
11.402	1401	0/0	16653		
11.802	1402	0/0	000,000, PCB, REST, S, V, N, M, H,		
9.5 - 10.5	1406	0/0	gravel & sand (10")	top (14")	
			18000	000,000 - sand top, 13' frozen	
14.5 - 16.5	1418	0	Sand & gravel → wet sand & gravel		
(04B)					
14.5 - 21.5	1434	-	wet sand & gravel		
24.5 - 26.5	1448	-	gravel bottom, sand top		
29.5 - 31.5	1503	-	" "	" "	

depth	Time	P/TD	Desc	Sample
0 - 2	1630	0 / 0	frozen organic, cobble, sand & gravel	
		1402	Ah 10' vsc 16660	
[05A]			1 x 800, 1x400, 0 20, 20, 0, PCB, REST, S, V, N, M, H,	
2.5 - 4.5	1636	0 / 0	from sand - then sand & gravel	
7.5 - 11.5	1650	0 / 0	Sand - well graded - no	
			hammer count - weight of sample pushed	
			spoon full of the way down -	
			" " recovery - no sample taken	
14.5 - 16.5	1704	0	wet sand & gravel	

SPB  
APR-08

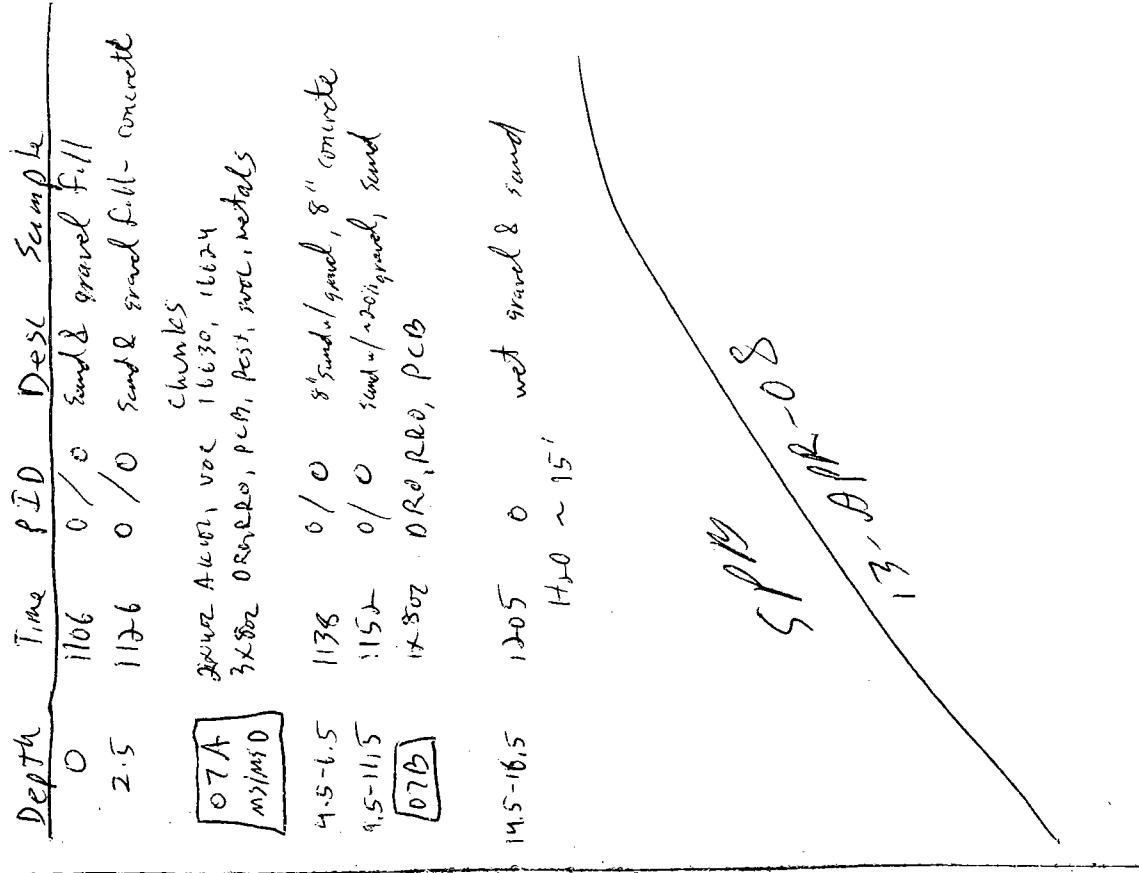
PP  
APR-08

13

TB-06 30' 13-APR-08 16° F sunny  
on S. rt: Paul Owens, Lyle Cain, Chuck Wilson,  
Sean Benjamin.

PJD Check @ 9:00 AM  
TB-07 15' 13-APR-08 29° F sunny

Depth	Time	PJD	Desl	Sample
0 - 2	0832	0 / 0	frozen organic, sand & gravel	
2.5 - 4.5	0846	0 / 0	frozen sand & gravel, wood frags	
4.5 - 6.5	0858	0 / 0	Sand - layers of organic ls (trees, leaves)	
<u>06A</u>				
7.5 - 11.5	0925	0 / 0	sands	
<u>06B</u>				
11.5 - 16.5	0942	1x8 oz	DRC, R.R.C., PCB	
19.5 - 21.5	0957	—	wet sand & gravel → sand	
24.5 - 26.5	1011	—	sand & gravel	
29.5 - 31.5	1046	—	sand & gravel	





75' .5 APR-08 24°F cloudy  
on site: Robert weak'ard, Paul overalls, white  
Carroll Sean penitentiary  
PID check@ 97 ppm  
SFT-

17 APR - 65      15° =  
windy, sunny  
on site Paul Owens, Kyle C. n.  
Bob  
wetland, Swan Peninsula  
P.D. Cheek @ 6:18 PM

Depth	Time	PIN	Desc	Sample
0-1	1338	0/0	frozen gravel & sand	
1x402	4x101, 1x51	16654		
1x401	1x51	020, A.D.	rock, peat, snow, meltwater	
- became drill helper while Paul went to get gas for the Drill R.G. 2.5 - <del>4.0</del> m - 0 gravel & sand 4.5 - 6.0 - 0 gravel & sand 9.5 - 11 - 0 no sample 14.5 - 16 1445' 0 wet sand & gravel				
<b>10A</b>				

- became drill helper while Paul went to get gas for the Drill Rig
  - 2.5 - 4.0 - 0 gravel sand
  - 4.5 - 6.0 - 0 gravel sand
  - 9.5 - 11 0 no sample
  - 14.5 - 16 1445 0 wet sand & gravel
  - went to get the Diz permit signed for the next job  
(Ft w 348 storage)

15 - APR - 05

13A	Date:	11.5 + 6 9.5 - 11.5 11B misses 0	112S c/o 114 i c/o 11.80z	c / o sand - 5.14% sand gravel & sand DRC, RRC, p. 13	DRC, RRC, p. 13 17-Ag2-08 T, me: 1535	wet sand & gravel
13B	Date:	11.11a	c			
14.5 - 16	Date:	11.11a	c			

13-12 15

17-APR-03 34°F Summary

Depth Time PJD Desc Sample

0'-2 1242 0/0 gravel & sand  
1x 4oz. 1kg. AAC, UOC 16675  

12A
14A
16A
18A
VPC

  
Date: 18-APR-03 Time 10:11

2.5-4' 1243 0/0 gravel & sand  
4.5-11.5 1304 0/0 gravel & sand  

12B
14B
VPC

  
Date: 18-APR-03 Time: 10:08  
14.5-16' 1316 0 wet sand

Forgot to log 4.5-6'  
4.5-6' - 0/0 sand & gravel  
(looking @ S&G sample)

YC  
PQ  
FO  
PR  
W

**Appendix E**  
**Site Photographs**



Photo 1: Location of AP-9687



Photo 2: Possible Decontamination Pit with Monitoring Well in Background (view to NE)



Photo 3: Monitoring Well Onsite (view towards E) With Building 2077 in Background



Photo 4: Replacing Asphalt at AP-9689



Photo 5: Hazardous Materials Accumulation area and Monitoring Well Adjacent to Site



Photo 6: Monitoring Wells Located to the North of the Site